



Issues in Children's and Families' Lives

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DEPRESSION IN LATINOS

Assessment, Treatment,
and Prevention

Edited by
Sergio A. Aguilar-Gaxiola
and
Thomas P. Gullotta



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*For my wife, Diana, for your unwavering
love, support and confidence*

Foreword

This book, *Depression in Latinos: Epidemiology, Treatment, and Prevention*, edited by Sergio A. Aguilar-Gaxiola and Thomas P. Gullotta, represents the most far-advanced conceptualization of and knowledge about “depression” in the Latino population that resides in the United States. Depression is more than a mental illness that requires prompt and effective clinical treatment; it is a major public health problem for the U.S. Latino as well as the Latin American population. The economic burden of depression is a serious mental health problem. In 2000, the total cost of depression was 83.08 billion dollars. Of this amount, treatment costs were 26.09 billion, workplace costs were 51.54 billion (absenteeism, reduced productivity, etc.), and suicide-related costs were 5.45 billion (Muñoz, 2003). The worldwide burden of depression is so great that the World Health Organization has predicted that by 2020 major depression will be second only to ischemic heart disease as a cause of disability worldwide (Ballenger et al., 2001).

The cultural variations in the clinical manifestations of depression have major implications from a diagnostic and treatment point of view, especially for Latinos (Delgado et al., 2006; Kirmayer, 2001). Furthermore, even in the best of circumstances, access and adherence to depression treatment is rather deficient among Latinos (Delgado et al., 2006). Latinos who suffer from depression are subjected to a high level of ethnic disparity regarding their diagnosis and treatment (Simpson, Krishnan, Kunik, & Ruiz, 2007).

There are quite a few differences in the clinical manifestations of depression among Latinos residing in the United States, as well as in their conceptualization and way of seeking mental health care for depression (Lopez & Carrillo, 2001; Ruiz, 1985). At times, these special characteristics of depression are well manifested when Latinos suffer from different comorbidities to their depression, especially pain syndromes and HIV/AIDS (Fernandez & Ruiz, 2006; Ruiz, Maldonado, & Fernandez, 1999). It also is very important to realize that Latino patients have been found to respond differently to the various psychopharmacological treatment approaches employed in the care of depressive disorders (Ruiz, 2000).

Latinos living in the United States also have a special characteristic that needs to be taken into consideration when attempting to diagnose and treat

them, specifically their language. Some U.S. Latinos are fully bilingual in English and Spanish but others are not. In addition, language is one of the factors strongly associated with level of acculturation and acculturative stress; thus, the issue of language requires attention, knowledge, and study when clinically addressing U.S. Latinos who suffer from depression. This issue has already been addressed quite well in the medical literature (Gomez, Ruiz, & Rumbaut, 1985; Marcos, Urcuyo, Kesselman, & Alpert, 1973).

It is within this previously alluded context and background that the editors decided to address “depression” among U.S. Latinos. Needless-to-say, the cadre of scholars, clinicians, educators and investigators that they chose to join them for this formidable task could not be a better one. All of the authors selected to address the topics included in this book are well-known researchers and/or clinicians in the mental health and psychiatric field, and all are currently working in the mental health field. They also are highly respected for their past and current contributions, as well as for their capacities to make important contributions in the mental health field for years to come.

This book offers an excellent set of topics divided into four parts. Part I addresses the socioeconomic, epidemiological, linguistic, and cultural factors in depression among Latinos. In this part, five chapters address these very important basic topics; the study of which is essential for the understanding of depression among U.S. Latino populations. Part II discusses the prevention, screening, assessment, and diagnosis of depression among U.S. Latinos. This section encompasses three chapters that address these relevant issues; the appropriate expertise in diagnosing depression among Latinos is essential for the application of the right treatments in this ethnic minority population. Part III discusses the treatment of depression among U.S. Latinos. Three chapters are included in this section, and each covers key relevant areas in the therapeutic armamentarium related to the treatment of depression in this population. Part IV focuses on gender and life-cycle issues pertaining to depression among U.S. Latinos. The three chapters in this section cover these two critical areas related to the care of depression in U.S. Latino populations.

This book is both timely and relevant. Today, about 100 million ethnic minority persons reside in the United States. In this number, Latinos are by far the largest ethnic-minority group. Given the trends observed in the globalization process that is currently occurring in all regions of the world, but especially in industrialized regions like the United States and the European Union, the number of ethnic-minority populations are expected to increase in this country. Migrants come to the United States, as well as emigrate to other countries all over the world, expecting to improve their socioeconomic conditions; however, they also bring with them their norms, heritage, languages, religions, food, etc.; that is, their cultures. The United States has become a pluralistic and multiethnic society. It therefore is imperative that we mental health professionals become experts in cross-cultural psychiatry. It is essential because we owe these multiethnic patients the quality of mental health care that they deserve as human beings. Much attention is currently given in this respect

(Gonzalez, Griffith, & Ruiz, 2001; Munoz, Primm, Ananth, & Ruiz, 2007; Ruiz, 1998, 2004).

Depression in Latinos: Epidemiology, Treatment, and Prevention is an excellent contribution to the prevention and treatment of depression in Latino populations both in the United States and abroad. This is timely and important, and it will serve as a model for other clinicians, educators, and investigators who follow suit in addressing mental health needs among the rainbow of ethnic-minority groups who reside in the United States. I congratulate the editors and contributors to this book, especially Dr. Sergio Aguilar-Gaxiola.

Houston, Texas

Pedro Ruiz

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Introduction

The volume before you is the latest in a series devoted to creating a better understanding of emerging mental health issues facing the United States. The significant population growth of people from Latin America and Spain within the United States over the past four decades compares in significance with the great southern European influx of immigrants in the late 19th and early 20th centuries. In both cases, the reasons for moving to the United States were the same. Simply put, the United States offered an opportunity for a better life.

The strength of the U.S. economy compared to other nations enables many individuals working in the United States to assist family members living outside the country and to experience a higher personal standard of living. In nations where political and other forms of violence are common and, in spite of U.S. problems with discrimination and other injustices, this nation offers individual and their families a refuge from those settings. For some immigrants and citizens who would identify themselves as “Latinos,” as others in this country identify themselves as “Italians,”—namely those with higher educational attainment and qualified skills that are transferable within this country—the United States has provided an economic pathway to that status Gertrude Stein lovingly described as the Middle Class, with its “demands that people be affectionate, respectable, honest and content, that they avoid excitements and cultivate serenity is the ideal that appeals to me, it is in short the ideal of affectionate family life, of honorable business methods” (p. 11 in Harrison, 1974).

Underneath this thin veneer of positivism resides the subject matter of this volume. Persistent feelings of sadness, hopelessness, helplessness, powerlessness, anxiety, and worry are not uncommon with new immigrants, their U.S.-born children, and members of ethnic minority groups. Depression has silently accompanied every immigrant in his/her travel to another land, choosing to make its presence known when circumstances overwhelmed the capacity of the individual to cope and adapt to the stressors enveloping them.

The experience of those who immigrate from Latin America (and Spain) to the United States and their children born in the United States is no different. Depression is one of the two leading mental health problems suffered by these individuals (the other leading cause is substance abuse). Depending on gender, country of origin, and social economic factors, its expression may be observed

in psychosomatic complaints, co-occurring drug and alcohol misuse, or experiencing and expressing idioms such as “nerves.” Compounding this situation are language factors, accessibility and availability of culturally appropriate care, and the ability to afford care when it is accessible and available. Further, not only do Latinos experience immigrant and minority group discrimination but must deal collectively with negative public attitudes that the words Latino and undocumented are synonymous. The editors of this volume have attempted to capture this complexity. Hopefully, the kind words of Dr. Pedro Ruiz (2008, p.v), Past President of the American Psychiatric Association, that the volume before the reader, “represents the most far advanced conceptualization of and knowledge about depression in the Latino population that resides in the United States” are correct.

This volume is divided into four parts, the first of which deals with the sociodemographic, epidemiological, linguistic, and cultural factors related to depression in Latinos. Sergio Aguilar-Gaxiola and his colleagues in Chapter 1 provide a broad overview of depression within the context of the Latino experience in the US. In Chapter 2, Bill Vega and William M. Sribney present a case study of the Mexican American Prevalence and Services Study (MAPSS), where a number of findings such as linking population demographics with risk factors to depression first were identified and reported and were later replicated in the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) and National Latino and Asian American Survey (NLAAS). Guilherme Borges and his colleagues expand in the next chapter on this effort drawing from the World Mental Health Surveys to provide an epidemiological description of depression among Latinos living in Latin America and the United States. In Chapter 4, María Elena Medina-Mora and her colleagues describe the relationship between depression and substance abuse. From a Hispanic perspective, Renato Alarcón concludes Part I with a discussion of the influence culture has on the diagnosis and classification of depression.

The next section deals with the prevention, screening, assessment and diagnosis of depression in children and adults. In Chapter 6, John Pérez and Ricardo Muñoz discuss their pioneering efforts to successfully reduce depression at an individual and population level. Gerardo González in Chapter 7 examines the present state-of-the-art of the use of self-report and computerized measures to assess depression within the Latino population. This section concludes with Antonio Polo and Steven Lopez’s thoughtful discussion of the diagnosis of depression among Latino children and adults.

The chapters in Part III are devoted to treatment issues. Chapter 9 by Guillermo Bernal and Mae Lynn Reyes examines evidence-based approaches for treating adults. In the next chapter, Alex Kopelowicz and his colleagues discuss the scant evidence in support of the psychopharmacological treatment of depression with Latinos and in Chapter 11 Jeanne Miranda provides a comprehensive review of community-based interventions for the treatment of depression.

The final section focuses on gender and life span and cycle issues. Chapter 12 by María Asunción Lara examines depression in women. In Chapter 13, Guillermo

Bernal and Jeannette Rosselló review prevention and treatment issues with children and adolescents, and in Chapter 14 Ladson Hinton and Patricia Areán explore these same issues with older Latinos. The volume concludes with reflections by the editors on efforts that can be taken to improve mental health services to the growing Latino population in the United States. There are important topics that are not covered in this book such as the comorbidity of major depression with chronic medical conditions of relevance to Latinos such as diabetes, obesity, cancer, coronary heart disease, and HIV/AIDS. Likewise, we did not include what is known about the genetic basis of major depression and recent work on gene-environment interactions. Although there is reason to be optimistic about identifying genes that increase the vulnerability to mood disorders, we felt that more research work was needed to be done in this critical area.

One special feature of this book is that each chapter includes a personal journey that describes how the lead author (in chapters written by three or more co-authors) and second authors (in chapters written by two co-authors) became interested on depression and provide a brief personal and/or professional trajectory on the topic. The purpose was to convey to the readers a personal account of the authors that is rarely shared and that, nevertheless, unite as all at the human level.

It is our hope that this book will sensitize and enlighten graduate students as they prepare for careers in mental health and physical health care services who will be called upon to care for the health care needs of Latinos, the largest and fastest-growing population group in the United States. For practicing health care professionals, this volume offers views and perspectives for behaviors that perhaps were not understood in their proper cultural context, and it challenges the health care profession to take a new look at serving this growing population in ways that improve treatment outcomes. Lastly, it is our hope that this volume spurs needed change in the manner in which we currently engage this and all immigrant populations. Whether it be the “Native” American who crossed the Bering Strait during the last Ice Age in search of better opportunities, the Puritan who sought to establish the “light” upon the hill, the Irish who wished to escape starvation and British persecution, or any of hundreds of other groups from whom all readers of this book can trace their ancestry, who came with hope and expectation—hopes and expectations that depression robs from us all and that can be returned with appropriate, timely, and effective help.

Reference

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Part I
Sociodemographic, Epidemiological,
Linguistic, and Cultural Factors
in Depression in Latinos

Chapter 1

The Context of Depression in Latinos in the United States

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Personal Journey: Sergio Aguilar-Gaxiola

“You have no right to stop me from doing what I want to do,” said one of the most esteemed and effective volunteers at our residential therapeutic community and detoxification clinic. She tried to kill herself with a massive amount of pills that would have undoubtedly ended her life had her husband failed to discover her attempt. Her grim decision followed the announcement from her husband of many years that he was leaving her because she was unable to have the children he wanted. Her world crumbled shortly after the unwelcome news and she silently made the decision to end her life. She was admitted to the detoxification clinic I directed after I received a frantic call from her husband stating that she had overdosed on pills. The call completely took me by surprise because I had no idea that she was having marital problems or that she was abusing pills (based on my incorrect assumption upon her admittance), or, even less, that she was suicidal. Up until that point, all I knew was that she was a model volunteer of the local chapter of a national, nonprofit organization in México aimed at the prevention, treatment, and rehabilitation of alcohol and drug addiction. She was well known and very well liked by all staff and clients because of her commitment, passion, involvement, and efforts to further our organization’s mission of treating persons addicted to drugs and/or alcohol and their families. Furthermore, she was personable, persuasive, witty, and seemed full of life, making her the best volunteer we had. After the necessary medical care was provided and she was able to talk, I tried to find out what had happened directly from her and unexpectedly encountered what medical school had not properly prepared me for: an acute and severe depression. While previously our interactions had been consistently upbeat and pleasant, this time I found hostility, helplessness and hopelessness, and a dark side that

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I had never seen in her. All she was able to tell me repeatedly was that “YOU had no right to stop ME from ending MY life,” that I was interfering with her plans, and to back off. As a young, inexperienced medical doctor all I managed to emphatically tell her was that, at that moment, I was the one making the decisions and that if, after a few weeks of treatment, she persisted on taking her life, that she would find a way to do it. I managed to tell her also that if she never wanted to talk to me again that she had every right to do so. Once again, I encountered a litany of hostile statements about how I dared to decide for her. The reality was that I found myself medically unprepared to deal with the failed suicide attempt and felt overwhelmed facing a condition largely unknown to me. My response to her came more from my gut feeling that, by buying some time, she somehow would see the reality that her life was worth living than from knowledge I had about depression: how to assess it, treat it, maintain it, and even how to prevent it. I was convinced that she already had touched so many people and even saved many lives by being so caring toward persons with drug and/or alcohol addiction and their families that I naively thought that if I could somehow convey this sense of purpose that it would bring renewed meaning to her life. How little I knew about depression! This humbling experience with our volunteer was a turning point for my need and desire of becoming formally trained on effective ways of screening, assessing, and treating depression.

This challenging experience had such an impact on me that I felt the need to receive further training on how to more effectively assess and treat psychiatric conditions including mood disorders. A few months later, I started a PhD in clinical-community psychology at Peabody College of Vanderbilt University in Nashville, Tennessee, that properly prepared me to primarily assess psychiatric conditions including depression. It was not, however, until I did my PhD internship and a postdoctoral fellowship from 1985 to 1987 at the University of California, San Francisco, that I was formally trained in both individual and group cognitive-behavioral therapy by Dr. Ricardo F. Muñoz Dr. Jacqueline Persons, and others. One of my mentors and a nationally and internationally recognized pioneer on depression prevention, Dr. Muñoz, had developed a cognitive-behavioral therapy intervention from an eight-session depression prevention course for a randomized controlled depression prevention trial with Spanish- and English-speaking primary care patients at the San Francisco General Hospital. I also had the great fortune in 1985 of co-founding with both Dr. Muñoz and Dr. Jeanne Miranda the San Francisco General Hospital Depression Clinic. The clinic provided cognitive-behavioral individual and group therapy in English and Spanish to low-income depressed patients referred by their primary care physicians. I collaborated with Dr. Munoz and Dr. John Guzman to develop the Spanish version of the treatment manual and directed the clinic’s Spanish-speaking component. During all these years of training in the United States, I had lost contact with our volunteer and, from time to time, I wondered what had happened to her. In 1987, I returned to Guadalajara, Mexico, and, to my great surprise, during an international conference in San Miguel de Allende, Guanajuato, Mexico, in which I was scheduled to talk, I received a note from

someone who wanted to see me. To my amazement, the person who wanted to talk with me was the volunteer from the clinic who had attempted to end her life years earlier. She had coincidentally recognized my name in the conference's flyer and wished to talk with me about what had happened to her since we last saw each other. I was delighted to learn that she had recovered from both her suicide attempt and her depressive episode and was happily married to another man, who was by her side, and whom she said valued her as a woman. She thanked me for being at the right place at the right time, for making decisions about her life for her, and for "saving her life." Even though I felt immensely gratified to learn that she had rebuilt her life and apparently was doing very well, way inside me I was thinking how unprepared I was to properly deal with her depression and nearly fatal suicide attempt and reflecting on the mysterious ways in which life sometimes operates. Since that experience, I have treated dozens of cases with severe depression both in the United States and Mexico and continue to learn and be amazed about a mental health condition that is common, pervasive, costly, debilitating, painful, stigmatizing, and puzzling, but at the same time, highly treatable and challenging to us all regardless of where we live, and whether we are clients, family members, friends, providers, researchers, policymakers, or administrators. My hope is that this book's content and the authors' personal stories will contribute to a new day in the long quest to understand, treat, and prevent depression among Latino populations.

Introduction

Clinical depression is a major public health problem that poses significant challenges to those who suffer from it, their families, health care providers, health care systems, and policy-makers. Mood disorders afflict 20.8% and major depressive disorder affects 16.6% of the general U.S. population at some time in their life (Kessler, Berglund, Demler Jin & Walters, 2005). The National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) found that between 1991–1992 and 2001–2002, the prevalence of major depression in adults residing in the United States increased from 3.3% to 7.1% (Compton, Consway, Stinson, & Grant, 2006). Depression severely reduces the quality of health, social, and economic life. There are considerable data that document the high prevalence of depression and depressive affect in individuals with different chronic medical conditions (Ciechanowski, Katon, & Russo, 2000; Katon, 1998). Social and physical functioning of depressed individuals often is poor, and they are hospitalized more frequently than patients with other major chronic medical problems, such as diabetes, hypertension, and arthritis. Moreover, depression and depressive affect have a significant negative effect on symptom burden, functional impairment, and disease management (Borson et al., 1992; Fann, Katon, Uomoto, & Esselman, 1995; Lustman, Clouse, & Freedland, 1998). The National Institute of Mental Health (NIMH) Collaborative Health Program on the Psychobiology of

Depression found that, over a five-year period, depressed persons had lower educational achievement, lower income levels, fewer periods of employment, and decreased occupational status than nondepressed persons matched for age and gender (Coryell, Endicott, & Keller, 1990).

The multi-site World Health Organization (WHO) study on the effects of depression on social functioning found that after 10 years, 25% of depressed patients showed poor functioning and about 40% exhibited moderate impairment (Thornicroft & Sartorius, 1993). According to the global burden of disease study, depression is the leading cause of disability afflicting human populations, and the fourth largest contributor to the global burden of disease. By 2020 it is expected to be second only to cardiovascular disease (Murray & Lopez, 1996). In the largest disability study ever conducted in the United States, Druss and colleagues (2000) found that one third of community-dwelling disabled adults ages 18–55 reported having a mental disorder that contributed to their disability. Depression has been implicated in 40–60% of suicide attempts (Clark & Fawcett, 1992) and two thirds of completed suicides (Strickland, 1992).

It was not until the 2001 supplement to the Surgeon General's report, *Mental Health: Culture, Race and Ethnicity*, however, that the striking disparities between Caucasians and racial and ethnic minorities in the availability of, access to, and quality of mental health services were clearly documented and brought to the public's attention. That report stimulated considerable debate, research and clinical effort in the area of minority mental health. This chapter discusses the Latino population in the United States within the cultural context that its members live, the importance of understanding culture, and the subtleties of language in order to understand the problems from which people suffer. It concludes with a discussion of depression in Latinos.

The Latino Population in the United States

With a population of 44.3 million on July 1, 2006, (Hispanics are the largest and fastest-growing minority group in the United States (U.S. Census Bureau, 2006). Hispanics make up 14.8% of the nation's total population. (This estimate does not include the 3.9 million residents of Puerto Rico.) As of 2004, Central and South Americans represented 7.1% of the total Latino population (U.S. Census Bureau, 2007). The United States has the fifth largest Hispanic population in the world, exceeded only by Mexico, Colombia, Spain, and Argentina. Currently, Hispanics account for 50% of the national population growth, and by 2050 they are expected to number 102.6 million, or 24.4% of the U.S. population (U.S. Census Bureau, 2004). The dominant Hispanic groups are from Mexico (66%), Central and South America, most notably El Salvador and the Dominican Republic (14%), Puerto Rico (9%), and Cuba (4%). These subgroups have differing life experiences, natural histories, and

risks of psychiatric disorders. Of special significance are the different immigration experiences, war experiences, and traumas.

In the 1970s, the U.S. Department of Education developed a category of *Hispanic* to categorize all Latinos regardless of their country of origin. Hispanic refers to the influence of the Spanish culture and language on a group of people who suffered years of colonization. The term does not take indigenous cultures into account, therefore prioritizing the dominant European cultures (Quiñones-Rosado, 2002).

Hispanic and Latino are adjectives used to describe people who come from different countries, with different cultures and sociopolitical histories. This group includes people whose countries of origin are Mexico, Puerto Rico, Cuba, Argentina, Colombia, the Dominican Republic, Brazil, Guatemala, Costa Rica, Nicaragua, and El Salvador, people from all other countries in Central and South America, and most of the Caribbean islands. In their countries of origin they do not describe or identify themselves that way. Except for Brazilians, who speak Portuguese although most understand Spanish, Latinos are bonded together in the United States by their common language, Spanish. They have great pride in their national heritage and do not usually think of themselves as Latinos or Hispanics.

Latino/Latina, on the other hand, refers to people who came from South America, Central America, Mexico, territories in the United States that were taken from Mexico, and some of the Caribbean islands. It considers the influences of indigenous cultures and African ancestry on people who share a history of colonization by Spain and economic and political oppression by the United States. Most Latinos have great national pride.

The terms *Hispanic* and *Latino* often are used interchangeably. Neither term is perfect. Nonetheless, according to the 2002 National Survey of Latinos, the proportion of Hispanics who defined themselves as Latino or Hispanic was 85% for the first generation, 77% for the second generation, and 72% for the third and later generations. Most first-generation Latinos (68%) identify themselves with their native land or country of origin. In contrast, most third or higher generations Latinos (57%) identify themselves as Americans (Pew Hispanic Center, 2005). Even though there is a clear trend in which “American” becomes a more favored identity, as subsequent generations of Latinos are born in the United States and they tend to speak more English and less Spanish, the link to a country of origin never seems to fade entirely.

Most Latinos are Roman Catholic. They share common values and beliefs that are rooted in a history of conquest and colonization. To outsiders they look alike because their physical features such as skin color, facial structure, and hair texture often are similar as a result of the mixing of races that has occurred in most of those countries.

One third of all Hispanics are under the age of 18 (U.S. Census Bureau, 2008). Although Mexicans, Puerto Ricans, and Cubans continue to be the three largest Latino groups in the United States, there is rapid growth in the numbers of Dominicans, Central Americans, and some South American groups such as Colombians and Brazilians. The major groups are briefly reviewed below.

Mexicans

Mexicans comprise the largest group of Latinos (64%) in the United States. They have been here the longest, having arrived in the 1600s and 1700s when they worked with the Spaniards to establish missions and communities that later became important cities. Large numbers of Mexicans began to immigrate into the United States during the early 1900s, when they attempted to escape Mexico's economic depression and the Mexican Revolution of 1910. They settled primarily in Texas, California, New Mexico, and Arizona, where the largest number remain. However, traditional migration problems have changed in recent times, and new patterns of settlement are being created in rural communities in the Midwest, Southeast, and Northeast. Although some Mexican-Americans have achieved financial success, the majority of this population subgroup continues to have incomes below the poverty line.

Puerto Ricans

At about 3.9 million (or 9% of the Latino population), Puerto Ricans are the second largest group of Latinos living in the United States. They began to arrive in large numbers after the depression and World War II. While most live in the Northeast, especially in New York City, there also are Puerto Rican communities in Texas, Florida, and Illinois. Because they are U.S. citizens, Puerto Ricans are able to go back and forth between the island and the U.S. mainland. Puerto Ricans have the highest unemployment rate of all Latinos, and one third live in poverty, making them the poorest of the Latino groups. However, they are eligible for public assistance and benefits such as Medicare and Medicaid.

Cubans

Cubans are the third largest group of Latinos in the United States, comprising 3.4% of the population. Their primary places of residence are Florida, New York, and New Jersey. The first wave of immigrants arrived in the 1960s, after Fidel Castro's revolution and establishment of a socialist government. Most were upper class Whites with educational resources, business know how, and financial backing. The majority settled in Miami and viewed themselves as exiles waiting to return to Cuba when the revolution was over. While waiting they used their skills and resources to adjust and prosper. Their situation was greatly aided by the Cuban Adjustment Act of 1966, which helped to legalize their status here, and the Cuban Refugee Program.

The second wave of Cuban immigrants, known as the *Marielitos*, a term applied to exiles who fled to the United States from the port of Mariel, arrived

in 1980 (Aguirre, Sáenz, & James, 1997). Most members of that group were of lower socioeconomic status and more racially mixed.

Dominicans

As of 2006, Dominicans comprise 2.8% of the US Hispanic population. As the economic situation in Santo Domingo and the rest of the country has worsened, the number of Dominicans arriving in the United States has steadily increased. Many have come via Puerto Rico. Most of the estimated 1,051,032 Dominicans in this country (U.S. Census Bureau, 2007) reside in New York and New Jersey, with the dominant majority living in Washington Heights in New York City. Those who migrate here tend to be of lower socioeconomic status. About 80% of the population is mulatto.

Central and South Americans

As of 2006, Central and South Americans represented 7.6% and 5.5% respectively, of the total Latino population (U.S. Census Bureau, 2008). Emigration from Central and South America to the US is determined by economic, social, and security issues. Many arrived as refugees in the 1990s. The largest concentration of Nicaraguans is in Florida, while El Salvadorans have settled in Los Angeles.

Cultural Issues, Values, and Constructs

The Importance of Culture in Mental Illness

Researchers and clinicians need to better understand the influence of culture and ethnicity in the evaluation and treatment of people who suffer from mental disorders. Attempts to enhance the cultural validity of the DSM-IV (APA, 1994) have resulted in the inclusion of an introductory cultural statement, a glossary of culture-bound syndromes and idioms of distress, and an outline for developing a cultural formulation. Changes in the DSM-IV confirm that culture is a crucial factor to consider in the accurate assessment of psychiatric disorders (López & Guarnaccia, 2000). The American Psychiatric Association's *Practice Guideline for the Psychiatric Evaluation of Adults, Second Edition* (Workgroup on Psychiatric Evaluation, 2006) further acknowledges the importance of considering culture and language factors in the clinical evaluation. "Throughout the interview, useful clinical information is obtained by being sensitive to issues of development, culture, race, ethnicity, primary language, health literacy, disabilities, gender, sexual orientation, familial/genetic patterns, religious and spiritual beliefs, social class, and physical and social environment influencing the patient's symptoms and behavior. Respectful evaluation involves an empathic, nonjudgmental attitude and appropriate responses concerning the

patient's cultural identity, his or her own explanation of illness and treatment pathways, sociocultural stressors and supports, and modes of interpersonal communication, both verbal and nonverbal." (pp. 25–26).

The American Psychological Association (1990) also has responded to the need for cultural and linguistic sensitivity by creating *Guidelines for Providers of Psychological Services to Ethnic, Linguistic, and Culturally Diverse Populations*. In California, cultural and linguistic sensitivity is an integral part of the oral licensure for psychologists and, as of July 1, 2006, the State of California mandates through Assembly Bill 1195 that all continuing medical education courses must contain curriculum that includes cultural and linguistic competency in the practice of medicine and all California-based providers planning courses within the State of California must comply with AB 1195 (The Institute for Medical Quality, 2007).

The overarching theme in the literature on culture is that it is a concept that infuses every aspect of an individual's being, influencing behavior, perceptions, thought processes, etc. Thus, what the patient/consumer communicates is a reality based upon his or her own cultural categories, words, images, and feelings for expressing symptoms.

Cultural beliefs and values influence the way psychopathology develops and is expressed. Culture influences individuals' perceptions of their disorders, as well as their proclivity to express their distress. It influences the experience and expression of symptoms and creates idioms of distress and prototypical behavior patterns that are unique to a given group. When it is culturally acceptable, patients/consumers may overtly express symptoms (e.g., the symptomatic distress often expressed by Puerto Ricans). However, they tend to be more reserved when they believe that stigma will result. Thus, culture may perform a mediating function, filtering what is desirable or undesirable to express.

In addition to the effects of culture on patients' expression of symptoms, the language in which the patient speaks has an effect on the diagnosis and treatment. Language is a very culture-specific medium (Berry, Poortinga, Segall & Dasen, 1992). Language influences emotional expression. In individuals who are fluent in more than one language, there is conflicting evidence as to which language (one's native or second language) most promotes or inhibits the display of emotion (Marcos & Alpert, 1976; Price & Cuellar, 1981; Rogler, Malgady, Constantino, & Blumenthal, 1987;). Nonetheless, many researchers have concluded that people who are bilingual in English and Spanish express themselves differently in the two languages. Several studies have found that bilingual individuals tend to express more psychopathology and disclose more personal information when interviewed in Spanish, while remaining more emotionally withdrawn in English (Guttfreund, 1990; Marcos & Alpert, 1976; Price & Cuellar, 1981). An individual who is highly acculturated to the American culture and highly fluent in English may express more emotion in English, compared to a less acculturated, less fluent individual.

Idioms of Distress

It is equally important to understand the idiomatic expressions, or idioms of distress, that are prominent in the patient's or research participant's culture. Idioms of distress are ways in which different cultures experience, express, and cope with feelings of distress. For example, somatization is the expression of distress through physical symptoms (Kirmayer & Young, 1998). Stomach disturbances, excessive gas, palpitations, and chest pain are common forms of somatization in Puerto Ricans, Mexican Americans, and Caucasians (Escobar, Randolph, & Hill, 1986). Each culture has its own unique ways of expressing distress.

When a language barrier between clinician and patient is present, two forms of translation must occur in order for a valid interpretation to be made: (1) the direct translation of language (e.g., English to Spanish), and (2) the translation of clinical terminology into the common language and cultural context of the patient or participant. Idiomatic expressions are key to understanding the cultural context. These expressions represent crucial—though not explicitly stated—meanings contained within the patient's speech. This is especially true in the case of mental disorders such as major depression.

Even in groups with a high prevalence of depression, depression is easily misdiagnosed and not well understood. Confounding variables such as alcoholism, antisocial behavior, physical illness, and culturally sanctioned prolonged grief inhibit accurate diagnosis. It is crucial that judgments about psychiatric disorders include cultural considerations, especially when there is ambiguity or lack of equivalency in the expression of mental disorders. Promoting the inclusion of idiomatic expressions of distress not only improves diagnostic accuracy, it also demonstrates awareness of and respect for the patient's mode of communication, experiences, and corresponding beliefs.

Some idioms of distress or culture bound syndromes already are well recognized within Latino communities. Much research has been done on somatoform disorders including "*ataque de nervios*," which is a sudden, though transient, change in behavior that occurs after a stressful event, such as the death of a family member (Kirmayer, Dao, & Smith, 1998; Levine & Gaw, 1995; Oquendo, Horwath, & Martinez, 1992). In many Latino populations somatic symptoms or illness attributions serve to communicate distress or depression in a locally intelligible and legitimate way, which avoids psychiatric stigma. Only deliberate attempts to understand the cultural significance of somatic complaints will enable clinicians and researchers to recognize the distinction between psychological and somatic symptoms. For these reasons, expressions such as "*ataque de nervios*" and "*susto*" have been included in the DSM-IV *Glossary of Cultural Bound Syndromes and Idioms of Distress*.

Even within the United States there is a great deal of linguistic variation in the Spanish language associated with differing regions and dialects, differences in levels of acculturation, and differences in social and family support systems.

Individuals belonging to different Latino cultures may interpret items differently on an instrument due to idiomatic variations. Because there is great diversity within the prescribed “Latino” population, it is important not to over-generalize between groups.

Often, interpreters who are unfamiliar with the colloquialisms and slang of the patient’s language tend to omit, condense, substitute, or add their own interpretations to both the clinician’s and the patient’s statements. In the case of Spanish-speaking patients, a lack of *respeto* (respect) or *personalismo* (interpersonal affability), which is expected in all exchanges between equals, can be interpreted as a sign of disinterest or hostility and possibly contribute to bias and misdiagnosis (Vasquez & Javier, 1991).

Insensitivity to cultural and linguistic factors in mental health leads to miscommunication and misdiagnosis, which can lead to improper treatment and prolong human suffering as well as increase the cost of care and burden on the system. Compounding economic strains, the effects of relapse, recurrence, comorbidity, impact on family, absenteeism, and the decrease in work productivity due to depression places a high social burden on society (Klerman & Weissman, 1992).

Cultural Constructs

Añez, Paris, Bedregal, Davidson, and Grilo (2005) and Gloria and Peregoy (1996) have described useful constructs for understanding and working with Latinos. These constructs are not unique to Latinos; however, they do play a significant role in social interactions, especially among Latino elders, recent immigrants, and first-generation Latinos in the United States. Although not all Latinos will readily recognize the levels of these constructs, the values they support generally are endorsed by most Latinos in the United States.

Familismo is exemplified by the emphasis on close relationships with extended family and friends. The family is viewed as the center of one’s experience, and the family’s needs are more important than those of the individual. Family loyalty, reciprocity, and solidarity are highly valued (Añez et al., 2005; Gloria & Peregoy, 1996; Hoppe & Martin 1986; Marin & Marin, 1991). *Familismo*’s extended family structure can serve to minimize the emotional and economic strain of a family member’s mental illness (Lefley, 1990). *Familismo* may exert a strong influence, both positive and negative, on how individuals of Latino origin seek and utilize mental health services and may significantly influence the course of treatment.

Personalismo or *trato personal* is exemplified by the valuing of interpersonal harmony and relating to others on a personal level. Latinos may prefer interpersonal contact that promotes getting to know the mental health clinician as a person. An example of *personalismo* is Latinos greeting and initiating “small talk” with the clinician in the lobby of the mental health clinic. In working with

Latinos, demonstrating some *personalismo* or *trato personal* is much more conducive to a good therapeutic alliance, and not practicing *personalismo* may result in lack of rapport or inability to form a working relationship. (Añez et al., 2005; Comas-Diaz, 1996; Gloria & Peregoy 1996).

Simpatía is the general tendency toward avoiding interpersonal conflict, emphasizing positive behaviors in agreeable situations, and de-emphasizing negative behaviors in conflictive circumstances. It emphasizes the need for behaviors that promote smooth and pleasant social relationships. For example, *simpatía* occurs when a Latino patient appears to agree with the clinician during the office session, but after the session does not follow the recommendation or plan (Gloria & Peregoy, 1996; Marin & Marin, 1991).

Respeto is exemplified by the adherence to a hierarchical structure, in which individuals defer to authority and to elders (Añez et al., 2005; Santiago-Rivera, Arredondo, & Gallardo-Cooper, 2002). Latino elders are valued for their lifetime knowledge and experience, and sought out for advice. Included in *respeto* is children's obligation to take care of and support their elder parents (Beyene, Becker, & Mayen, 2002).

Traditional gender roles suggest that in *Machismo* men are expected to be strong and provide for the family, while in *Marianismo* women are expected to be nurturing, take care of children at home, devote themselves to caring for their children and husbands, be self-sacrificing, and be submissive to men. In *Marianismo* women are seen as spiritually and morally superior to men; they serve as the "emotional heart of the family" (Dreby, 2006).

Fatalismo is the expectation of adversity, the notion that life's outcomes may not be fully under one's control. It suggests a belief that outcomes may be decided by fate, luck, or a higher power such as God. It may be manifested in a belief of an external locus of control (Añez et al., 2005). *Fatalismo* also may be viewed as a realistic and adaptive response to stress (Hoppe & Martin, 1986).

Vergüenza (shame) may limit Latinos' willingness to seek outside help for problems within the family and for mental health problems. They will attempt to avoid bringing *vergüenza* upon themselves and their families (Gloria & Peregoy, 1996).

Culture Bound Syndromes

Culture bound syndromes have been described in DSM-IV as well as in the literature (APA, 1994; Baer et al., 2003; Guarnaccia & Rogler, 1999; Juntunen, 2005; Niehaus et al., 2005). When working with Latinos it is important to be aware of these syndromes so that patients with psychiatric illnesses are not misdiagnosed. Reciprocally, it is important not to mistakenly attribute psychiatric illness to a culture bound syndrome.

Nervios is a common idiom of distress among Latinos. The term *nervios* may be used to refer to an individual's general state of vulnerability to stress and to a syndrome of symptoms triggered by stress. Symptoms of *nervios* include

headaches, irritability, stomach disturbances, trembling, and dizziness. *Nervios* captures a spectrum, which can range from being sensitive to stress (*padecer de nervios*) to other presentations that may include adjustment, anxiety, depressive, dissociative, somatoform or psychotic disorders (APA, 1994; Guarnaccia, Lewis-Fernandez, & Marano, 2003).

Another cultural idiom of distress among Latinos is *Ataques de nervios* (attacks of nerves). *Ataques* are within the spectrum of *nervios*. An *ataque* may occur in reaction to a stressful event, such as a family conflict or the unexpected loss of a loved one. Symptoms include fear, loss of self-control, uncontrollable shouting, attacks of crying, trembling, fainting, disorientation and dissociative experiences (Guarnaccia, Rubio-Stipec, & Canino, 1989; Lewis-Fernandez et al., 2002). *Ataques* also may be associated with perceptual distortions, which may be identified as psychotic symptoms (Guarnaccia, Canino, Rubio-Stipec, & Bravo, 1993). *Ataques* are reported more frequently among Caribbean Latinos, though this syndrome is also found among other Latinos. The presentation of *ataques* may sound similar to the DSM-IV description of panic attacks, however, they are different given that *ataques* usually have a trigger, and panic attacks do not (APA, 1994). However, there may be some overlap in these two presentations. Lewis-Fernandez and colleagues (2002) demonstrated that in a sample of Dominican and Puerto Rican adults, 36% of *ataques de nervios* also fulfilled criteria for panic attacks, and between 17% and 33% met criteria for panic disorder.

Susto (fright) is a culture bound syndrome that includes psychological and somatic symptoms such as appetite disturbances, sleep disturbances, dreams, sadness, lack of motivation, feelings of low self-worth or dirtiness, muscle aches and pains, headache, and stomach disturbances. This syndrome is attributed to a frightening event that causes one's soul to leave its body. Healings, such as those in *Curanderismo*, are focused on calling the soul back to the body and restoring body and spiritual balance. Other names for *susto* include *espanto*, *pasmo*, *perdida del alma*, and *chibih* (APA, 1994; Baer et al., 2003).

Mal de ojo (evil eye) is a culture bound syndrome, which includes symptoms of fitful sleep, crying without an apparent cause, diarrhea, vomiting, and fever. Infants and children are most at risk, though adults (usually females) also may be affected (APA, 1994). *Mal de ojo* is thought to occur when an adult looks admiringly at a child or adult, but does not show physical affection, such as a pat on the head. It is believed that this results in heating of the blood and causes fever and vomiting in the afflicted person.

General Characteristics of the Latino Population

Despite a common ethnic identification, Latinos are heterogeneous in aspects such as birthplace, acculturation, genetics and race, health care access and utilization, and language (Marin, Escobar, & Vega, 2006). Hispanic Americans

include groups that are predominantly Native American, Black, or White, plus mixtures of any of these three. They are younger, poorer, less educated, and more likely to be foreign born. They also are more likely to live with family and less likely to speak English or have health insurance. Forty percent of Hispanic Americans are foreign-born. Most Hispanics share the Spanish language. However, there are marked variations in the Spanish spoken by different subgroups, for example, Cubans and Mexicans. Some elders do not speak Spanish at all; for example, some indigenous elders who have emigrated from Mexico speak only Mixteco, Zapoteco, Nahuatl, or other native languages. Approximately 45% of Hispanic Americans have limited English proficiency (Kochlar, Suro, & Tafoya, 2005).

Hispanics have different levels of acculturation. Some retain the traditions and health behaviors of their native countries, while others assimilate into the U.S. culture. Still others develop a bicultural perspective, which is thought to be a healthier adaptation. Acculturation has been associated with poorer health outcomes for Hispanics, as demonstrated by more psychiatric disorders, illicit substance use, and smoking (Vega, Kolody, & Aguilar-Gaxiola, et al., 1998; Vega, Sribney, & Achara-Abrahams, 2003; Vega, Sribney, Aguilar-Gaxiola, & Kolody, 2004; Welte & Barnes, 1995; Wilkinson et al., 2005). It is hypothesized that as immigrants become more acculturated to the U.S. mainstream culture, they lose protective health behaviors and traditions from their native culture, and acquire less healthy behaviors from the U.S. culture (Rogler, Cortes, & Malgady, 1991). Like Asians, Hispanics have defined family hierarchical structures and role expectations. However, they tend to be more social and less formal in their interactions with others outside their families.

Religion

The majority of Hispanics in the United States identify themselves as Christian, with as many as 89% declaring themselves Catholic and 13% Protestant. Hispanic elders have been shown to become more active in religious activities as they age (Stolley & Koenig, 1997). In addition to ascribing to religions such as Catholicism and Protestantism, *Curanderismo*, *Santeria*, and *Espiritismo* also may be included in the belief systems of some Hispanic subgroups.

Curanderismo is a diverse folk healing system practiced by many Mexican Americans, which includes beliefs originating from Greek humoral medicine, early Judeo-Christian healing traditions, the Moors, and Native American traditions. A main tenet of this belief system is that illness is caused by natural forces, supernatural forces, or a combination of the two. Examples of beliefs include *suerte* (luck), *susto* (soul or spirit loss resulting from a traumatic event), *mal de ojo* (the evil eye), and *caida de la mollera* (fallen fontanel). Healing practices may include physical and supernatural healings via *limpias* (spiritual cleansings), prayer, massage by *sobadores*, and herbal preparations (Gafner &

Duckett, 1992; Keegan, 2000; Luna, 2003; Padilla, Gomez, Biggerstaff, & Mehler, 2001;). Healing is administered by *Curanderos*, who have a divine gift (*don*) for healing (Applewhite, 1995), *sobadores*, *yerberos*, and *espiritualistas* (López, 2005).

Santería is a religious system that blends African (Yoruba tribe) and Catholic beliefs, and is practiced by Cuban Americans and other Caribbean ethnic groups. It also may include elements of spiritualism and magic. Beliefs include that *oricha* saints (identities based on a combination of African deities and Catholic saints) may influence people on earth, *embruajamiento* (casting spells), and *mal ojo* (evil eye). Healing practices include *despojamientos* (expelling bad spirits), amulets, magic medicines, animal sacrifice, and care of blessed animals. *Santero* group beliefs and practices may vary, based on the needs of the group or the *Santero* priest (Alonso & Jeffrey, 1988; Baez & Hernandez, 2001; Suarez, Raffaelli, & O'Leary, 1996). *Espiritismo* is a spiritual belief system practiced by many Puerto Ricans in Puerto Rico and in the United States. It includes beliefs in reincarnation and the power of mediums. Individuals are affected by fluids, which are spiritual emanations that surround the body. These fluids are derived from a combination of the individual's spirit, spirits of the deceased, and the spirits of others close to the individual. Mental and physical illnesses are the result of fluids either being sick or disturbed. Fluids may be negatively affected by karma (past actions influencing the present), religious negligence, *brujeria* (witchcraft), spirits, *mal ojo* (evil eye), and inexperienced mediums. Healing practices include prayer, group healings, house cleansings, personal cleansings with herbal baths, and possession trance (Baez & Hernandez, 2001; Harwood, 1977; Richeport, 1975, 1982, 1985, as cited by Hohmann et al., 1990).

The history of Latinos in the United States, the Caribbean, and Central and South America has followed a cycle of conquest, oppression, defeat, and struggle for liberation. This clearly contributes to and influences the natural history of depression in this population group.

Depression in Latinos

Prevalence

The prevalence of major depression varies among studies, largely as a result of the populations studied. In largely White primary care samples, the prevalence has been demonstrated to range between 6.5% (Lyness, King, Cox, Yoediono, & Caine, 1999) and 13.5% among elderly homecare patients (Bruce et al., 2002). Rates of major depression rose significantly in Hispanics, as well as Whites and African Americans between 1991–1992 and 2001–2002 (Compton et al., 2006).

It has been hypothesized that perhaps Latinos are disproportionately diagnosed with depression compared to other ethnic groups. In a study of diagnostic patterns in Latino, African American, and European American psychiatric

patients, Latinos were disproportionately diagnosed as having major depression, despite self-reported psychotic symptoms. The authors hypothesized that this difference may be secondary to “self-selection, culturally determined expression of symptoms, difficulty in the application of DSM-IV diagnostic criteria, bias related to lack of clinicians’ cultural competence, and imprecision inherent in the use of unstructured interviews, possibly combined with clinician bias” (Minsky, Vega, Miskimen, Gara, & Escobar, 2003).

Studies have begun to demonstrate differences in anxiety, depression, and substance use disorders among Latinos. However, most of those studies have either (1) involved regional estimates for a single Latino group in one area of the country, (2) represented aggregated Latino groups under one umbrella category, or (3) used samples that were too small to allow for intergroup comparisons (Alegria et al., 2007a). The singular exception is the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) (Grant et al., 2004).

Only three studies have reported past-year prevalence rates of psychiatric disorders among Latinos. The National Comorbidity Study Replication (NCS-R) included only Latinos who spoke English and used the World Health Organization Composite International Diagnostic Interview (WMH-CIDI). Fifteen percent of NESARC participants were interviewed in Spanish. That study estimated rates using the National Institute on Alcohol Abuse and Alcoholism Alcohol Use Disorder and Associated Disabilities Interview Schedule from the DSM-IV. The National Latino and Asian American Study (NLAAS) was the first nationally representative study of English- and Spanish-speaking Latinos to compare lifetime and past-year prevalence rates of psychiatric disorders across Latino subgroups using the WMH-CIDI. Half of the respondents in that study, which examined prevalence rates of depressive, anxiety, and substance use disorders among Latinos, were monolingual Spanish speaking or they requested to be interviewed in Spanish (Alegria et al., 2007b).

NLAAS found lifetime psychiatric disorder prevalence rates of 28.1% for males and 30.2% for females. Puerto Ricans had the highest overall prevalence rates. Prevalence was higher among those who were born in the United States, those who were proficient in English, and third-generation Latinos. English language proficiency was most strongly associated with risk (Alegria et al., 2007b). The NESARC data showed that Mexican Americans and foreign-born non-Hispanic Whites were at significantly lower risk of substance use and mood and anxiety disorders, compared with their U.S.-born counterparts (Grant et al., 2004).

In studies of Latino elderly, prevalence rates of depression vary, based on the subgroup, as well as acculturation. The depression prevalence rate among community-dwelling Mexican American elders in Sacramento was 25.4 %, with higher rates for immigrants (30.4%) and those who are less acculturated (36.1%) (Gonzalez, Haan, & Hinton, 2001). In a study of community-dwelling Puerto Rican, Dominican, “other” Latino, and Caucasian elders in Massachusetts, 44% of Puerto Rican, 32% of Dominican, 30% of “other” Latino elders,

and 22% of Caucasian elders had significant symptoms of depression (Falcon & Tucker, 2000). In the San Luis Valley Health and Aging Study, Latina women had significantly higher rates of depressive symptoms (18.3%) compared to Caucasian women (9.6%). Latinas who were less acculturated had more symptoms of depression compared to those who were more acculturated (Swenson, Baxter, Shetterly, Scarbro, & Hamman, 2000).

Risk and Protective Factors for Depression

Risk Factors

Medical risk factors include chronic medical conditions such as diabetes and heart disease, as well as cognitive impairments. These can then lead to impaired function, which, in turn, puts the patient at a higher risk of depression. Psychosocial risk factors for depression include low socioeconomic status, financial strain, isolation, immigration issues, legal problems, providing care for a relative's child, substance use, and lack of insurance (Black, Markides, & Miller, 1998; Chiriboga, Black, Aranda, & Markides, 2002; Robison et al., 2003; Swenson et al., 2000).

Immigration hardships vary according to the cohort, and can lead to significant strain and depression. For example, Puerto Ricans in the United States do not have to worry about deportation like undocumented Mexican immigrants do. Latinos who lack documentation are more vulnerable to discrimination, poor housing, and poor working conditions because they fear being reported to law enforcement or immigration authorities and ultimately being deported if they make complaints. Clinicians who treat Latino immigrants should assess and take note of the immigration experiences, as they may contribute to depression. Assessment should include asking about social and personal variables in the country of origin, society of settlement, and what their immigration experience was like (Berry, 1997, as cited in Cuellar, Bastida, & Braccio, 2004).

Whether level of acculturation correlates with depression among Latino immigrants continues to be debated. A study comparing U.S.-born Mexican Americans to foreign-born Mexican Americans found that those who were born in the United States were at higher risk of major depression and dysthymia (Grant et al., 2004). Studies that demonstrate higher prevalence of depression in less-acculturated Mexican Americans and immigrants compared to those who are more acculturated may be related to the cultural barriers encountered by those who are less acculturated (Gonzalez et al., 2001).

A study of Latino immigrants in the United States found that longer residence was associated with increased depression, anxiety, substance abuse, and worse health (Vega et al., 1998). However, like acculturation, this issue is more complex than just how long Latinos have been in the United States. For

example, in a study of Mexican immigrants, those who resided in the United States for long periods of time (average 32 years) were found to have better well being than those who were in the United States for less time. The authors hypothesized that those Latinos were at less risk of depression because they resided in culturally receptive and compatible environments, and remained closely tied to their culture of origin (Cuellar et al., 2004).

At least some English language knowledge is associated with improved well being among Latinos. In a study of subgroup differences among Mexican American, Cuban, and Puerto Rican elders, those with English language knowledge were less socially isolated and had fewer financial problems (Krause & Goldenhar, 1992).

Protective Factors

Familismo may be protective in that family members may give emotional support and advice to a relative with depression. They also may encourage the affected relative to seek assistance from either formal (primary care or mental health care) or informal (*curanderismo*) sources. Residing in a culturally receptive and compatible environment is protective. In one study, elder Mexican Americans who lived in neighborhoods that had more Mexican Americans had fewer symptoms of depression (Ostir, Eschbach, Markides, & Goodwin, 2003).

Fatalismo may be protective if the individual uses the expectation of adversity as a coping mechanism to deal with life circumstances that are out of his or her control (Hoppe & Martin, 1986).

Religiosity has been found to be helpful. Self-perception of religiosity, influence of religion, and church attendance were significantly negatively associated with suicidal ideation among Latino immigrants (Hovey 1999; Stolley & Koenig as cited in Robison et al., 2003).

Comorbid Conditions

In a study designed to explore knowledge, attitudes, and beliefs about depression among Latinos with type 2 diabetes, diagnosis of diabetes led to feelings of hopelessness and upset, while difficulties with managing diabetes led to feelings of anxiety and depression (Cherrington, Ayala Sleath, & Corbie-Smith, 2006). Young, obese Hispanic women are particularly prone to depressive moods (Heo, Pietrobelli, Fontaine, Sirey, & Faith, 2006). A study comparing pain reports of Hispanics and Caucasians found that Hispanics reported more pain compared to Caucasians and that depression was associated with higher pain reports. Among Hispanics, pain reports were higher in the presence of depression (Hernandez & Sachs-Ericsson, 2006). Latino children are less likely to

receive treatment for depression than White children (Zimmerman, 2005). Monolingual Hispanics are more likely to have low adherence rates to medication than Caucasians or African Americans (Diaz, Woods, & Rosenheck, 2005).

Disability, Morbidity, and Mortality in the Elderly

Depression is associated with increased morbidity and mortality among elders (Cohen, Magai, Yaffee, & Walcott-Brown, 2005; Penninx et al., 1999; Schulz, Drayer, & Rollman, 2002; Unützer et al., 2003). Those with depression have worse outcomes following acute medical events such as stroke (Morris, Raphael, & Robinson, 1992) and hip fracture (Mossey, Knott, & Craik, 1990).

Mexican American elders with depression and major chronic medical conditions such as cardiovascular disease, hypertension, stroke, diabetes, and cancer have higher mortality rates (Black & Markides, 1999). Latinos with mood disorders have been found to be twice as likely to be persistently ill as Whites (Breslau, Kendler, Su, Gaxiola-Aguilar, & Kessler, 2005). Although recognition rates for depression have increased in elders, Latino elderly with depression continue to be undertreated (Crystal, Sambamoorthi, Walkup, & Akincigil, 2003).

Health Care Beliefs and Behaviors, and Health Services Utilization

Beliefs and Behaviors

Hispanics are more likely to somatize distress than Caucasians. Somatization and preoccupation with somatic concerns among Hispanics have been widely described in the literature (Canino, Rubio-Stipec, Canino & Escobar, 1992; Escobar, 1995; Escobar et al., 1986). Somatic symptoms are culturally sanctioned expressions for seeking and receiving care and treatment, and are reported by patients with and without Axis I diagnoses (Barrio et al., 2003; Escobar et al., 1986; Weisman et al., 2000). It is considered stigmatizing to express psychological distress explicitly, as this indicates mental illness. Thus, for Hispanics, especially elderly Hispanic women, somatic symptoms may be manifestations of psychological distress (Angel & Guarnaccia, 1989).

Although lack of insurance is a barrier to accessing mental health services for some Hispanics, those with insurance also are less likely than Whites to use outpatient mental health services (Padgett, Patrick, Burns, & Schlesinger, 1994). Hispanics commonly use herbal medicines and are quite likely to seek the help of *curanderos* or clergy prior to seeking medical care for their illnesses. When they do seek help it is likely to be through primary care providers (Vega, Kolody, Aguilar-Gaxiola, & Catalano, 1999).

Stigma surrounding mental illness and lack of knowledge regarding mental health disorders and treatments also may play a role in lower utilization of mental health services. Mexican Americans with less acculturation have lower rates of mental health care use than more acculturated Mexican Americans (Vega et al., 1999). It has been postulated that less acculturated Mexican Americans have likely been in the United States for less time, speak only Spanish, and are not familiar with the U.S. health care system. In addition, some Latino elders mistrust the formal service system because of past experiences of discrimination (Gelman, 2002).

Latinos often use herbal medicines. These include spearmint, chamomile, aloe vera, garlic, brook-mint, osha, lavender, ginger, ginseng, camphor, rue, anise, wormwood, orange leaves, sweet basil, oregano, peppermint, and lime (Rivera, Ortiz, Lawson, & Verma, 2002; Trotter, 1981; Zeilmann et al., 2003), as well as marijuana tea (Pachter, 1994). *Tila* (Linden flower) tea and Sarsaparilla may be used for nervous disorders (Pasquali, 1994). Mercury (*Azogue*) may be used (Pachter, 1994) by elders practicing *Espiritismo* or *Santeria*, as it is believed to provide good luck and protection from evil and the envy of others (Zayas & Ozuah, 1996).

Health Service Utilization

Latinos have been found to benefit from care for depression, and at a cost that is less than that for White patients (Katon et al., 2005). Nonetheless, they utilize mental health services less frequently compared to other ethnic minorities and White Americans (Hu, Snowden, Jerrell, & Nguyen, 1991; Wells, Klap, Koike, & Sherbourne, 2001). In the 1990s, fewer than 1 of every 11 Latinos with a mental disorder sought care from mental health providers (U.S. Department of Health and Human Services, 2001), and fewer than 1 in 5 sought help through primary care services. Rates are even lower among immigrants (Vega et al., 1999). United States residents with limited English proficiency are less likely to seek and receive mental health services (Alegria et al., 2007a).

Hispanics have tended to present to primary care providers for assistance with mental health issues such as depression, rather than seek out mental health specialty care (Vega et al., 1999). Mexican American elders are less likely to visit physicians than Cuban American and Puerto Rican elders (Burnette & Mui, 1999). Reasons for this include greater use of informal providers (religious, spiritual, folk healers), lack of insurance, and lack of access to linguistically and culturally competent mental health providers (Burnette & Mui, 1999; Hu et al., 1991; Mutchler & Brallier, 1999;). Hispanics utilize mental health services less frequently than other ethnic minorities and White Americans (Hu et al., 1991; Wells et al., 2001). Although lack of insurance is a barrier to accessing mental health services for some Latinos, insured Latinos are also less likely than Whites to use outpatient mental health services (Padgett et al., 1994).

Conclusions

“Hispanic” or “Latino” describes people from more than 20 countries with different cultures, languages, customs, beliefs, and political and economic histories. While Spanish may be the element uniting these different people, one of the distinguishing characteristics of Hispanics is their heterogeneity in some aspects such as national origin, genetics and race, acculturation, and language. This heterogeneity may influence the prevalence, clinical presentation, course, and treatment of mental illness. Mental health services are underutilized by Latino groups for a variety of reasons including language barriers, stigma regarding mental health issues, and belief in alternative approaches such as *curanderos* or folk healers. These factors, in addition to the significant demographic growth and geographic dispersion, challenge the existing mental health delivery system to respond in a more culturally and linguistically appropriate manner. Cookbook approaches will not be successful. Imagination, creativity, and flexibility will be required if health and other systems are to help this growing population to live healthy and productive lives in the United States.

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Chapter 2

Latino Population Demographics, Risk Factors, and Depression: A Case Study of the Mexican American Prevalence and Services Survey

William A. Vega and William M. Sibney

Personal Journey: William A. Vega

I was raised in a Mexican immigrant household and experienced the poverty and witnessed the social discrimination and disease that accompanied it in East Los Angeles during the mid-20th century during my early childhood. These childhood and adolescent experiences were a powerful influence on my professional interests and activities throughout my life. My academic preparation at Berkeley was in sociology and criminology—I credited myself with having a good understanding of social deviance from personal observation. It was this preparation that exposed me to theory and research about immigration, social adaptation, marginality, social psychological theory, and field research methods. Although my work is interdisciplinary in scope, the template remains sociological and social psychological. My primary interest as a researcher has been two-fold, to understand the impact of immigrant adjustment on health for the total Latino population of the United States, and to improve interventions to prevent or reduce disease burden. Depression and substance use have been the focal areas of my research, and adolescents, adults, and families have been units of study. I have conducted my depression research in many settings including state mental hospitals, county mental health programs, managed behavioral health, and community epidemiologic and prevention studies in the United States and Mexico. Even after many years I continue to find depression research very interesting, and the related areas of social stress, genetics, and family research provide a wonderful opportunity for personal growth in a new era of behavioral, gene-environment, and treatment improvement research.

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Personal Journey: William M. Sribney

I was trained as a statistician and have devoted part of my career to developing software to manage deficiencies of current statistical packages especially in complex survey research applications, and continue to be active in this field. My substantive research in the past several years, and the foundation of my collaboration with Bill Vega, has been his work in genetics and Latino psychiatric epidemiology. I also have had extensive experience as a professional editor of scientific literature.

Introduction

There is evidence that Latinos are underserved by the U.S. health care system, yet disproportionately seek mental health care for depression, compared to other mental disorders (Minsky, Vega, Miskimen, Gara, & Escobar, 2003). Given the magnitude of the problem, it is remarkable that little information is available about demographic determinants of depression in the Latino population. A wide range of research has shown that demographic factors are important correlates of depression among Latinos, but often in ways that are inconsistent with patterns found in other major U.S. ethnic groups. The underlying determinant of important demographic and social differences among Latinos is their very high volume of immigration to the United States, which has occurred over the past three decades and is projected to continue into future decades. Currently, 75% of all Latinos in the United States are either immigrants or children of immigrants. This fact has far-reaching consequences for an array of issues affecting population health, including education, income, language-use patterns, age structure, socialization into social networks and social behavior, fertility rates, access to health care and service utilization, and economic and social incorporation. In essence, immigration is the driving factor in the creation of an emerging Latino subsociety; as such, it has important implications for depression morbidity and treatment.

This chapter reviews the prevalence of major depression in the U.S. Latino population, and the variations in depression rates attributable to both demographic and other risk factors. The chapter also contributes some original analyses in these areas with the intent of identifying key questions for future research. Data were taken from several sources: the U.S. Census, a review of published epidemiological studies of Latino populations, and the Mexican American Prevalence and Services Survey (MAPSS; Vega et al., 1998). The MAPSS data ($N = 3,012$) were used because this database contains detailed information about a spectrum of psychosocial correlates of depression among Mexican-origin people in the United States (Central California) derived from a large enough sample size (statistical power) to properly analyze these correlates. The MAPSS was designed to estimate nativity

differences (individuals born in the United States versus those born in Mexico) in DSM-III-R diagnostic-level mental health problems, and to determine associated risk and protective factors.

Population Structure of U.S. Latinos

Poverty and inequities in income distribution and globalization have compelled many individuals from Latin American to emigrate to other countries. Geographical proximity and economic and educational opportunities have made the United States the primary destination of most Latin American emigrants.

Table 1 presents a summary of the U.S. population derived from Current Population Survey (CPS) estimates (1998–2002); the Hispanic population given in the table is less than the total cited above because data were gathered over a

Table 1 Population of the United States, 1998–2002, by Immigrant Generation and Self-Reported Race and Hispanic Origin¹

Race and Hispanic Origin	Immigrant Generation ²			Total	Foreign Parentage ³ (%)
	First	Second	Third and Beyond		
Hispanic	14,559,468	10,337,124	8,416,598	33,313,190	75
Mexican	8,457,887	7,016,435	6,503,121	21,977,443	70
Puerto Rican ⁴	1,229,780	1,144,343	671,745	3,045,868	78
Cuban	905,626	338,565	74,763	1,318,954	94
Central-South American	3,295,509	1,296,310	218,938	4,810,757	95
Other Spanish	670,666	541,471	948,031	2,160,168	56
Non-Hispanic	17,513,047	18,540,381	202,892,992	238,946,420	15
White, non-Hispanic	8,341,444	14,339,679	170,899,381	193,580,504	12
Black, non-Hispanic	2,156,234	1,290,433	30,924,468	34,371,135	10
Asian, non-Hispanic	7,015,369	2,910,269	1,069,143	10,994,781	90
Total Population	32,072,515	28,877,505	211,309,590	272,259,610	22

Table adapted from R. Rumbaut, 2004.

Source: Merged Current Population Survey (CPS) annual demographic files (March), 1998 through 2002.

¹ Based on self-reported responses to CPS questions on “race” and “Hispanic origin.” American Indians and Alaska Natives are not included in this table.

² Immigrant generations defined as follows: first generation is foreign born; second generation is U.S. born with one or two foreign-born parents; and third and beyond is U.S. born of U.S.-born parents.

³ Percentage of total of first and second generations.

⁴ Persons born in Puerto Rico are U.S. citizens; “first” and “second” generations here refer to island versus mainland nativity of self or parents.

slightly earlier time frame. This population profile is arranged by immigrant status of self or parents for four major ethnic categories used in the U.S. Census: Hispanic, White non-Hispanic, Black non-Hispanic, and Asian non-Hispanic. The estimated total U.S. population size was 272,259,610, with African Americans (including immigrants) and Hispanics (including immigrants) being of nearly equal size: 34,371,135 and 33,313,190, respectively. The table contains data for three Hispanic generational groups: first-generation foreign-born Latinos, including Puerto Ricans; second-generation U.S. born of foreign-born Latino parentage of one or more parents, including parents born in Puerto Rico; and third-generation born in the United States of U.S.-born parents who are of Latino heritage. Two things are evident: the largest Hispanic subgroup consists of first-generation Hispanics, and they are nearly twice as numerous as the U.S.-born Hispanics of U.S.-born parents, 14,559,468 versus 8,416,598. In addition, the second-generation group is larger and likely to increase more rapidly than the third-generation group because its growth is dependent on the expansion and higher fertility levels of the first generation.

These demographics convey why Spanish-language usage and English-language acquisition are urgent issues for the Latino population. They directly affect the ability of the foreign born to establish their lives in this country, including the ability to access opportunities for education, employment, and health care. Ironically, despite these presumptive disadvantages, exacerbated by low socioeconomic status, the first generation has superior profiles for all-cause mortality when contrasted with either subsequent generations of Hispanics or the White non-Hispanic population of the United States (Scribner, 1996). Age-adjusted mortality rates and life expectancy of Latinos are superior to those of White European Americans (320 per 100,000 person-years and 82.5 years vs. 482 per 100,000 person-years and 77.3 years) and African Americans (667 per 100,000 person-years and 71.1 years). This mortality advantage is attributable to lower rates of heart disease (35% lower), stroke (25% lower), and cancers (43% lower) among Latinos (Hayes-Bautista, 2003). Even for other major categories of mortality, where the evidence regarding superior health status is contradictory, Latino rates approximate those of White non-Hispanics who possess far greater economic resources (Wei, Mitchell, Haffner, & Stern, 1996).

Table 2 presents information about the first generation (foreign born) by nation of origin and age at time of arrival in the United States. About half of all Latino immigrants (44%) arrived when they were younger than 18 years of age. Puerto Rican and Mexican immigrants were the youngest at the time of arrival; 55% of Puerto Rican immigrants and 47% of Mexicans arrived before they were 18 years of age. In contrast, only about one third of Cubans, Salvadorans, and South Americans had reached the age of 18 when they arrived. Latinos who arrived as adults were as numerous as third-generation Latinos. They are an important counterbalance to the rapid assimilation occurring among the U.S. born. They are *cultural conservators* because of their participation in Spanish-language social networks and media, and because they are more likely to retain linkages to extended families who reside in nations of origin in Latin America.

Table 2 Immigrant First Generation of the U.S. Latino Population, 1998–2002, by Age and Life Stage at Arrival and National Origin

National Origin	Ages 0–5 Early Childhood		Ages 6–12 Middle Childhood		Ages 13–17 Adolescence		Ages 18–24 Adult Transition		Ages 25–34 Early Adulthood		Ages 35–54 Middle Adulthood		Ages 55 and older Late Adulthood		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Mexico	1,214,113	15	1,040,642	13	1,561,137	19	2,251,647	28	1,342,177	16	650,450	8	98,041	1	8,158,207	
Puerto Rico ¹	290,737	25	178,584	15	168,440	15	242,623	21	146,896	13	103,069	9	23,711	2	1,155,060	
Cuba	105,862	12	102,673	11	76,281	8	98,982	11	217,109	24	244,343	27	64,939	7	910,189	
Dominican Republic	82,119	12	101,308	15	93,027	14	133,232	20	136,970	21	97,743	15	18,879	3	663,278	
El Salvador	59,498	8	86,418	11	131,684	17	248,828	33	146,186	19	66,242	9	14,380	2	753,236	
Guatemala	39,271	10	49,485	13	69,563	18	105,058	27	73,261	19	46,804	12	1,930	1	385,372	
Other Central America	117,999	15	93,498	12	93,033	12	189,628	25	184,182	24	78,215	10	12,051	2	768,606	
Colombia	56,992	12	51,858	11	49,580	10	107,215	22	122,430	25	81,138	17	16,448	3	485,661	
Ecuador, Peru	58,599	11	67,432	12	71,546	13	133,712	24	127,782	23	76,208	14	16,326	3	551,605	
Other South America	82,135	14	69,138	11	59,797	10	124,257	21	164,892	27	89,847	15	11,676	2	601,742	
Total	2,107,325	15	1,841,036	13	2,374,088	16	3,635,182	25	2,661,885	18	1,534,059	11	278,381	2	14,432,956	

Table adapted from R. Rumbaut, *International Migration Review*, 2004.

Source: Merged Current Population Survey (CPS) annual demographic files (March), 1998 through 2002.

¹ Persons born in Puerto Rico are U.S. citizens; “national origin” and “arrival” refers to transition from island to mainland residence.

The age at arrival for the foreign born has important implications for population mental health, a point which is discussed later in this chapter.

Major Depression in Different Latino Populations

Table 3 presents information on all major epidemiologic studies that have estimated lifetime rates of major depression in Hispanic populations, including two important points of comparison from surveys in Mexico and Puerto Rico. The upper half of Table 3 contains studies conducted using the Diagnostic Interview Schedule (DIS, DSM-III) (Robins, Helzer, Croughan, & Ratcliff, 1981), and the bottom half presents studies using variants of the Michigan Composite International Diagnostic Interview (CIDI, DSM-III-R, and DSM-IV), which used similar diagnostic criteria but a different structure for screening questions that yielded higher prevalence rates. Therefore, the two instruments produce estimates that are not comparable.

The differences in instruments notwithstanding, it is useful to look at the relative differences in the subgroups compared within these various studies. Most recently, two national surveys have been completed that estimated the prevalence of psychiatric disorders using DSM-IV criteria in the U.S. Latino population, and included Latino subgroups with the advantage of including both English- and Spanish-speaking respondents. However, these studies are not directly comparable as they used different diagnostic instruments, albeit with similar diagnostic criteria, for estimating major depression.

From regional surveys conducted in the 1980s, a survey in Puerto Rico reported a lifetime prevalence of 4.6% for major depression, which is similar to the 3.3% prevalence for Mexican immigrants in Los Angeles. Similarly, very low estimates of prevalence were reported for Cuban respondents in Miami, where 80% were immigrants. In comparison, the prevalence estimate for Mexican-origin respondents residing in Los Angeles was 6.9% and for Puerto Ricans in New York it was 8.9%. These studies underscore the fact that the lowest prevalence levels were reported either by Latino immigrants or respondents residing in Latin America. The more recent studies that used the CIDI make the point succinctly, with one study reporting lifetime prevalence in Mexico City of 7.8%, contrasted with the National Comorbidity Survey (NCS) estimate for the U.S. population of 17.2%.

The prevalence rates of major depression for Mexican immigrants in the Fresno, California, MAPSS survey were similar to those for respondents from Mexico City. This is in contrast to higher levels reported by U.S.-born respondents of Mexican origin, which are similar to U.S. national estimates from the NCS, and to the English-speaking Hispanic subsample of the NCS. In the MAPSS, the largest proportionate difference in major depression (400%) was U.S.-born males compared to male immigrants (Vega et al., 1998). One of the most important demographic implications of this pattern is that the "health gradient," which assumes that mental health status worsens with lower income,

Table 3 Lifetime Prevalence of Major Depression in Different Latino Populations

Study Site and Ethnic Group	Sample Size	Instrument/ Measure	Prevalence (%)	Investigator(s)
Los Angeles, California		DIS, DSM-III		Karno et al., 1987
Mexican	1243		4.9	
Los Angeles, California		DIS, DSM-III		Burnam et al., 1987
Mexican	1244			
Immigrants	707		3.3	
U.S. born	537		6.9	
Miami, Florida		DIS, DSM-III		Narrow et al., 1990
Cuban	857		3.2	
Female	484		3.7	
Male	373		2.4	
Miami, Florida		DIS, DSM-III		Moscicki et al., 1987
Cuban	902		3.9	
Southwest		DIS, DSM-III		Moscicki et al., 1987
Mexican	3555		4.2	
New York City		DIS, DSM-III		Moscicki et al., 1987
Puerto Rican	1343		8.9	
Puerto Rico	1551	DIS, DSM-III	4.6	Canino et al., 1987
Fresno, California		CIDI, DSM-III-R		Vega et al., 1998
Mexican	3012		9.0	
Female (U.S. born)	604		17.5	
Male (U.S. born)	574		12.1	
Female (Immigrants)	912		8.4	
Male (Immigrants)	922		2.7	
Mexico City, Mexico	1733	CIDI, DSM-III-R	7.8	Caraveo-Anduaga, Martinez, Rivera, 1998
National Comorbidity Study		CIDI, DSM-III-R		Kessler et al., 1994
National U.S. population	5383		17.2	
US Hispanics (English speaking)	305		18.3	
Miami, Florida (19 to 21 years only)		CIDI, DSM-IV		Turner & Gil, 2002
Cuban (U.S. born)	295		12.4	
Cuban (Immigrants)	140		7.8	
Other Hispanics (U.S. born)	198		13.6	
Other Hispanics (Immigrants)	255		11.6	

Table 3 (continued)

Study Site and Ethnic Group	Sample Size	Instrument/ Measure	Prevalence (%)	Investigator(s)
United States (18 years and older)		AUDADIS, DSM-IV		Grant et al., 2004
Mexican (Immigrants)	2227		7.7	
U.S. born (Mexican origin)	2331		15.2	
Non-Hispanic Whites	23262		18.2	
European White Immigrants	1541		12.0	
United States (18 years and older)		CIDI, DSM-IV		Alegria et al., 2007
Puerto Ricans	495		20.1	
Cubans	577		18.6	
Mexican origin	868		14.7	
Other Latino	614		13.9	
Mexico national survey (18 years and older)		CIDI, DSM-IV		Medina-Mora et al., 2007
Female	3531		9.7	
Male	2295		4.6	

is actually reversed because immigrants who have the lowest incomes and educational attainment also have the lowest prevalence of depression. Whether the “health gradient” is ever reestablished in subsequent U.S.-born generations of Latinos has never been empirically determined.

The National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) provided national estimates of major depression for a large sample of Mexican-origin people and for non-Hispanic Whites. The estimates for lifetime major depression disorder ranged from 7.7% Mexican immigrants to 15.2% for the U.S. born of Mexican origin and 18.2% for U.S. born non-Hispanic Whites. Interestingly, this is the only study that also supplied an estimate (12%) for depression in *non-Hispanic* immigrants of European origin. Another recent national survey, the National Latino and Asian American Study (NLAAS), reported lifetime prevalence of major depression for subsamples of Mexican (14.7%), Puerto Rican (20.1%), Cuban (18.6%), and other Latino origin (13.9%) residing in the United States. A final comparison is from a recent national population survey of Mexico, again using DSM-IV diagnostic criteria, estimating lifetime prevalence of 9.7% for females and 4.6% for males. These latter two surveys are consistent with earlier surveys showing higher rates of depression among Latinos in the United States compared to Latinos in their native countries.

Description of the MAPSS Methodology

The MAPSS was designed as an epidemiologic area survey to examine variations in prevalence of psychiatric disorders in the Mexican-origin population of a large county in Central California. The study was able to control for effects of urban, small town, and rural residence on various psychiatric disorders in the context of personal risk factors. Participants in the study were 3,012 Mexican-origin persons residing in the Fresno County, California, Metropolitan Statistical Area (MSA) who were selected using a stratified randomized sampling design. Written informed consent was obtained from each respondent. Face-to-face field interviews were conducted in 1995 and 1996 with a combined response rate of 90% among screened eligible households from three strata (urban, small town, and rural incorporated areas). A detailed description of MAPSS methodology can be found in Vega et al. (1998).

The diagnostic protocol employed in the study was the CIDI, a fully structured survey instrument administered by trained lay interviewers. The CIDI was very similar in structure and content to the one used in the National Comorbidity Survey, with both protocols using DSM-III-R diagnostic criteria as described by Kessler et al. (1994). Marital satisfaction-strain information was obtained using a life stress scale (Pearlin, Lieberman, Menaghan, & Mullen, 1981; Pearlin & Schooler, 1978).

Information about the mental health and substance abuse problems of the parents of the survey participants was obtained using informal questions in the nondiagnostic part of the interview. Five questions were asked of the respondent pertaining to his/her biological father and mother: (1) *Did your biological father/mother ever have periods lasting two weeks or more when he/she was depressed or down in the dumps most of the time?*, (2) *Did your biological father/mother have periods of a month or more when he/she was constantly nervous, edgy, or anxious?*, (3) *Did your biological mother/father ever have a problem with drinking?*, (4) *Did he/she ever have a problem with illegal drugs?*, and (5) *Did your biological father/mother ever attempt to commit suicide?*

Characteristics of the MAPSS Study Population

The sociodemographic profile (Table 4) of adult Mexican immigrants in MAPSS is considerably different from that of U.S.-born Mexican-origin adults in MAPSS. It also differs somewhat from the Mexican-origin U.S. national population because Fresno is a major immigrant labor center. Immigrants had significantly less education than U.S.-born Mexican-origin adults. Over two thirds of female immigrants who arrived in the United States then 18 years old or greater had only completed 6 years or less of education; whereas only 2% of U.S.-born women had 6 years or less of education. Sixty percent of U.S.-born males had completed high school, compared to 27% of male immigrants whose

Table 4 Mexican American Prevalence and Services Survey (MAPSS) Sample Characteristics¹ (N = 3,012) and Lifetime Prevalence of DSM-III-R Major Depressive Episode, Other Mood, Anxiety, and Substance Disorders by Sex, Nativity, and Age at Arrival

	Females						Males					
	Immigrants			All Female			Immigrants			All Male		
	U.S. born	Age 0-17 at Arrival	Age 18+ at Arrival	U.S. born	Immigrants	All Female	U.S. born	Age 0-17 at Arrival	Age 18+ at Arrival	U.S. born	Immigrants	All Male
Observed sample	604	303	609	912	574	922	574	407	515	922	407	922
Weighted sample percentage	19.7	9.5	17.4	26.9	20.2	33.2	20.2	15.6	17.6	33.2	15.6	33.2
Age (years)												
18-24	27.9	39.4	12.0	21.6	35.1	21.1	35.1	31.6	11.8	21.1	31.6	21.1
25-34	27.1	36.0	42.5	40.2	28.1	38.6	28.1	43.1	34.6	38.6	43.1	38.6
35-44	24.9	13.8	26.5	22.0	21.8	23.0	21.8	18.3	27.2	23.0	18.3	23.0
45-59	20.2	10.7	19.0	16.1	15.0	17.3	15.0	7.0	26.4	17.3	7.0	17.3
Education (years)												
0-6	2.1	32.4	67.7	55.3	5.1	47.1	5.1	37.1	56.0	47.1	37.1	47.1
7-11	44.0	38.2	22.6	28.1	35.2	32.6	35.2	35.4	30.2	32.6	35.4	32.6
12	29.7	17.8	6.1	10.2	31.3	9.8	31.3	16.4	4.0	9.8	16.4	9.8
13+	24.2	11.7	3.6	6.4	28.4	10.4	28.4	11.0	9.9	10.4	11.0	10.4
Language preference ²												
Spanish all of the time	2.9	45.7	67.2	59.7	5.2	46.3	5.2	39.9	51.9	46.3	39.9	46.3
Spanish most of the time	6.3	15.0	16.0	15.6	5.0	18.0	5.0	15.8	19.9	18.0	15.8	18.0
Spanish and English equally	24.1	32.4	14.9	21.1	22.8	28.1	22.8	32.6	24.0	28.1	32.6	28.1
English most of the time	33.8	5.8	1.8	3.2	44.9	6.2	44.9	9.7	3.1	6.2	9.7	6.2
English all of the time	32.9	1.1	0.1	0.4	22.1	1.5	22.1	1.9	1.1	1.5	1.9	1.5

Table 4 (continued)

	Females			Males		
	Immigrants			Immigrants		
	U.S. born	Age 0-17 at Arrival	Age 18+ at Arrival	U.S. born	Age 0-17 at Arrival	Age 18+ at Arrival
Marital status						
Married	64.5	71.7	76.8	55.9	65.6	73.8
Divorced/separated/widowed	15.3	11.2	12.8	13.3	6.9	2.7
Never married	20.1	17.1	10.4	30.8	27.5	23.5
Major depressive episode	17.6	10.6	6.2	12.0	4.7	2.5
Other mood disorders ³	3.8	0.7	1.5	3.9	9.0	1.6
Anxiety disorder ⁴	27.0	24.1	14.2	19.1	10.2	7.5
Substance abuse/dependence	18.6	3.2	0.8	36.5	20.7	15.7
Any disorder ⁵	46.9	29.4	18.3	49.7	37.3	21.1
All Male Immigrants						69.4
All Female Immigrants						4.5

¹ All data except sample counts are reported as weighted estimates of population percentages. Marital status and all disorder rates are age-adjusted by sex.

² Native Mexican languages included in "Spanish" categorization.

³ Other mood disorders include manic episode and dysthymia.

⁴ Anxiety disorder includes panic disorder, agoraphobia, social phobia, and simple phobia.

⁵ Any disorder includes mood, anxiety, and substance disorders, plus antisocial personality disorder (not shown; prevalence is = 2.2% in all male subgroups and = 1.0% in all female subgroups).

age at arrival was less than 18 years, and only 14% of male immigrants whose age at arrival was 18 years or greater.

Self-reported language preference, a key indicator of assimilation into U.S. culture, showed that 67% of U.S.-born adults preferred English over Spanish all or most of the time, whereas 75% of immigrant women and 64% of immigrant men preferred Spanish over English. Not surprisingly, immigrants who were older when they arrived in the United States, especially female immigrants, displayed a greater preference for Spanish. About one quarter of both the immigrants and the U.S. born preferred to speak Spanish and English about equally. Interestingly, this is true for male immigrants who arrived before age 18 and those who arrived at age 18 or older. Therefore, while language preference is correlated with nativity and age at arrival, there is an overlapping subgroup, which is drawn from both nativity groups and across different ages at arrival that is comfortable speaking both English and Spanish.

More immigrants (39%) than U.S. born (28%) were young adults (ages 25–34), because many immigrants entered the United States during this stage of their lives in search of employment. As one would expect in a cross-sectional study, immigrants with older ages at arrival were older at the time of the study interview than immigrants who were younger at arrival. Therefore, when comparing disorder rates among immigrants by age at arrival, it is important to examine age-adjusted rates to ensure that the subgroup differences are not simply an artifact of the age differences in the subgroups. Hence, marital status rates and disorder rates in Table 4 are age-adjusted by sex within each nativity and age at arrival subgroup to the overall age distribution by sex.

Marriage rates were high among immigrants. Seventy-three percent of female immigrants and 69% of male immigrants were currently married, compared to 65% of U.S.-born women and 56% of U.S.-born men. Men, especially immigrant men, generally had higher rates of never being married than women, and lower rates of being divorced, separated, or widowed.

Lifetime Major Depressive Episodes Compared to Anxiety and Substance Disorders

Lifetime prevalence of major depressive episodes (Table 4) was highest in U.S.-born females at 18% and second highest in U.S.-born males at 12%. Female immigrants who arrived before age 18 had a rate of 11%, which was similar to U.S.-born males. Female immigrants who arrived at age 18 or older had a rate of 6%, just one third of the female U.S.-born rate. Males had an even steeper decline by nativity and age at arrival. Lifetime prevalence of major depressive episodes was 5% for male immigrants who arrived before age 18, and only 3% for male immigrants who arrived at age 18 or older. By comparison, anxiety disorders also showed a decline in rates by nativity and age at arrival, but the decline was not as extreme. U.S.-born females and female immigrants who

arrived before age 18 had similar rates. Female immigrants who arrived at age 18 or older had a rate that was about half of the female U.S.-born rate. Males showed a slightly steeper decline in anxiety disorders. Male immigrants who arrived before age 18 had a rate of about half of the male U.S.-born rate, and immigrants who arrived at age 18 or older had a rate of about a third of the male U.S.-born rate.

Lifetime rates of substance abuse or dependence show striking differences between men and women and between the U.S.-born and immigrants, especially between U.S.-born women and immigrant women. Female immigrants, even those who arrived before age 18, have very low rates—only 3%, compared to 19% among U.S.-born females. U.S.-born males have a 37% rate of lifetime substance abuse or dependence, compared to 21% for male immigrants who arrived before age 18 and 16% for those who arrived at age 18 or older.

Immigrant Age at Arrival and Major Depression

Figures 1 and 2 present the prevalence of 12-month major depressive episode for women and for men by nativity, by age at arrival for foreign born, and by age at time of interview. The most striking aspects of these figures are the large spike in rates for US-born women at young ages (18–29), and the consistently higher rates at all ages for US-born men compared to immigrant men. For women aged 18–29, the 12-month rate was 18% for the US-born, 9% for foreign-born women whose age at arrival was less than 18, and only 1% for foreign-born women whose age at arrival was 18 or older. After age 30, Fig. 1

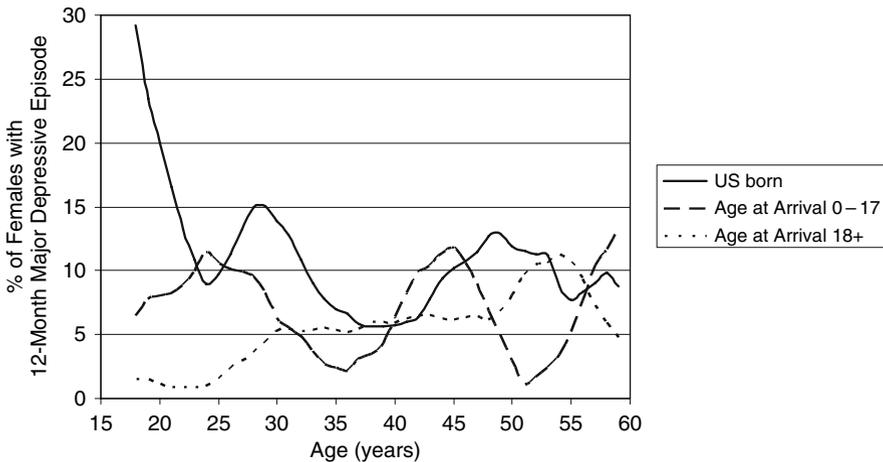


Fig. 1 Percentage of females with DSM-III-R major depressive episode in last 12 months by nativity, age at arrival, and age at interview from the Mexican American Prevalence and Services Survey (MAPSS)

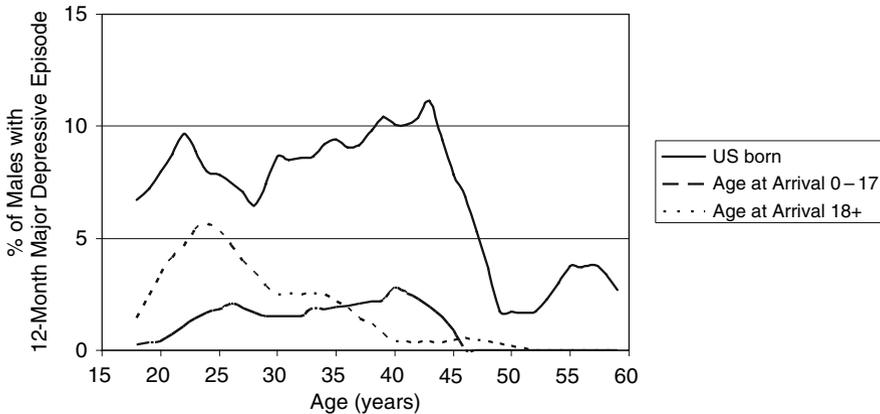


Fig. 2 Percentage of males with DSM-III-R major depressive episode in last 12 months by nativity, age at arrival, and age at interview from the Mexican American Prevalence and Services Survey (MAPSS)

shows that there are very few differences among women. Twelve-month rates of major depression in these three groups of women after age 30 are similar, averaging about 8%.

Men under age 40 had very large differences in 12-month rates by nativity and age at arrival (Fig. 2). U.S.-born men under age 40 had an 8% rate of 12-month major depression compared to foreign-born men under 40 with age at arrival less than 18 who had a rate of about 1% and foreign-born men under 40 with age at arrival of 18 or older who had a rate of 3%. Rates for U.S.-born men peaked when they were in their early 40s, and then declined rapidly. There were no significant differences in rates for men aged 45–59 among the nativity and age at arrival subgroups. Interestingly, the relative order of rates for the age at arrival groups for persons aged 18–29 was different between men and women. In women, the rate for those with arrival under 18 years was greater than the rate for those with arrival at 18 or older whereas in men the opposite was observed. Note that the young men who arrived at 18 or older were males who at the time of the study had recently arrived in the United States. Greater rates of depression in this group relative to males who arrived earlier may be due to greater life stresses during their first years in the United States when securing employment and establishing themselves is of great importance.

In general, women had higher rates of 12-month major depression than men. U.S.-born women and foreign-born women with earlier ages at arrival showed a decline in rates in their late 30s and early 40s. In contrast, for men in these subgroups, the rate of major depression was at its maximum at these ages. Hence, one interesting research question that emerges is why nativity differences in rates are accentuated for young women (U.S. born vs. foreign born under age 30), whereas U.S.-born men's rates are consistently higher than those for foreign-born men and peak around the early 40s.

Assimilation and Depression

Demographic variables such as language use, time in country or age of entry for immigrants, and nativity, are reliable indicators of social assimilation in health studies (Escobar & Vega, 2001). In the MAPSS study, there were differences in lifetime major depression by language preference for women but not for men. Since language use is highly correlated with nativity and age at arrival (see Table 4), it is important to look for differences by language within nativity and age-at-arrival groups. Otherwise, what might appear as a significant language effect may be due to confounding by nativity and age at arrival.

When women were categorized as U.S. born, immigrant with age at arrival less than 18, and immigrant with age at arrival at 18 or greater (as in Fig. 1), women whose language preference was Spanish rather than English (or a mix of Spanish and English) had lower rates by about 5% of lifetime major depression compared to women in the same nativity and age at arrival group who preferred English (or a mix of Spanish and English) over Spanish. However, in men, there were no differences in rates of major depression by language preference in these same nativity and age at arrival groups.

Differences in age of onset by language preference were also seen in women. For U.S.-born women who prefer English all or most of the time, median age of onset was 19, but for U.S.-born women who prefer English and Spanish equally, or Spanish all or most of the time, median age of onset was 30. For foreign-born women whose age at arrival was less than 18, median age of onset was older in those who prefer Spanish all of the time (median onset 35 years) compared to those with language preferences that include some or more English (median onset 27 years). For foreign-born women whose age at arrival was 18 or older, median age of onset was only slightly greater in those who prefer Spanish all of the time (median onset 31 years) compared to those with language preferences that include some or more English (median onset 29 years).

For men, median age of onset was about the same in the U.S. born regardless of language preference (median onset 19 years). For male immigrants, onset was earlier in those whose language preference was Spanish (median onset 21 years) over English (median onset 31 years). However, the difference here in the foreign-born men by language can only be considered suggestive since it was not statistically significant after controlling for age at arrival. Overall, men had a slightly earlier age of onset (21 years) than women (23 years), but this difference was not significant.

In sum, these differences portend that, as the number of English-dominant women—whether native or immigrant—increases, there will be a commensurate increase in the rate of depression accompanied by a lowering of the median age of onset of depression. Obviously, English language is a marker and does not “cause” depression, therefore the social and genetic factors, and biologic mechanisms, associated with this process are a priority area for research.

The Impact of Disrupted Marital Status

Reports in the epidemiologic and clinical research literature document that disrupted marital status is associated with depression—especially for women. However, there have been few dedicated studies on this topic regarding Latinos and major depression (Bertakis et al., 2001; Earle, Smith, Harris, & Longino, 1998). Disrupted marital status is especially significant in understanding the transition to higher risk for depression corresponding to nativity differences and the transformation of gender roles through assimilation processes. Latinos born in the United States share a higher risk of having disrupted marriages. We believe disrupted marital status is an indicator of weakening natural support systems of U.S. Latinos attributable to sex role transitions, acculturative stress, family conflicts, and persistent poverty that unfolds over three generations.

Nearly 40% of divorced, separated, and never-married women who are heads of households have incomes below the poverty level (Current Population Survey, 2002). Disrupted marital status will increase social stress attributable to lower social support and inadequate incomes among some people. However, women are not equally vulnerable to depression if they experience a disrupted marriage. Researchers have reported higher depression rates among divorced non-Latino women compared to men primarily when they are unemployed; thus, employment status interacts with disrupted marital status as both a risk and a protective factor (Gutierrez-Lobos, Wolf, Scherer, Anderer, & Schmidl-Mohl, 2000). Furthermore, having experienced multiple disrupted marriages either through divorce or death increases the risk of depression even among the currently married (Barrett, 2000).

The challenge to researchers is to determine under what circumstances these risks are likely to be manifested among Latinos, and to gauge their magnitude and impact on individuals and families. These are difficult issues to resolve in research studies because large samples are needed and most epidemiologic samples have not been designed to answer these types of research questions (Gutierrez-Lobos et al., 2000). Hopefully, this research can open the door to a much fuller investigation of how disrupted marital status results from social transitions and cultural adaptations of Latinos that proceed intergenerationally among immigrants and their families, and how depression is linked to these processes.

In the MAPSS study, we observed a lifetime rate of major depression for divorced, separated, or widowed U.S.-born women that was more than twice as high as that for those who were married, 29% vs. 13%. Never married U.S.-born women also had higher depression rates, about 22%. Differences in depression rates by marital status were smaller among foreign-born women. Among women who were under 18 years of age at arrival in the United States, married women had a 9% rate of major depression, those who were divorced, separated, or widowed had a 12% rate, and those who were never married had a 15% rate. For those who were 18 years of age or older at arrival, married

women had a 5% rate of major depression, those who were divorced, separated, or widowed had a 14% rate, and those who were never married had a 5% rate. Overall, the increased rates for women in disrupted marital status over those who were married were highly significant.

There was some suggestion that, among divorced women, the initial onset of major depression was more likely to occur at the time of their (first) divorce or soon after. Onset of major depression occurred during the year of their first divorce or in the following year for 55% of these women. Major depression occurred before the first divorce 20% of the time and occurred two or more years after the first divorce 25% of the time. However, there were only 28 women with major depression who had a recorded date of first divorce in the MAPSS data. To definitively answer questions concerning the onset of major depression and the timing of divorce, a larger sample of divorced individuals would be necessary. Our findings support a tentative conclusion that major depression did not cause marital conflict leading to divorce in most cases, rather major depression resulted from marital conflict and divorce.

Women's self-reported marital (or other serious relationship) satisfaction was strongly associated with a lifetime major depression diagnosis. The lifetime rate of major depression was 25% among women who reported being "not at all satisfied" with their current relationship, 22% among women who were "not very satisfied," 18% among women who were "somewhat satisfied," and only 6% among women who were "very satisfied." The trend of relationship satisfaction with depression rate was essentially the same for U.S.-born women as it was for foreign-born women who arrived in the United States before age 18 and for those who arrived at age 18 or older after controlling for the overall differences of prevalence of major depression in these subgroups.

This study cannot confirm whether depression is a cause or an effect of a disrupted marital status, or a self-reported unsatisfactory relationship, due to the cross-sectional design. However, these results are intriguing because the U.S. research literature shows greater protective effects of marriage for men and lesser or negligible protective effects of marriage for women. There is insufficient information available in the research literature to provide guidance regarding how cultural transformations and adaptations across generations change the meaning of marriage or of various other nonmarital options, and what effects marital status may have on the onset of depression or vice versa.

Among U.S.-born men, rates of depression were remarkably uniform by marital status, and ranged only from 10% to 13%. Men's marital (or other serious relationship) satisfaction also was not associated with any differences in lifetime major depression. Hence, the impact of marital status and satisfaction on lifetime depression in these Latino males was minimal. Since men are much more likely to manifest alcohol disorders than depression, it may be that depression was not a very good indicator of emotional distress caused by a disrupted or unsatisfactory marriage, and that alcohol disorders are better markers of distress in men.

Parental Risk Factors, Social Assimilation, and Depression

The MAPSS survey gathered information from adult respondents about fathers' and mothers' risk factors for depression, anxiety, alcohol and drug use problems, and attempted suicide. Our analyses involved four subgroups: U.S. born with and without lifetime major depression, and foreign born with and without lifetime major depression. All four subgroups had almost identical patterns with very low rates of drug problems or suicide attempts reported among fathers, moderate levels of anxiety and depression, and uniformly higher proportions of alcohol problems. However, for alcohol the range of proportions among the four subgroups was wide, from 32% reporting alcohol problems in fathers among the foreign born with no depression to a high of about 65% among the U.S. born with depression. Both the foreign-born depressed and U.S. born who were not depressed reported almost identical proportions (52%) of fathers with alcohol problems. Hence, the proportion of fathers with an alcohol problem among depressed foreign-born respondents was 20% higher than for the nondepressed foreign born. The difference in the proportion of fathers with alcohol problems of the U.S. born who were depressed and not depressed was about 13%; thus, it appeared that paternal alcohol problems were a more specific risk marker for the foreign born.

Fathers' depression also appears to be a more specific risk marker for immigrants than for the U.S. born, with the former being twice as likely to have depressed fathers compared to the nondepressed. Although the respective weight of genetic and social factors in intergenerational transmission of vulnerability to depression is not known, recent studies have shown that depressed parents are more likely to be present in households that are more turbulent and where discipline is inconsistent, angry, and rejecting, thus potentially contributing to their children's depression (Berlin, Brady-Smith, & Brooks-Gunn, 2002; Bifulco et al., 2002; Eiden, Chaves & Leonard, 1999; Mayes, 1995; Weissman et al., 1987; Whipple, Fitzgerald, & Zucker, 1995). In sum, both fathers' depression and alcohol problems, which often are co-occurring, appear to be important risk markers for major depression among immigrants.

Next we examined mothers' problems using the same set of risk markers as for fathers. In mothers there were two frequently reported risk markers, depression and anxiety, both of which were strong risk markers for depression in the foreign-born study participants. About 24% of nondepressed and 50% of depressed foreign born reported having had depressed mothers. The corresponding proportions among the U.S. born were 39% for nondepressed and 50% for the depressed. This finding underscores the fact that mother's depression was a more specific risk marker for the foreign born although depressed respondents in both nativity groups reported a similar 50% proportion of depressed mothers.

A similar pattern for the foreign born occurred with mothers' anxiety disorders, with 19% of the nondepressed reporting mothers with anxiety problems

and about 49% of the depressed respondents doing so. There were no differences in mother's anxiety levels among depressed and nondepressed U.S. born. Alcohol, drug, and suicide behaviors were much less frequently reported among mothers. Nevertheless, both the U.S. born and the foreign born depressed respondents reported that 10% of mothers attempted suicide compared to near zero among the nondepressed foreign born and about 5% of the U.S. born. Again, the specificity of the risk marker was greater for the foreign born. In sum, it is apparent that parental risk markers were more specific for the foreign born, especially mother's depression, anxiety, or suicide attempts. These findings suggest that these are important screening questions in conducting clinical evaluations of foreign-born patients presenting with putative signs of addictive or nonaddictive disorders.

Age-adjusted rates of lifetime major depression for women and men were examined by the presence or absence of one or more parental problems. Having a "parental problem" was defined as the study participant reporting one or more of the five problems described earlier (depression, anxiety, alcohol, drugs, and suicide) in either biological parent, or the study participant reporting no knowledge about one or both biological parents. The rate of major depression was 20% among U.S.-born women with parental problems and 8% among those with no parental problems. Among foreign-born women whose age at arrival was less than 18, the difference was smaller: prevalence of major depression was 12% in those with parental problems and 8% in those with no problems. Among foreign-born women whose age at arrival was 18 or older, the rate of major depression was 9% in those with parental problems and 2% in those with no problems.

There was a very large difference among U.S.-born men in rates of major depression between those with or without parental problems, even more dramatic than that reported among U.S.-born women. The rate of major depression was 17% among U.S.-born men with parental problems and only 1% among those with no parental problems. In surprising contrast, there was no significant difference in rates between those with or without parental problems among foreign-born men whose age at arrival was less than 18; indeed, those with parental problems had a lower rate of depression (3%) than those with no parental problems (7%). Among foreign-born men whose age at arrival was 18 or older, the rate of major depression was 4% in those with parental problems and 1% in those with no problems.

Since the overall rates of any parental problem are high among the U.S. born (75% reported one or more problems), reports of parental problems as a screening for major depression in the U.S. born had high sensitivity (94%) but low specificity (29%). Among the foreign born, there were lower reports of parental problems; 55% reported one or more problems, and parental problems as a screening for depression had lower sensitivity (70%), but greater specificity (46%) compared to the U.S. born. The importance of this finding is to stimulate future research regarding intergenerational transmission of depression and

identification of protective factors. The lack of effect of parental problems for those immigrants who arrived at an early age is particularly intriguing.

Previous research has reported that putative genetic vulnerability for depression passed between parent and child is moderate and the likelihood of its expression is dependent on gene–environment interactions (Gershon & Cloniger, 1994). Our findings clearly point to social assimilation experiences in interaction with genetic factors operating differently between immigrants and U.S.-born people of Mexican origin as pathways to depression. We find that parental risk factors appear to be relatively more important in creating vulnerability for depression among adult children who are U.S. born or who are foreign born with a later age at arrival in the United States. Social assimilation, as indicated by language preference, is important only in women, and the same is true for disrupted marital status and marital/relationship satisfaction. Future research should explore risk and protective factors and processes using mediating and moderating models with data from different Latino nationality groups. Large sample sizes or special sampling designs are needed to assure availability of adequate numbers of positive cases for these types of analyses, and longitudinal designs ultimately will be required for confirmatory research.

Conclusions

This chapter has examined how demographic characteristics are affecting the prevalence of major depression in the Latino population of the United States. We conclude that evident factors such as the rising proportion of immigrants in the Latino population will have the statistical effect of lowering the population prevalence of depression. However, this is an illusory benefit because the rate of increase of the Latino population, which approached 60% between 1990 and 2000, will rapidly accelerate the total number of Latinos with major depression even if the prevalence rate is declining due to changes in population composition and structure. The low median age of the Latino population (40% under 18 years of age) also will increase the volume of new cases of major depression since the median age of onset spans the period from late adolescence to mid-adulthood, and almost 50% of immigrants are arriving as children or adolescents.

We report clear and consistent patterns about demographic co-factors contributing to higher rates of depressive disorder, including sex, current age, age at time of arrival in the United States (for immigrants), language preference, and marital status. We also report that behavioral risk factors are more common among parents of U.S.-born individuals of Mexican origin than among immigrants, though parental risk factors have a more specific effect on major depression in immigrants.

The effects of demographic factors on depression often occur in patterns that require further investigation to gain clinically relevant insights. For example,

social assimilation, as indicated by language preference, is associated with higher rates of depression in women with earlier onsets of depressive disorder. Elevated levels of 12-month depression occur among U.S.-born women—especially the very young (18–22 years old) who have very high rates, and among immigrant women who arrived during childhood or adolescence. Immigrant women who arrived in later adolescence or adulthood have relatively low rates until about 30 years of age, after which rates gradually increase. We found no major differences in the prevalence of depression in older women. Rates of 12-month depression are consistently higher among U.S.-born men than among immigrant men. Immigrant rates are highest among those who arrived as children or adolescents, and their age of onset is earlier than for those who arrived later in adulthood. There is a suggestion that immigrant men with lower social assimilation as indicated by Spanish-language use have an earlier onset of depression, which is the reverse of our findings for immigrant women.

We have presented information about differences in disrupted marital status rates and depression among immigrants and U.S.-born Hispanics of Mexican origin. Although this is an obvious risk factor in depression research, very little research has been completed linking it to depression among Latinos or explaining the relationships (Vega & Warheit, 1984; Vega, Kolody & Valle, 1988). There is evidence of fragmentation and reorganization of social support systems that accompanies immigration, resettlement, and intergenerational assimilation, yet we understand very little about whether depression could be produced by these social processes and, if so, how this occurs (Vega, Kolody, Valle, & Weir, 1991). Many questions remain: Are disrupted marital status and depression commonly caused by other stress-related factors, including assimilation? What reciprocal effects are operating between disrupted marital status and depression? Our findings show that disrupted marital status and marital relationship satisfaction only affect rates of depression in women not men, suggesting that this study did not measure the important determinants or consequences of depression among men.

Most important from the perspective of applying explanations of depression such as the health gradient model, social stress, or “downward drift” is that we observe no association with income and depression. This indicates that more research about the social construction of life satisfaction and the existential view of “quality of life” among Mexican immigrants is needed.

Given the complex patterns among parental risk factors and markers of social assimilation on depression, this would seem an appropriate time to elaborate social stress process research more fully into empirical studies of social assimilation. This type of research could help to determine how the experience of assimilating to life in the United States induces social stress, thus increasing the risk of major depression (Kendler, Karkowski, & Prescott, 1999; Kim, Conger, Elder, & Lorenz, 2003; Turner & Lloyd 2004; Turner, Wheaton, & Lloyd, 1995). The findings presented in this chapter open the door to a wide range of questions regarding the role of culture in shaping the personal impact of social adaptation (e.g., effects of acquired behaviors and

cumulative adversity) and how these may influence, or selectively modify, patterns of intergenerational transmission of depression through family aggregation and genetic heritability.

This type of research is incremental and necessarily a long-range enterprise. It requires research designs that control for factors that may be either risk enhancing or protective for depression, and their temporal sequencing. These may include both passive factors such as gender roles and cultural expectations, or active factors such as the availability of emotional support or the amount of life stress endured, and how these life experiences were subjectively interpreted. Moving toward empirical studies that carefully measure and interpret these complex reciprocal effects will help close the gap between epidemiology and treatment research, and hopefully improve the specificity of evaluation, diagnostic, and treatment procedures in clinical services for Latinos. We acknowledge the limitations of our conclusions, they are necessarily tentative. The need for replication and extension to other Latino nationality groups residing in similar and diverse regions of the United States is clear. Our goal was to establish a baseline for future research, propose hypotheses, and to make available demographic information that is more useful for addressing long standing questions of interest to human services professionals.

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Chapter 3

Descriptive Epidemiology of Depression in Latin America and Hispanics in the United States

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Personal Journey: Guilherme Borges

I am a psychologist by training with further studies and interest in the area of epidemiology and public mental health. My areas of interest are methodological, psychosocial, and epidemiological issues as they relate to addictions and mental health. My special focus of interest, in which I have been working for the last years, is how alcohol and drug consumption is related to several medical and social problems, such as liver cirrhosis, infant health, suicide, and accidents. These topics lead me to further interests in the role of mental health in the modern societies, especially Mexico. I got deeply involved in research on the epidemiology of psychiatric disorders with a special emphasis in the study of suicide with the Consortium of Psychiatric Epidemiology and the WHO World Mental Health Survey Initiative, which includes national household surveys in more than 20 countries around the globe. In the study of suicidality, depression stands as a main topic of interest given its strong relationship with all types of suicide and suicide related behavior. Finally, being a national immigrant since I was about 3 years old, and an international immigrant since I was 14, it is not a surprise that I got interested on mental health issues of Latinos and, more specifically, the Mexican migration to the United States. The work of my colleagues in Mexico and other Hispanic academic leaders in the United States, concerned with the side-effect of immigration on the mental health, profoundly impacted me and has been an incentive for my own intellectual development.

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Introduction

Major depressive disorder (MDD) is a common, chronic, and recurring condition beginning in early adulthood and associated with pervasive impairments across all areas of life. In terms of overall disease burden, MDD was ranked fourth internationally by the Global Burden of Disease Study and was projected to rise to first place in developing nations by 2020 (Murray & Lopez, 1996). While research on MDD in the United States has examined patterns of incidence, course, severity, disability, and treatment, relatively little is known about how these parameters vary across different regions of the world. Basic epidemiological research is needed to assess the scope of MDD as a global health problem and to improve our understanding of its causes.

Epidemiological studies of depression in immigrants from Latin America to the United States and their descendants are important because of the large Hispanic population in the United States. In addition, these studies, in conjunction with studies conducted in Latin America, can shed light on the impact of immigration, minority status, sociopolitical violence and cultural factors on the onset and course of major depression.

This chapter presents the epidemiology of depression from surveys in two Latin American countries, Colombia and Mexico, and from two national surveys of the U.S. population, with combined Hispanic subsamples from these surveys separated into those born inside and outside the United States: (World Health Organization (WHO), 2004), National Comorbidity Survey Replication (NCS-R) (Kessler et al., 2003), and the National Latino and Asian American Survey (NLAAS) (Alegria et al., 2007a).

The NCS-R (Kessler et al., 2003) provides recent prevalence estimates for major depressive disorder in the U.S. population based on the diagnostic criteria of the *Diagnostic and Statistical Manual of Mental Disorders*, 4th Ed. (DSM-IV; American Psychiatric Association, 1994). The lifetime and 12-month prevalence of MDD were estimated at 16.2% and 6.6%, respectively. The National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) also reported a nationally representative prevalence of lifetime major depressive disorder in the United States to be 13.2% and a 12-month prevalence of 5.3% (Hasin, Goodwin, Stinson, & Grant, 2005). The NESARC reported a lifetime prevalence of depression of 9.6% and a 12-month prevalence of 4.3% among Hispanics. While the odds of having a lifetime MDD were no different for Hispanics as a group compared to non-Hispanic Whites in the NCS-R (Kessler et al., 2003), results from the NESARC (Hasin et al., 2005) as well as prior studies have found differences in the prevalence of major depression between Hispanic and non-Hispanic populations and, within the Hispanic population, between immigrants and their descendants (Karno et al., 1987; Oquendo et al., 2001; Ortega, Rosenheck, Alegria, & Desa, 2000). Notably, Vega and his colleagues (1998) compared the lifetime prevalence rates of numerous psychiatric disorders among three studies: Mexican American

residents of Fresno County, California, in the Mexican American Prevalence and Services Survey (MAPSS), Mexican citizens in a survey of Mexico City, Mexico, and Hispanics in the general U.S. population in the National Comorbidity Survey (NCS-Kessler et al., 1994). The lifetime prevalence of a major depressive episode in foreign-born Mexican immigrants in the MAPSS study was similar to that of Mexican citizens in the Mexico study (5.2% and 7.8%, respectively) and considerably lower than the prevalence for U.S.-born Mexican Americans (14.8%). The rate for U.S.-born Mexican Americans approximated the prevalence of the U.S. national population (17.2%) and the U.S. total Hispanic population (18.3%) estimated in the NCS. The results of Vega et al. (1998) supported previous research highlighting the impact of immigration and acculturation on the mental health of the U.S. Hispanic population where there was a continuous deterioration of mental health as the migrants became “integrated” within the general U.S. milieu (Escobar & Vega, 2000; Escobar, Hoyos Nervi, & Gara, 2000). More recent studies also show differences in the prevalence of depression among Hispanic subgroups (such as Cubans, Puerto Ricans, Mexicans, and Hispanics from other origins) in the NESARC (Alegria, Canino, Stinson, & Grant, 2006) and the NLAAS (Alegria et al., 2007c) and differences between Hispanics born in the United States and foreign-born Hispanics (Grant, Stinson, Hasin, Dawson, & Chou, 2004).

Two limitations of these prior studies are worth noting. First, although Vega and colleagues (1998) were the first to compare the results of this limited geographical sample of Mexicans in Fresno County with a similar study of Mexicans in Mexico City, the comparison was subject to unknown migration patterns. Mexico City is a large urban area while Fresno County is an urban area surrounded by rural communities. The Mexican migrants to Fresno County generally come from rural areas in Mexico and are largely involved in farm-related jobs that may not be comparable to Mexicans from urban Mexico City, or to Mexicans living in urban areas in the United States. Second, many U.S. and cross-national comparison studies, including those mentioned earlier, used the World Health Organization’s Composite International Diagnostic Interview (CIDI) with DSM-III or DSM-III-R diagnostic criteria. However, skepticism regarding the elevated prevalence rates found in these surveys stimulated modifications of the World Mental Health (WMH) version of the CIDI which used DSM-IV criteria, and added questions regarding symptom severity, role impairment, and treatment in order to further classify cases as mild, moderate, or severe.

This chapter addresses some of these limitations by presenting MDD epidemiological data from Colombia and Mexico, where national surveys using the same methodology have been conducted. Findings from those studies are compared with two parallel surveys in the United States that included immigrants from Latin America and U.S.-born Hispanics. Our goal is to describe the scope of MDD as a public health problem in those countries. To this end we provide data on the prevalence of MDD, its sociodemographic correlates, age of onset, severity, associated disability, and patterns of treatment across these populations. Moving beyond this descriptive level, this unique

combination of studies can advance our understanding of how patterns of psychiatric morbidity shift among populations of Latin American migrants to the United States.

Methods

Samples

The four surveys presented here are part of a larger effort by the WHO World Mental Health Surveys Consortium (WHO, 2004) to provide a common methodology for national surveys of mental health around the globe. Results regarding the basic epidemiology of MDD from the American surveys, the NCS-R and NLAAS, have been published (Alegria et al., 2007a; Alegria et al., 2004; Kessler et al., 2003). The Mexican group has published in Spanish the general results for psychiatric disorders as defined by the 10th International Classification of Diseases (ICD-10) (Medina-Mora et al., 2003) and the DSM-IV (Medina et al., 2005), and basic results for Colombia are also available (Posada Villa, Aguilar-Gaxiola, Magaña, & Gomez, 2004). The four surveys used similar designs, although the two Latin American surveys sampled urban areas, communities with at least 2,500 inhabitants, while NCS-R and NLAAS sampled the entire country. Interviews were conducted in Spanish in the Latin American surveys, exclusively in English in the NCS-R, and in English or Spanish (depending on the preference of the respondent) for the Latino sample of NLAAS. The Colombian survey was conducted during 2003 and had an 89.6% response rate; the Mexican survey was conducted during 2001–2002 and had a 76.6% response rate; the NCS-R was conducted during 2001–2003 and had a 70.9% response rate; and NLAAS was conducted during 2002–2003 and had a 75.5% response rate for the Latino sample.

For this chapter, we selected all respondents from the NCS-R who reported Hispanic descent (Mexican, Mexican American, Chicano, Puerto Rican, Cuban, or other Central or South American or Caribbean Spanish culture or origin) and all respondents from the Latino sample of NLAAS (with the same Hispanic descent criteria). Hispanics were further split according to their nativity status into those born in the United States (U.S. Hispanics, U.S. born) and those born in some other country (U.S. Hispanics, foreign born). In order to match the Hispanics from the NCS-R with the other two surveys, only respondents aged 18–65 years old were included in the current analyses. Most U.S. Hispanics were of Mexican (65%), Puerto Rican (8%), or Cuban (4%) origin.

As detailed by the World Mental Health Surveys Consortium (WHO, 2004), an internal sampling strategy was used in these WMH surveys, except NLAAS, to reduce respondent burden by dividing the interview into two parts. Part I included the diagnostic assessment, while Part II included information about correlates of disorder. All respondents completed Part I. Part II was administered to respondents who met criteria for a mental disorder and to a probability

subsample of approximately 25%. As a result of the multistage area probability design and the filter to the Part II section, a complex weighting scheme was used. This weighted Part II sample is the one used in all analyses presented in this chapter. In addition to the Part II selection weight, a second weight was used to adjust for differential probabilities of selection within households and a third weight was used to match the samples to population distributions on the cross-classification of important sociodemographic variables.

Using Part II respondents (and all respondents from the Latino sample of NLAAS), the sample sizes for the sites of this report are 367 Hispanic U.S.-born participants from the NCS-R, 140 Hispanic foreign-born participants from the NCS-R, 881 Hispanic U.S.-born participants from NLAAS, 1,459 Hispanic foreign-born participants from NLAAS, 2,362 participants from the Mexico survey, and 2,442 participants from the Colombia survey. Table 1 shows the basic demographics for these four samples of participants.

Table 1 Distribution of sample sociodemographics¹ by study site, among World Mental Health Survey Participants

	Colombia	Mexico	U.S. Hispanics	
			Foreign Born	U.S. Born
Sample size (<i>N</i>)	2,442	2,362	1,599	1,248
Sex				
Male	45.5	47.7	52.6	51.7
Female	54.5	52.3	47.4	48.3
Age (years)				
18–29	36.3	41.3	31.1	46.2
30–44	35.5	34.6	45.1	31.9
45–59	22.9	18.9	19.1	19.8
60–65	5.3	5.2	4.7	2.2
Education (years)				
Some primary or none (0–7)	16.6	17.9	27.2	4.7
Completed primary (8)	13.5	18.7	5.0	1.9
Some secondary (9–11)	23.3	32.8	20.2	21.5
Secondary school graduate (12)	20.9	14.0	23.2	33.9
Some college (13–15)	14.4	6.4	15.3	27.2
College degree or more (≥16)	11.2	10.2	9.0	10.9
Marital status				
Married or cohabiting	56.2	67.3	71.6	54.9
Separated, divorced, or widowed	10.9	7.1	11.1	12.6
Never married	32.9	25.6	17.4	32.5
Employment status				
Working	53.8	58.4	76.6	74.9
Student	7.9	6.9	1.5	3.8
Homemaker	24.2	28.8	9.7	5.9
Retired	2.6	1.5	0.2	0.6
Other	11.4	4.5	12.1	14.8

¹All data except sample size reported as percentages.

Measures

Diagnostic

The instrument used was the WMH version of the Composite International Diagnostic Interview (Kessler & Üstün, 2004; Kessler et al., 2004; Robins et al., 1988; Wittchen, Kessler, & Üstün, 2001). This structured diagnostic interview was administered by trained nonclinician interviewers in face-to-face interviews using a laptop computer version (i.e., CAPI) and yielded DSM-IV diagnoses (American Psychiatric Association, 1994).

The focus of this chapter is on DSM-IV MDD cases. Three criteria must be met to be diagnosed with Major Depressive Disorder: (1) the presence of at least one major depressive episode; (2) the depressive episode is not better explained by a schizoaffective disorder, schizophrenia, schizophreniform disorder, delusional disorder, or other unspecified psychotic disorder; and (3) there has never been a manic, mixed, or hypomanic episode. The criteria for a major depressive episode include the presence of five or more of the following symptoms with a minimum duration of two weeks representing a change from previous functioning, and one of the five symptoms must include depressed mood or loss of interest or pleasure. The symptoms are (1) depressed mood most of the day, most days; (2) diminished interest or pleasure in most activities most of the day, most days; (3) significant change in weight (more than 5% of body weight in a month) or change in appetite almost everyday; (4) insomnia or hypersomnia almost everyday; (5) psychomotor agitation or retardation almost everyday (observable by others); (6) fatigue or loss of energy almost everyday; (7) feelings of worthlessness or excessive or inappropriate guilt almost everyday; (8) diminished ability to think or concentrate or indecision, almost every day; and (9) recurrent thoughts of death, recurrent suicidal ideation, or suicide attempt. Additionally, the symptoms must not meet criteria for a mixed episode; must show clinical impairment in social, work or other important areas of functioning; must not be exclusively due to the direct physiological effects of a substance (drug or medication) or medical illness (e.g., hypothyroidism); and cannot be better explained by mourning the loss of a loved one within the previous two months.

Prevalence

The data on the prevalence of MDD are presented using two related measures, lifetime prevalence and 12-month prevalence. Lifetime prevalence is the proportion of the sample who met criteria for MDD at any point in their lifetime, while 12-month prevalence is the proportion that experienced the disorder in the 12-month period immediately preceding the interview.

Disorder Severity

Because of extensive comorbidity among psychiatric disorders, severity is defined as overall severity of psychiatric condition(s). Ratings of mild, moderate,

and serious severity were derived from a clinical validation study conducted as part of the NCS-R. This severity measure was created by identifying data elements most predictive of disability in a clinical validation subsample of the NCS-R that had completed the Structured Clinical Interview for DSM-IV (SCID). Respondents who met criteria for 12-month MDD were assigned to one of three disorder severity categories. Respondents with 12-month MDD were categorized as having severe mental illness if they attempted suicide in the last 12-months, if they had substance dependence with physiological symptoms, or if they had a high level of impairment on the disorder-specific Sheehan Disability Scales (SDS; Leon, Olfson, Portera, Farber, & Sheehan, 1997). Respondents with 12-month MDD who did not meet criteria for being severe were classified as either moderate or mild based on their responses to the disorder-specific SDS. Specifically, if these respondents rated the role interference caused by any of their 12-month disorders (excluding substance abuse and persistent childhood-adolescent disorders) as either none or mild, they were classified as having a mild disorder; they were classified as having a moderately severe disorder if they rated this interference as at least moderate on a 0–10 scale of interference with anchors of none (0), mild (1–3), moderate (4–6), severe (7–9), and very severe (10) in any of the four life domains included in the SDS (home management, the ability to work, the ability to form and maintain close relationships with other people, and social life).

Role Impairment

Respondents with a 12-month DSM-IV MDD were scored according to the SDS for depression (i.e., role interference caused specifically by depression). Using the SDS, respondents' rated how depression interfered with home activities, work activities, relationships, and social roles.

Treatment Sectors

The WMH-CIDI contained a comprehensive section on treatments received for mental disorders. In this chapter, we present data about treatment for emotional, alcohol, or drug problems during the past 12 months, the type and context of the professional visited, as well as the use of self-help or support groups and hotlines.

Mental health care in the 12 months before the survey was divided into the following five categories: (1) psychiatrists; (2) other mental health specialty, which includes hospitalization for mental health problems, psychologists, psychotherapists, mental health nurses, use of mental health hotline, and counselors or social workers in a mental health specialty setting.; (3) general medical practitioners: family physicians, general practitioners, other medical doctors such as cardiologists, gynecologists (for women) and urologists (for men), nurses, occupational therapists, and other health care professionals; (4) human services: outpatient treatment with a religious or spiritual advisor (such as a minister, priest, or rabbi) and counselors or social workers in any setting other

than a mental health specialty setting; and (5) complementary-alternative medicine: internet use for emotional or substance-use problems, self-help groups, and other alternative therapies such as a chiropractor, spiritualist, or any other healer such as an herbalist.

Analyses

As a result of the complex sample design and weighting, estimates of standard errors for proportions (MDD prevalence estimates for lifetime and 12 months) were obtained by the Taylor series linearization method using Stata (StataCorp, 2004). Logistic regression analysis (Hosmer & Lemeshow, 2000) was performed to study demographic correlates. Estimates of standard errors of odds ratio (ORs) from logistic regression coefficients and resulting 95% confidence intervals (CI) have been adjusted for survey-sampling design effects. The Kaplan-Meier method (Hosmer & Lemeshow, 1999) was used to generate age-of-onset curves. Multivariate tests were based on Wald tests computed from design-adjusted coefficient variance-covariance matrices. Statistical significance was based on two-sided design-based tests evaluated at the .05 level of significance.

Results

There were several differences across the samples according to basic demographics variables (Table 1). There were slightly more women than men in Colombia and Mexico, but the reverse was found among the U.S. Hispanics. The U.S.-born Hispanics had the largest concentration of young people (18–29 years old) and the largest concentration of people with high levels of education (some college or more). About 27% of the foreign-born U.S. Hispanics reported having no education or some primary education only, which was higher than respondents from Colombia or Mexico, but 9% of them reported being college graduates or having more education, a level very similar to respondents from Colombia or Mexico. U.S. Hispanics showed higher percentages of separated/widowed/divorced individuals than Mexico and Colombia, and they report more “working” status, and less “student” status, even though they tend to be younger than respondents from Mexico and Colombia.

Lifetime prevalence estimates (Table 2) of MDD differed about two-fold among the samples: U.S.-born Hispanics, 15.9%; foreign-born Hispanics, 11.8%; Colombia, 11.9%; and Mexico, 7.6%. The 12-month prevalence estimates were U.S.-born Hispanics 8.3%; foreign-born Hispanics, 6.0%; Colombians, 5.3%; and Mexicans, 3.7%.

The prevalence of lifetime and 12-month MDD according to main demographics variables are shown in Table 2. Females had higher lifetime and 12-month prevalence rates than males in all sites. The lifetime prevalence rate tended to increase with age for all samples, as one would expect when there is no cohort effect (i.e., birth-year effect). Twelve-month prevalence rates differed

Table 2 Prevalence¹ of Lifetime and 12-Month DSM-IV Major Depressive Disorder by Sociodemographics and Study Site

	US Hispanics							
	Colombia		Mexico		US Hispanics			
	Lifetime	12-Month	Lifetime	12-Month	Lifetime	12-Month		
All persons	11.9 (0.7)	5.3 (0.4)	7.6 (0.6)	3.7 (0.3)	11.8 (0.9)	6.0 (0.5)	15.9 (1.2)	8.3 (0.8)
Sex								
Male	8.9 (0.9)	3.7 (0.5)	4.9 (0.7)	2.4 (0.4)	7.9 (1.3)	3.8 (0.9)	12.5 (1.4)	7.1 (0.9)
Female	14.5 (1.0)	6.7 (0.6)	10.1 (0.8)	4.8 (0.4)	16.2 (1.4)	8.5 (0.9)	19.7 (1.6)	9.6 (1.2)
Age (years)								
18–29	11.5 (1.1)	6.3 (0.8)	5.8 (0.7)	2.9 (0.4)	11.2 (1.5)	6.6 (1.2)	14.7 (1.2)	9.2 (1.1)
30–44	12.1 (1.2)	4.6 (0.6)	8.6 (0.9)	4.0 (0.6)	11.3 (1.4)	5.5 (0.7)	17.3 (2.3)	8.6 (1.5)
45–59	11.9 (1.3)	4.5 (0.8)	9.0 (1.2)	4.2 (0.7)	12.7 (1.7)	6.6 (1.3)	15.6 (3.1)	5.8 (1.4)
60–65	14.2 (3.0)	6.8 (1.5)	9.7 (2.9)	5.6 (1.5)	18.3 (5.3)	5.4 (1.6)	25.7 (8.2)	9.3 (6.4)
Education (years)								
Some primary or none (0–7)	9.4 (1.1)	4.9 (0.6)	8.3 (1.1)	3.7 (0.6)	10.0 (1.3)	6.0 (1.3)	11.0 (5.5)	3.8 (2.5)
Completed primary (8)	13.0 (2.0)	5.7 (1.2)	7.2 (1.2)	3.3 (0.6)	15.2 (6.2)	4.9 (2.7)	29.1 (11.4)	11.8 (5.8)
Some secondary (9–11)	13.9 (1.3)	6.3 (0.8)	7.5 (0.8)	3.9 (0.6)	11.3 (1.9)	5.5 (1.2)	16.8 (2.4)	11.0 (2.1)
Secondary school graduate (12)	10.0 (1.4)	4.7 (0.8)	7.0 (1.4)	4.1 (1.1)	11.9 (2.1)	6.0 (1.2)	13.1 (2.0)	6.6 (1.3)
Some college (13–15)	14.1 (2.1)	6.1 (1.5)	6.9 (1.7)	3.7 (1.0)	12.9 (2.2)	7.2 (1.8)	16.7 (2.3)	7.7 (1.2)
College degree or more (≥16)	11.1 (2.5)	3.6 (1.3)	8.5 (1.5)	3.1 (0.9)	14.8 (3.4)	6.1 (2.2)	21.2 (3.2)	11.4 (2.5)
Marital status								
Married or cohabiting	11.1 (0.7)	5.2 (0.6)	7.1 (0.7)	3.5 (0.4)	10.8 (0.9)	4.7 (0.6)	14.5 (1.5)	6.4 (1.0)
Separated, divorced, or widowed	20.0 (2.8)	6.1 (1.3)	16.5 (2.3)	7.9 (1.7)	16.1 (3.2)	9.3 (2.3)	29.5 (5.0)	15.4 (3.4)
Never married	10.8 (1.1)	5.4 (0.7)	6.5 (0.9)	2.9 (0.6)	13.6 (2.4)	9.5 (2.0)	13.2 (1.8)	8.8 (1.6)
Employment status								
Working	11.5 (1.0)	4.3 (0.6)	6.6 (0.7)	3.0 (0.4)	9.7 (1.1)	4.6 (0.6)	14.8 (1.4)	6.7 (0.9)
Student	9.4 (2.7)	7.6 (2.1)	6.9 (1.6)	2.4 (0.9)	9.3 (4.4)	6.3 (3.9)	11.3 (5.1)	7.6 (4.4)
Homemaker	12.3 (1.5)	6.3 (0.9)	9.6 (1.0)	5.0 (0.5)	14.3 (3.0)	7.5 (2.5)	16.5 (5.8)	9.1 (3.5)
Retired	12.1 (4.5)	0.6 (0.7)	10.4 (3.2)	7.1 (2.6)	0.0 (0.0)	0.0 (0.0)	65.7 (21.7)	25.0 (15.4)
Other	15.0 (1.9)	7.5 (1.3)	8.0 (2.4)	4.7 (1.8)	16.9 (2.5)	9.0 (1.7)	14.7 (3.2)	11.9 (2.9)

¹All data reported as percentages with standard errors in parentheses.

most across the samples for the youngest age group. For 18–29 year olds, U.S.-born Hispanics had the highest 12-month prevalence of MDD (9.2%), followed by foreign-born U.S. Hispanics (6.6%) and Colombians (6.3%), and lowest among Mexicans (2.9%). In contrast, for 45–59 year olds, the rates of 12-month MDD varied little among the samples, from a low of 4.2% among Mexicans to a high of 6.6% among foreign-born U.S. Hispanics.

There did not seem to be a common pattern of either 12-month or lifetime MDD prevalence rates across educational achievement. The married and never married groups had a lower lifetime and 12-month prevalence of MDD than the separated/widowed/divorced group across sites, with one exception: the 12-month rate for separated/widowed/divorced foreign-born U.S. Hispanics was similar to that of never-married foreign-born Hispanics.

Finally, the “other” employment status category (a group formed especially of unemployed persons) showed the largest lifetime and 12-month prevalence of MDD across all samples.

Figure 1 shows the cumulative risk of onset of MDD (i.e., distribution of age-of-onset) across the four samples. At the age of 13, the U.S.-born Hispanic group starts to separate and shows larger onset rates. The Colombian survival distribution tends to be consistently higher than that of Mexico and very similar to that of the foreign-born U.S. Hispanics.

Logistic regression models were used to examine the associations between 12-month MDD and basic sociodemographic factors and are presented in

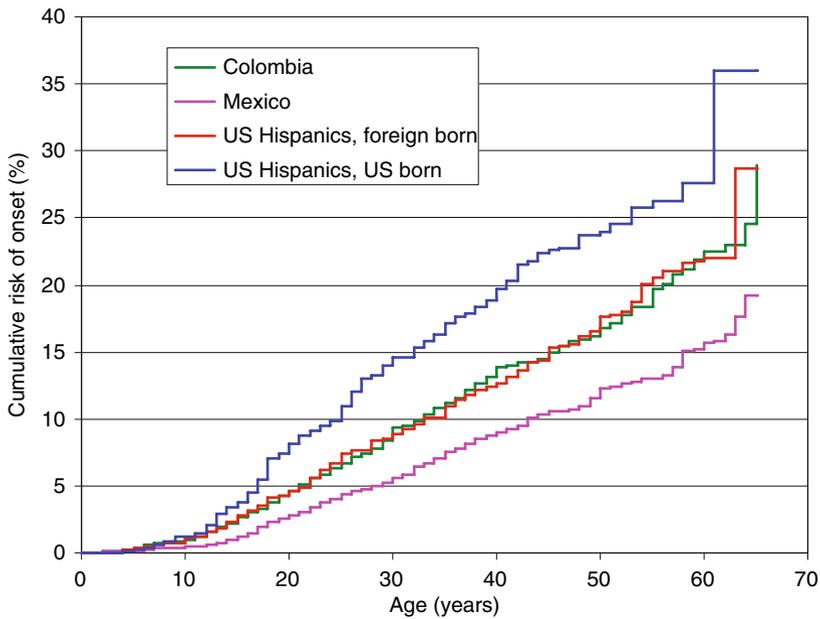


Fig. 1 Cumulative risk of onset of DSM-IV major depressive disorder by study site (*See Color Insert*)

Table 3 Logistic Regression Models¹ of 12-Month DSM-IV Major Depressive Disorder by Study Site

	Colombia	Mexico	U.S. Hispanics	
			Foreign Born	U.S. Born
Sex				
Male	1	1	1	1
Female	2.0 [1.3, 3.2]**	1.8 [1.1, 3.0]*	2.2 [1.1, 4.8]*	1.3 [0.9, 2.1] NS
Age (years)				
18–29	1	1	1	1
30–44	0.7 [0.5, 1.1]	1.3 [0.9, 2.1]	0.8 [0.4, 1.3]	0.8 [0.5, 1.3]
45–59	0.7 [0.4, 1.3]	1.3 [0.8, 2.1]	0.8 [0.4, 1.4]	0.5 [0.2, 1.1]
60–65	1.3 [0.7, 2.4] NS	1.4 [0.7, 2.9] NS	0.5 [0.2, 1.4] NS	0.2 [0.0, 1.2] NS
Marital status				
Married or cohabiting	1	1	1	1
Separated, divorced, or widowed	1.0 [0.6, 1.8]	2.0 [1.1, 3.5]*	1.7 [0.8, 3.7]	2.3 [1.2, 4.7]*
Never married	0.7 [0.4, 1.2] NS	1.0 [0.6, 1.7] NS	2.1 [1.1, 4.1]* *	1.2 [0.6, 2.5] NS
Employment status				
Working	1	1	1	1
Student	1.7 [0.7, 4.0]	1.0 [0.4, 2.4]	0.6 [0.1, 3.2]	0.9 [0.2, 3.4]
Homemaker	1.0 [0.5, 1.7]	1.2 [0.8, 1.7]	1.2 [0.5, 3.0]	1.3 [0.5, 3.3]
Retired	0.1 [0.0, 1.1]	2.2 [0.9, 5.8]	— ²	8.9 [1.5, 51]*
Other	1.9 [1.2, 3.3]* *	2.1 [0.8, 5.3] NS	1.6 [1.0, 2.6]* NS	1.7 [0.8, 3.7] NS

¹Shown are odds ratios with 95% confidence intervals.

²Term omitted since no retired persons in the U.S. foreign-born sample had 12-month major depressive disorder. NS = not significant, * $p < 0.05$, ** $p < 0.01$; joint test of domain shown below domain variables.

Table 3. Education was not consistently associated with MDD, but produced large amounts of random variation when included in the multiple models and therefore was dropped from the final model. Females showed significantly higher odds ratios of MDD among Colombians, Mexicans, and among foreign-born U.S. Hispanics, but not among U.S.-born Hispanics. Working employment status was associated with 12-month depression in Colombia. Those in the “other” employment status category showed increased odds ratios in all four groups, with significant associations in Colombia and among the foreign-born U.S. Hispanics.

Twelve-month MDD is shown categorized across three levels of severity in Table 4. Across samples, the largest prevalence of severe mental illness concurrent with MDD was found in U.S.-born Hispanics (3.1%) and foreign-born U.S. Hispanics (2.3%), followed by Colombians (1.7%), and lowest among Mexicans (1.0%). Not surprisingly, higher rates were found for the moderate level of severity, ranging from a high of 4.0% in U.S.-born Hispanics to a low of 1.8% in Mexicans. Interestingly, however, in all samples the mild level of

Table 4 Prevalence¹ of 12-Month DSM-IV Major Depressive Disorder by Severity Level and Study Site

	Colombia	Mexico	US Hispanics	
			Foreign Born	U.S. Born
Severe	1.7 (0.2)	1.0 (0.2)	2.3 (0.3)	3.1 (0.5)
Moderate	2.8 (0.3)	1.8 (0.2)	2.6 (0.4)	4.0 (0.6)
Mild	0.8 (0.1)	0.8 (0.1)	1.0 (0.3)	1.1 (0.3)

¹All data reported as percentages with standard errors in parentheses.

severity showed the lowest prevalence rates. Note that the rates shown in Table 4 give the prevalence of 12-month MDD by severity in the population, and so reflect both the overall prevalence of 12-month MDD and the severity of the mental illness. If one looks at the relative proportion of severe, moderate, or mild levels of severity among those with 12-month MDD, one sees that the relative proportions of these levels are similar across the samples (i.e., controlling for the overall differences in 12-month MDD prevalence across the samples, severity is similar across the samples).

Table 5 presents the results of the Sheehan scale where the severity of role impairment associated with 12-month MDD is measured across four life

Table 5 Severity of Role Impairment¹ Based on the Sheehan Disability Scale (SDS) for Persons with 12-Month DSM-IV Major Depressive Disorder by Study Site

Site	SDS Domain	Severity of Role Impairment				
		None	Mild	Moderate	Severe	Very Severe
Colombia						
	Home	15.9	21.4	39.7	14.5	8.5
	Work	26.0	19.4	30.1	17.7	6.8
	Relationship	16.8	19.4	31.7	26.0	6.0
	Social	20.8	13.8	37.2	20.2	7.9
Mexico						
	Home	12.5	24.1	30.7	28.8	3.9
	Work	11.6	25.2	31.7	24.6	6.9
	Relationship	12.8	28.9	28.5	23.0	6.8
	Social	12.5	20.8	34.3	23.3	9.0
US Hispanics, foreign born						
	Home	11.3	15.2	33.0	33.3	7.2
	Work	12.9	24.0	18.3	36.7	8.2
	Relationship	10.7	20.2	27.4	32.3	9.5
	Social	16.1	16.8	27.1	31.5	8.4
US Hispanics, US born						
	Home	6.5	16.1	42.8	27.8	6.8
	Work	12.0	21.4	37.5	17.8	11.3
	Relationship	15.3	14.7	40.3	23.0	6.6
	Social	9.6	19.6	32.6	26.5	11.7

¹All data reported as percentages.

domains. More Mexicans and foreign-born U.S. Hispanics tended to rate their role impairment across the four domains as severe or very severe, compared to Colombians and U.S.-born Hispanics. However, Colombia had the largest percentage of “very severe” in the home domain (8.5% of those with 12-month MDD), while U.S.-born Hispanics had the largest percentage of “very severe” in the work domain (11.3%) and social domain (11.7%). Foreign-born U.S. Hispanics had the largest percentage of “very severe” in the relationship domain (9.5%).

Utilization of treatment services for MDD varied widely across sites. The prevalence of “any service use” within the last 12 months ranged from a high of 54.9% among the U.S.-born Hispanics to a low of 21.9% in Colombia (Table 6). Findings by provider categories showed that among both U.S. Hispanic groups and Mexicans, the general medical sector was the predominant source of mental health treatment. Among Colombians, mental health specialty (which excludes psychiatrists) was the most common source of treatment. From the detailed provider list in Table 6, it is apparent that these samples differed in their use of mental health services, but they had one point in common: the psychiatrist was never the primary provider.

Table 6 Past 12-Month Mental Health Service Use among Persons with 12-Month DSM-IV Major Depressive Disorder by Study Site

Service Type	Colombia	Mexico	U.S. Hispanics	
			Foreign Born	U.S. Born
Psychiatrist	3.5 (1.4)	3.2 (1.7)	15.9 (3.1)	11.4 (3.4)
Other mental health specialty ¹	11.2 (2.9)	7.0 (1.6)	18.5 (4.6)	21.9 (5.0)
General medical ²	7.3 (2.1)	12.1 (2.1)	22.4 (4.1)	31.4 (5.1)
Any MH or medical care ³	18.6 (3.4)	21.2 (3.0)	35.7 (4.8)	43.4 (5.2)
Human service ⁴	4.1 (2.1)	1.5 (0.7)	11.5 (4.2)	6.6 (2.9)
Complementary-alternative medicine (CAM) ⁵	3.4 (1.3)	8.0 (2.2)	15.9 (5.1)	20.0 (3.5)
Any human service or CAM	6.4 (2.3)	8.9 (2.3)	22.8 (5.9)	25.9 (4.7)
Any service ⁶	21.9 (3.7)	26.6 (3.6)	41.6 (4.1)	54.9 (5.1)

¹Other mental health specialty includes hospitalization for mental health problems, psychologists, psychotherapists, mental health nurses, use of mental health hotline, and counselors or social workers in a mental health specialty setting.

²General medical includes family physicians, general practitioners, other medical doctors such as cardiologists, gynecologists (for women) and urologists (for men), nurses, occupational therapists, and other health care professionals.

³Any mental health or medical care includes psychiatrists, other mental health specialty, and general medical.

⁴Human service includes outpatient treatment with a religious or spiritual advisor (such as a minister, priest, or rabbi) and counselors or social workers in any setting other than a mental health specialty setting.

⁵Complementary-alternative medicine includes internet use, self-help groups, and other alternative therapies such as a chiropractor, spiritualist, or any other healer such as an herbalist.

⁶Includes all service types shown in table

Interestingly, among U.S.-born Hispanics one in every five respondents with major depression used a resource from the complementary-alternative medicine category.

Discussion

We found a large range in the prevalence of major depressive disorder across samples. Roughly, 1 in every 6 U.S.-born Hispanics, 1 in every 8 foreign-born U.S. Hispanics and Colombians, and 1 in every 13 Mexicans has lifetime major depression. One in every 12 U.S.-born Hispanics, 1 in every 17 foreign-born U.S. Hispanics, 1 in every 19 Colombians, and 1 in every 26 Mexicans suffers a current (12-month) MDD. Our findings indicate that when asked about the severity of their mental illness most people with 12-month MDD, rated it as moderate to severe. In addition, they reported high levels of role impairment, especially in the relationship and social domains.

Being female was associated with a higher prevalence rate of MDD, as has been documented in other countries and cultures (Andrade et al., 2003; Kessler et al., 2003). The early age of onset of MDD also is consistent with the ages of onset reported in other surveys. For example, in a comparison of 10 countries, including three in Latin America, the median age of onset ranged from the early to mid-20s in all but two countries, Japan (late 20s) and the Czech Republic (early 30s) (Andrade et al., 2003). This early age of onset is burdensome not only because of the many years of recurrent episodes that a person might experience, but also because of the consequences that this illness may have on the critical life transitions and accomplishments associated with the third decade of life, namely educational attainment, career choices, marriage, and pregnancies.

The higher proportion of moderate severity as opposed to either mild or severe mental illness among those with depression across all sites, and the moderate to severe role impairment reported across role domains lend support for the validity of the prevalence estimates and minimize previous overestimation concerns. These results clearly signal the prevalent and impairing nature of major depression among Latin Americans and U.S. Hispanics.

A large group of people with 12-month MDD did not receive any treatment to target the problem. Service use of any type during the past 12 months by respondents with a 12-month MDD ranged from 22% (Colombia) to 55% (U.S.-born Hispanics). Furthermore, those people who received treatment did not commonly receive it from psychiatrists. Colombians used nonpsychiatric mental health specialists while general physicians were more commonly used in Mexico and by U.S. Hispanics.

Our results regarding the lifetime and 12-month prevalence rates are consistent with previous research. The overall lifetime (15.9%) and 12-month (8.3%) prevalence of MDD in U.S.-born Hispanics is similar to that found in the general U.S. population surveys (Kessler et al., 1996; Kessler et al., 2003).

Consistent with other studies (Alegria et al., 2006; Escobar, Hoyos Nervi, & Gara, 2000; Grant et al., 2004; Karno et al., 1987; Vega et al., 1998), foreign-born U.S. Hispanics, and Latin Americans in Colombia and Mexico as well, had lower rates of MDD than U.S.-born Hispanics. Heterogeneity among subgroups of Hispanics in the United States may be a source of differences in risk among those U.S.-born and foreign-born Hispanics (Alegria et al., 2007a; Alegria et al., 2007c), but this is beyond the scope of the present report.

Differences in lifetime prevalence across the four samples of MDD confirm previous findings that the risk of psychiatric disorders increases among migrants from Latin America after they settle in the United States. The pattern is most clear in the cumulative risk curves where the samples from Columbia, Mexico, and foreign-born U.S. Hispanics cluster together while that for U.S.-born Hispanics shows greater risk across the lifespan. Although this pattern implicates intergenerational processes, it remains unclear whether these changes are the result of stressful conditions specific to migrants, such as acculturative stress, or whether they reflect part of a process of enculturation to broader patterns of life in the American society. Also, we cannot rule out the possibility of selective migration in our sample. This could impact the rates of several physical and mental disorders (Abraido-Lanza et al., 1999; Franzini, Ribble, & Keddie, 2001; Scribner, 1996). While no single mechanism exists to explain these findings (U.S. Department of Health and Human Services, 2001, pp.134-135), the fact that U.S.-born Hispanics do not have an elevated risk of MDD relative to non-Hispanic Whites in the United States (Kessler et al., 2003) supports the latter explanation, but these results for major depression have been challenged more recently (Grant et al., 2004).

It is interesting to note that the differences in 12-month prevalence are smaller than the differences in lifetime prevalence. Lifetime prevalence reflects both 12-month prevalence and the distribution of age of onset since increased risk at earlier ages leads to greater lifetime rates. Twelve-month prevalence reflects both risk of onset and duration of the disorder. Compared with those born or living in Latin America, U.S.-born Hispanics are more likely to have current MDD at earlier ages (18–29 years old) but only slightly more likely to have current MDD at later ages (≥ 30 years old). Consistent with this finding, U.S.-born Hispanics have, in general, an earlier age of onset. The pattern of lifetime and 12-month prevalence and age of onset suggests that there may not only be an increase in risk of MDD among U.S.-born Hispanics, but that there may be a change in the nature of the disorder itself. A similar shift in either the severity or role impairment associated with MDD, however, is not found in these data. To summarize: compared with the samples born in Latin America, U.S.-born Hispanics are more likely to have MDD and have onset at an earlier age, but when they become ill they have disorders of similar severity and a similar degree of role impairment.

U.S.-born Hispanics with current MDD were not less likely to use services than the general U.S. population in the NCS-R (54.9% and 57.3%, respectively) (Kessler et al., 2003). However, these levels of service use are

considerably higher than those of Mexicans (26.6%), Colombians (21.9%), and foreign-born U.S. Hispanics (41.6%). While foreign-born U.S. Hispanics (6.0%), Mexicans (3.7%), and Colombians (5.3%) have lower 12-month MDD prevalence rates than U.S.-born Hispanics (8.3%), there is clearly greater unmet need. Results from the NLAAS suggest that this may go beyond treatment of MDD only, as foreign-born Hispanics may be less likely to use any mental health services than their U.S.-born counterparts (Alegria et al., 2007b). Explanations for these disparities include differing cultural beliefs, access to mental health information, financial resources, and accessibility to and availability of health care services.

Differences in service use across these populations show changes associated with migration and settlement in the United States. Compared with both Latin American samples, both U.S. samples show higher levels of treatment for MDD, with the highest levels found among U.S.-born Hispanics. Moreover, among those who receive treatment, both groups of Hispanics are similar to each other and to non-Hispanic Whites in the United States in the large proportion of people who receive their treatment in the health care sector. Nevertheless, U.S.-born Hispanics show much larger prevalence of CAM service use (20%) for treatment of MDD than the foreign-born U.S. Hispanics (16%) and the general population in the United States (15.3%; Kessler et al., 2003), a finding not expected.

Conclusion

This study points to the following:

1. MDD is both prevalent and severe in multiple subgroups of young Hispanics.
2. While needed, treatment is not readily available. Indeed, no treatment is more the rule than the exception.
3. There is a disparity in the delivery of services to different Hispanic groups that must be addressed.
4. The effect of migration on depression requires further research, which may yield findings that will shed light on effective treatment approaches.
5. In order to reduce the incidence of MDD within the Hispanic population, efforts must be made to identify and nurture protective factors.

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Chapter 4

Comorbidity: Depression and Substance Abuse

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Personal Journey: María Elena Medina-Mora

I was finishing a degree in psychology and uncertain as to the area in which to specialize when an instructor encouraged me to intern at the Mexican Center of Studies in Drug Dependence. This newly created center was responsible for developing programs to address the increase of drug use in Mexico and develop policy recommendations. This experience enabled me to work on the frontier of science between drug policy and drug treatment.

Over time, the center was incorporated into the Mexican National Institute of Psychiatry and became a World Health Organization (WHO) Collaborative Center. This resulted in my working with the Addiction Research Center of Canada and the Alcohol Research Group in California, in particular with Robin Room, with whom I have kept a fruitful and ongoing collaboration. With Robin's encouragement, I embraced a social epidemiological approach. Presently, I am interested in studying drug behavior from a system's perspective where drugs, persons, and environmental context interact and on understanding how culture defines and gives meaning to the subject matter. This interest has been further enriched by my collaboration with Sergio Aguilar-Gaxiola and with Ron Kessler and his associates.

Introduction

Mental health and substance abuse disorders are responsible for a high percentage of the burden of disease in the Americas and elsewhere. When these disorders occur together, the quality of life of afflicted individuals is significantly

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impoverished. Moreover, the toll on the individual extends to the family, the workplace, the school, the community, and society as a whole with important human, social, and economic consequences. Indeed, co-occurring disorders affect millions of each year. According to the U.S. Surgeon General's report (1999, p.487) on mental health: "Forty-one to 65 percent of individuals with a lifetime substance abuse disorder also have a lifetime history of at least one mental disorder, and about 51 percent of those with one or more lifetime mental disorders also have a lifetime history of at least one substance abuse disorder." When two disorders such as substance abuse and depression occur together, there often is greater functional impairment and self-destructive behavior, and successful treatment is more problematic (Vega, Sribney, & Achara-Abrahams, 2003). Moreover, individuals experiencing these disorders simultaneously tend to have more difficulty seeking and receiving diagnostic and treatment services, even though, separately, these disorders often are as treatable as other chronic illnesses (U.S. Department of Health and Human Services, 2002).

While the cause is unclear, the high degree of co-occurrence between mental and substance abuse disorders suggests that they share neurobiological and behavioral commonalities. Contextual factors such as the availability of drugs, community tolerance of drug use, inherited vulnerability, and environmental factors like poverty also play an important role.

In the United States, Latinos are at risk for problems derived from stress factors that are known to increase vulnerability. These include belonging to a minority group, forced migration from one's home country, poverty, lack of job opportunities, and the difficulties that undocumented immigrants face in the United States. Interestingly, Latinos seem to have lower rates of drug and depression problems in their home countries (WHO, 2000), but a word of caution is in order as there is evidence also of a lower Latino rate of service utilization in their country of origin (Kessler et al., 1994; Medina-Mora et al., 2005).

In their lifetime, about half (51%) of the Hispanic population in the United States has experienced one or more psychiatric disorders, 20% any affective disorder, 25% any anxiety disorder, and 28% any substance abuse disorder (Kessler et al., 1994). Many of these disorders co-occur in the same person and any given time. It has been estimated that only 55% of those with a diagnosis in the last 12 months had a single diagnosis (Kessler, Chiu, Demler, Merikangas, & Walters, 2005).

As noted earlier, recent immigrants seem to have lower rates of both disorders. Among Mexican Americans in the United States, co-occurring lifetime rates of alcohol or other drug problems with mental health disorders or both have been estimated at 12.3% for U.S. born and 3.5% for immigrants (Vega et al., 2003). This chapter addresses comorbidity between depression and substance abuse in the Latino population both in the United States and in Mexico and Colombia.

Definitions and Theory

Comorbidity refers to the co-occurrence of any two disorders. Ghodse (2002) states that comorbidity can be grouped into five categories: (1) primary diagnosis of a major psychiatric illness with a subsequent (secondary) diagnosis of substance misuse that adversely affects mental health; (2) primary diagnosis of substance misuse with psychiatric complications leading to mental illness; (3) concurrent substance misuse and psychiatric disorder, with the former exacerbating or altering the course of the latter; (4) psychiatric disorder exacerbating the course of substance misuse; and (5) an underlying traumatic experience resulting in both substance misuse and psychiatric disorders.

According to the WHO (2004a), four neurobiological hypotheses may explain this comorbidity:

- 1 Substance abuse and other mental disorders are different symptomatic expressions of the same pre-existing neurobiological abnormalities.
- 2 Repeated substance use leads to biological changes that have common elements with the abnormalities mediating other mental disorders such as depression.
- 3 Substance abuse is self-medication intended to reverse abnormalities existing prior to substance use or may have been derived from the abuse of one or more substances.
- 4 The last hypothesis, though unlikely due to the extensive epidemiological and clinical evidence, is that mental disorders and substance abuse are independent phenomena and occur together by chance.

There are also several psychosocial explanations for this comorbidity. These include: early exposure to violence, growing up in environments where affection and caring is lacking, substance misuse by parents, intense and continuous exposure to stress, and a lack of social networks. The specific relationship between several substances and depression is examined next.

Tobacco Smoking and Depression

The prevalence of a major depressive disorder co-occurring with those who smoke is twice that of nonsmokers (Glassman et al., 1990, cited in WHO, 2004a). Smokers with a history of clinical depression are only half as likely to successfully quit smoking as smokers without a history of depression (Glassman et al., 1990, cited in WHO, 2004a). Smoking cessation results in an aversive withdrawal syndrome, which can last as long as 10 weeks (WHO, 2004a). Those who intend to quit smoking often report depressed mood as one of their core withdrawal symptoms. The self-medication with nicotine hypothesis of depression is supported with clinical depression occurring either prior to the initiation of smoking or induced by chronic nicotine intake. It has been shown

that monozygotic twins show a higher association between smoking and depression than dizygotic twins (Kendler et al., 1993, cited in WHO, 2004a).

The link between tobacco smoking and depression is supported with evidence from a differential response to antidepressant medications. Bupropion, an antidepressant medication, that is a weak norepinephrine and dopamine reuptake inhibitor and a nicotine acetylcholine receptor antagonist, is twice as effective as a placebo in clinical smoking cessation trials (WHO, 2004a). Other antidepressants such as fluoxetine, doxepin, and moclobemide have modest effects on tobacco withdrawal symptoms. Thus, participants who received trials of these medications had better smoking cessation rates. Still, relapse at three and six months remained high. Participants with higher baseline depression remained abstinent for longer periods when treated with fluoxetine, a selective serotonin reuptake inhibitor, although their mild depression was not clinically significant (Hitsman et al., 1999, cited in WHO, 2004a). These findings suggest that pre-existing depressive symptoms contribute to the perpetuation of nicotine substance abuse.

Epidemiological data support the hypotheses that depressed individuals are more likely to initiate smoking, and that depressive symptoms are induced or exacerbated by long-term smoking and withdrawal from smoking. This suggests that smoking and depression share common neurobiological substrates with serotonin and dopamine (WHO, 2004a).

Cocaine Abuse and Depression

Epidemiological data show an increased likelihood of depression among cocaine abusers. Antidepressant treatment of people with cocaine dependence results in greater improvement in their mood and a reduction in their use of cocaine by those who also suffer from depression. Treatment with antidepressants suggests that users of cocaine may consume them in an attempt to self-medicate their depression.

Cocaine withdrawal is characterized by severe mood disturbances including depressive symptoms combined with irritability and anxiety. These symptoms last between hours and days, with anhedonia (diminished ability to enjoy pleasurable activities), a core symptom of depression, being the most salient. This symptom may play a major etiological role in maintaining cocaine dependence.

The similarity between a major depressive episode and withdrawal from cocaine suggests an overlapping of neurobiological substrates. As with nicotine and depression, the dopamine system seems to be a likely candidate as it mediates both the reward of substance use and the lack of pleasure associated with withdrawal and depression. Finally, there is evidence that the use of substances with stimulant effects might represent a self-medication attempt to relieve depression (WHO, 2004a).

Alcohol and Depression

There is substantial data from epidemiological and clinical research indicating that rate of people with both depression and alcohol dependence is significantly greater than the rates of either disorder alone. For example, the Mexican National Survey on Psychiatric Epidemiology, data reported for the first time in this chapter, showed that about half the cases of depression occurred before alcohol abuse/dependence. There also is evidence that the rates of pre-existent depression over alcohol abuse/dependence are higher for women (Kessler et al., 2001). Some studies reported that persons with depression, who are also alcohol dependent, experienced lower rates of relapse when treated with the antidepressants imipramine and fluoxetine compared to individuals (with or without depression) who were treated with a placebo (WHO, 2004a).

Inconclusive evidence from genetic studies hints at the possibility of a common neurobiological mechanism with different symptomatic expression (WHO, 2004a). The self-medication hypothesis was not supported as alcohol does not alleviate the symptoms of depression. In fact, there is extensive evidence that excessive alcohol intake induces depression, thus offering one explanation as to the high comorbid relationship between these two disorders. Collectively, these data suggest a strong association between depression and substance abuse.

Substance Abuse and Depression: The Context

Sociocultural Issues

Latinos are not homogenous but are a heterogenous group of people united mostly by the Spanish language, geographic provenance, and colonial experience. However, there are exceptions to these three commonalities. Brazil, Surinam, and the Guyanas speak languages other than Spanish, and indigenous tribes, estimated at 40 million people, maintain their own distinctive dialects. Catholicism is the prevailing religion though there is a strong influence of the indigenous beliefs and, more recently, an increase in other Christian religions. There are also large Native American, Black, and European immigrant populations, notably from Italy, Germany, and Portugal (Madrigal, 1998) and an admixture of all possible combinations (Marin, Escobar, & Vega, 2006). According to Hanis, Hewett-Emmett, Bertin, and Schull (1991), the genetic makeup of Mexican, Puerto Rican, and Cuban subgroups in the United States is 31% Native American, 61% Spanish, and 8% African for Mexicans; 18% Native American, 45% Spanish, and 37% African for Cubans; 18% Native American, 62% Spanish, and 20% African for Puerto Ricans.

According to the United Nations, only five countries, Costa Rica, Chile, Uruguay, Argentina, and Mexico, rank high in their "Index of Human

Development.” This index includes factors like life expectancy, school enrollment, and per capita GNP. The majority of Latin American countries rank in the middle (United Nations, 2003), and several Caribbean island nations at or near the bottom. Using the criteria of one U.S. dollar a day, the proportion of those living below this standard varies from less than 2% in Chile to 82.3% in Nicaragua (United Nations, 2003). Life expectancy in Latin America varies from 78.1 years in Costa Rica to 63.9 years in Bolivia (Programa de las Naciones Unidas para el Desarrollo (PNUD), 2003) (Fig. 1).

Emigration from Latin American countries to other regions is considerable. It is believed that 22 million persons born in Latin America reside in a country other than their country of birth, and 75% of these people reside in the United States. In fact, almost half (49.7%) of the total immigrants in the United States emigrated from Latin America and the Caribbean (Zuñiga, Leite, & Nava, 2005). This migration is associated to a variety of reasons including political sanctuary, escaping civil unrest and guerrilla warfare, and searching for economic opportunity. Consider, for a moment, this last example of economic opportunity. Income sent home to their families by Mexican workers in the United States represents for Mexico the second largest source of revenue after oil (Garcia, 2003; Lozano, 2003). The socioeconomic status of individuals within and between different migrating groups ranges from the poorest in education, skills, and wealth to the wealthiest individuals in these respects. Not surprisingly, the stress of migration coupled with the stress leading to the

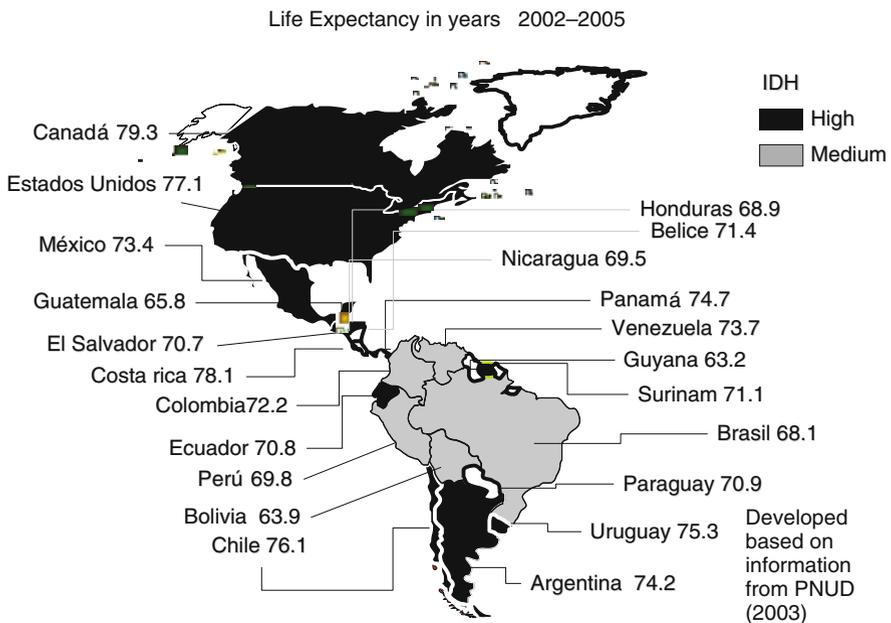


Fig. 1 Map showing life expectancy at birth in the Americas

decision to leave (e.g., fear, violence, poverty, unemployment) is associated with a higher incidence of mental health issues in this population. In particular, survivors of political violence and conflicts have a greater chance of experiencing generalized and pervasive fear and anxiety that are frequently severe and lasting (Desjarlais, Good, Emsberg, & Kleinman, 1995).

Massey, Alarcon, Durand, and Gonzalez (1991) have developed a model that describes the migration process resulting from economic causes. In this three-part model, “temporal migrants” move between countries from one to three times in their lives for a period of one year or less each time. The motivation for their migration is to earn and save money. These individuals see their time in the United States as temporal and quickly reintegrate into their local economy upon returning home. The second type, “recurrent migrants,” travels frequently between Mexico and the United States. This group is comprised mostly of married men who support their stay-at-home families by sending them part of their earnings. The last type, “established migrants,” seek permanent residence in the United States.

The concern of some U.S. population sectors over the circular movement migration between Mexico and the United States has reduced the frequency of “temporal and recurrent” migration patterns, and it has been replaced with a more permanent migration. This is evident in the longer time migrants are spending in the United States (5.5 months between 1993 and 1997 to 11.2 months between 2001 and 2004) and in the decline of first-time migrants. First-time migrants dropped from 72% in 1993–1997 to 31% in 2001–2004 (Zuñiga et al., 2005).

Once migration has occurred, social networks created by those who have successfully relocated serve to support future migratory movement. There is evidence suggesting that migrants with adequate social support systems are less likely to exhibit depression compared to those with less support (Alderete, Vega, Kolody, & Aguilar-Gaxiola, 1999). Other studies report reduced risk for children who were not victims of violence and when refugees are able to reconstruct their communities in the new country. That is, reuniting with extended families and neighbors in their new setting (Miller, 1996).

For children and wives who do not migrate, their well-being was higher if contact with the migrant father was maintained (Aguilera-Guzmán 2001; Salgado de Snyder, 1993). That said, the stress on these families is substantial. In these families, studies report increased depression among women, behavior problems among the children and adolescents, and substance abuse in the returning migrants (Aguilera-Guzmán 2001; Salgado de Snyder & Maldonado, 1993).

Extent of Substance Abuse and Mental Health Disorders

Evidence suggests that depression and substance abuse for Latinos are lower in their countries of origin (Caraveo, Colmenares, & Saldivar, 1999; Medina-Mora, Borges, & Villatoro, 2000; Medina-Mora & Fleiz, 2003) and in the

recently immigrated population to the United States, but higher for those with 13 or more years of migration or the children of immigrants or those who are U.S. born (Caetano & Medina-Mora, 1988; Kessler et al., 1994; Vega et al., 1998).

Breslau and his colleagues (2007a), using data from the National Comorbidity Survey Replication (NCS-R) survey to analyze the risk for psychiatric disorders among English-speaking immigrants and their U.S. born descendants, confirmed these previous observations. That is, immigrants had lower lifetime prevalence for mental disorders than native-born respondents. Risk for mood and impulse control disorders was lower for those arriving as adolescents and adults but not for those who arrived as children; substance abuse showed a distinct pattern with lower prevalences among immigrants independently of their age of migration.

These findings support the hypothesis of the influence that environmental factors have on changes of risk among immigrant populations related to either early socialization in the United States or experiences after migration among those that changed residence as adults.

In another study, Breslau and colleagues (2007b), compared data from the NCS-R with data from the Mexican National Comorbidity Survey (MNCS), using the same methodology (Medina-Mora et al., 2005), to determine whether mental state previous to migration explained the differences in prevalence rates and found that pre-existing anxiety disorders predicted immigration and that this experience predicted, in turn, subsequent onset of anxiety and mood disorders and persistence of anxiety, questioning the “healthy immigrant” hypothesis. As the authors recommended, these findings should be replicated before making definite conclusions.

Alcohol Abuse

Studies suggest higher alcohol abuse rates and lower abuse of illegal drugs in Latin America. Among developing countries, Latin American countries have the higher per capita consumption of alcohol (WHO, 1999) with Paraguay, Brazil, Mexico, El Salvador, Colombia, Costa Rica, Venezuela, Bolivia, Panama, Uruguay, and Ecuador recording increases in consumption and Guatemala, Peru, Chile, and Argentina decreases (FAO, 1998). The standardized mortality rates for chronic illness of the liver and cirrhosis show elevated rates in countries like Mexico (34.9 per 100,000) and Chile (23.8) and the lowest rate in Argentina (7.6) (WHO, 1999) (Figs. 2 and 3).

In Latin America, alcohol consumption begins around 15 years of age and use within the last month by young people varies between 10% and 20%. Adolescents living in urban areas across much of Latin America are engaged in a pattern of weekend excessive drinking. Not surprisingly, this behavior has resulted in a higher occurrence of motor vehicle accidents, violent behavior, and riskier sexual practices (Medina-Mora, Carlini, & Madrigal, 2000).

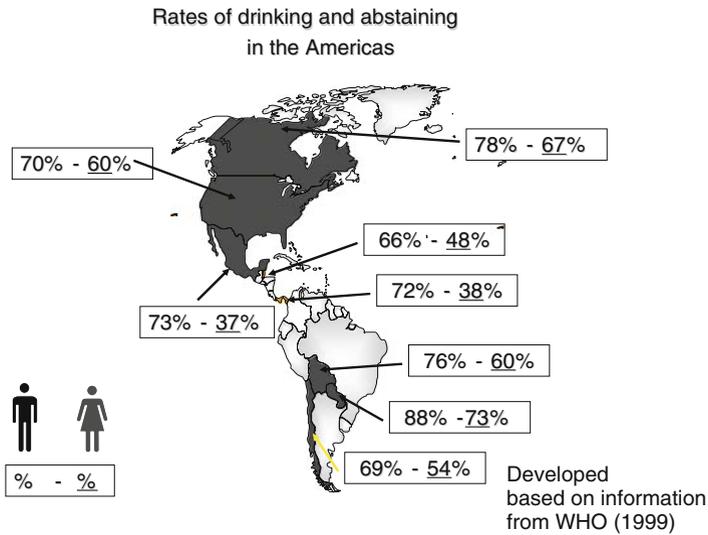


Fig. 2 Map showing rates of drinking and abstaining in the Americas

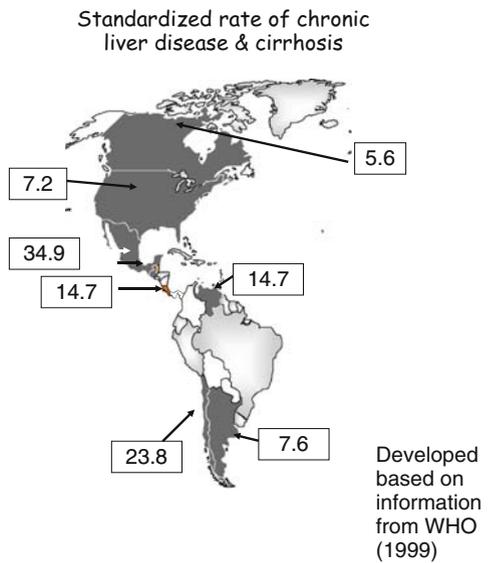


Fig. 3 Map showing standardized rates of chronic liver disease and cirrhosis in the Americas

In some countries such as Argentina and Chile, patterns of drinking can be characterized as “Humid” to use Room’s (1989) typology. That is, alcohol consumption is frequent and in low quantities. In other countries like Mexico, patterns of drinking behavior are typically “Dry,” meaning periods of abstinence are followed by binge drinking. This “Dry” pattern of drinking is associated with increased rates of accidents and violence (Cherpitel & Rosovsky, 1990).

Alcohol intake is influenced by gender roles. While alcohol intake, including intoxication, is considered part of the male role, females are expected to abstain. As Araya (1994) has stated, “Machismo seems to be losing its appeal, but overt and covert discrimination against women [drinking] continues to be a part of our reality (p. 955).” With the advent of the women’s movement, their drinking habits are expected to change, especially among the more educated and the younger sectors of the population (Medina-Mora, Carlini, & Madrigal, 2000; Room et al., 2002).

In the general U.S. population, heavy drinking, alcohol dependence, and alcohol-related social problems peak between the ages 18 and 29 and decline thereafter. Interestingly, this pattern of behavior is not observed with men of Mexican origin (Gilbert & Cervantes, 1986). In Mexico, the highest rate of heavy drinking (five or more drinks a week) is seen with males between 30 and 39 years of age (Medina-Mora & Fleiz, 2003). Studies of Mexican immigrants to the United States suggest that Mexican men drink less often but consume more per occasion than their U.S. counterparts (Caetano & Medina-Mora, 1986).

Alcohol abuse is a greater problem in Latin America than is illegal drug abuse (Felix-Ortiz, Villatoro, Medina-Mora, & Newcomb, 2001). For example, for Mexican males (2.2%) and females (0.5%) there is a considerably lower prevalence of drug dependence than for their counterpart males (14.4%) and females (10.6%) in the United States (Medina-Mora et al., 2004; SAMHSA, 2001; Secretaria de Salud, 2002) (Table 1).

Table 4.1 Rates of alcohol and drug use in the national household surveys of Mexico and the United States

	Percentages reporting past year substance dependence					
	12–17		18–25		26–65	
	EU	MEX	EU	MEX	EU	MEX
• Alcohol	5.1	2.1	14.8	3.8	4.5	4.8
• Any Illicit Drug	4.7	0.4	7.1	1.0	1.4	0.3
	Urbanized				Rural	
	EU	MEX	EU	MEX	EU	MEX
• Alcohol	6.4	4.0	6.1	4.2		
• Any Illicit Drug	2.8	0.5	1.7	0.1		

SAMHSA, 2001; Medina-Mora et al., 2004; Villatoro et al., 2002

Table 4.2 Lifetime comorbidities between mental and substance abuse disorders

	Anxiety OR	Affective OR	Impulse OR
Abuse/dependence	1.9	2.3	3.4
Dependence	2.4	2.7	4.9

Unpublished data from the National Household Survey on Psychiatric Epidemiology, Mexico. More information on the survey: Medina-Mora et al., 2005

Table 4.3 Temporal priority in life time mental- substance comorbidity by sex

	First Mental Disord.		First Substance D.		Same year	
	M %	F %	M %	F %	M %	F %
Anxiety Disorders	67.3	97.3	27.3	2.7	5.4	–
Affective Disorders	48.6	47.9	46.7	52.1	5.7	–
Impulse	100	100	–	–	–	–

Unpublished data from the National Household Survey on Psychiatric Epidemiology, Mexico. More information on the survey: Medina-Mora et al., 2005

Table 4.4 The effects of temporally primary mental disorders in predicting first onset of substance abuse by sex

	Anxiety		Affective		Impulse	
						
	OR		OR		OR	
Abuse/dependence	2.6	7.3	4.1	3.7	3.1	10.4
Dependence	2.9	–	1.9	–	6.2	–

Unpublished data from the National Household Survey on Psychiatric Epidemiology, Mexico. More information on the survey: Medina-Mora et al., 2005

Abuse of Other Substances

Consumption rates for other substances are lower in Latin America than those reported in the United States. However, recent surveys report an increase in drug abuse problems in many countries of Latin America (United Nations Office on Drugs and Crime, 2003).¹ Data from Mexico comparing nonmigrants with those with family members in the United States and returning migrants, show higher rates among the two latter groups when compared with nonmigrants, suggesting that migration to the United States might play a role in transforming rates of pathology and probably norms toward substance use (Borges, Medina-Mora, Breslau, & Aguilar Gaxiola, 2007).

Marijuana is the most commonly used drug in Latin America. The highest 12-month rates for the population 15 years and older has been reported by Honduras (5.9%), Chile (5.8%), and Colombia (5.7%) and the lowest in Belize (0.1%). In comparison, 12-month rates have been reported at 8.9% in the United States.

¹ Data come from the Global Illicit Drug Trends of the United Nations Office on Drugs and Crime (UNODC) (2003) Global Illicit Drug Trends. United Nations Publications. New York, published annually by the United Nations Office on Drug and Crime, with data obtained primarily from the annual reports questionnaire (ARQ) sent by governments. Quality of data varies between countries pending on the local monitoring systems. Data from some countries like Mexico, Chile, or Costa Rica, are based in National Household Surveys, in other cases figures are estimated based in other local information.

Using treatment demand as the measure, the illegal substance of greatest concern on the American Continent is cocaine. While cocaine use is decreasing in the United States, it is increasing in Central and South America (UNODC, 2003).

In the 2002 *World Health Report*, the WHO examined premature mortality and days lived with disease across 26 risk factors including malnutrition, substance abuse, physical activity, exposure to environmental and occupational hazards, and unsafe behaviors and child abuse. This report found that in Latin American countries with long life expectancies alcohol ranked first as an illness inducing agent, illicit drugs was second, and tobacco was third. Illicit drug use did not appear in the top 10 risk factors. Compare this with data from developed countries that placed tobacco in first place, alcohol third, and illicit drugs eighth (WHO, 2002).

Mental Disorders

As noted earlier, studies report lower rates of mental health issues for Latinos in Latin America than in the United States. One example of this is anxiety disorders (WHO, 2004b). Another example is reported by Swanson, Linskey, Quintero-Salinas, Pumariega, and Holzer (1992), who found lower rates of depressive symptoms, drug use, and suicidal ideation among adolescents in Mexico than Mexican American youth in Texas.

In a study of Mexican Americans in California, Vega and his colleagues (1998) reported similarly higher rates of anxiety (18.5%), mood (24.1%), and substance abuse disorders (29.3%) in the U.S.-born Mexican origin population. Significantly lower rates were found for immigrants born in Mexico, especially those who had 13 years or less of residence in the United States (anxiety, 5.9%; depression, 7.6%; and substance abuse, 9.7%). Those who had 13 or more years post migration had higher rates than (anxiety, 10.8%; depression, 17.1%; and substance abuse, 14.3%).

In another study of Miami boys in the sixth and seventh grades, Vega, Gil, Warheit, Apospori, and Zimmerman (1993) reported variations in suicide attempts between different Latino ethnic groups and a higher incidence of suicidal attempts among non-Hispanic whites. They suspect that for Latino youth acculturation stress and drug use may result in an increased risk for suicide attempts.

Regarding mental health service utilization, Medina-Mora and Fleiz (2003) reported that services (formal and informal services) were underutilized, with 11.7% of those with at least one diagnosis, 19.4% of those with two diagnoses, and 11.2% of those with three or more seeking service. The most frequent provider of these services was a general physician.

In one study of low- and middle-income Mexican communities, 42% of those with anxiety or affective disorders reported telling a general physician about their problems. Psychologists placed second and psychiatrists ranked third for males and the clergy ranked third for females. In fourth place were traditional

healers. Nine percent of the male sample and 11% of the female sample used this alternative healing approach (Medina-Mora et al., 1997).

Barriers to care include beliefs that the treatment was ineffective for mental problems (58% of males and 68% of females), that access was difficult (16% and 22%, respectively), and respondents had no information (8% and 14%). Barriers were related to low educational status and family income (Medina-Mora et al., 1997). The stigma related to a psychiatric condition still exists. For example, males in an urban area reported concern with the opinion of their employers if they found out about their mental health issues, and females reported concern about the opinion of family members (Caraveo, Martinez, Rivera, & Polo, 1997).

As there are few specialized facilities available for persons with mental problem in rural areas, a visit to a psychiatrist might take a day or longer and involve considerable expense. For this and others reasons like belief, traditional healers and other informal agents are used (Salgado de Snyder & Diaz-Perez, 1999).

Unfortunately, service utilization in the United States is similar in its inability to reach people in need of help. For a variety of reasons including language barriers, legal status, stigma, and service availability, services are neither readily available nor sought after by the Latino population.

Comorbidity

The most common comorbid disorders are drug and alcohol substance disorders. It is estimated that the risk of suffering from one when the other is present is increased between 6 and 13 times. The likelihood of a drug disorder when there is a bipolar type I diagnosis is estimated to be 11 times higher, and for an alcohol disorder, 6 times higher. When the diagnosis is major depressive disorder, the risk of a cannabinoid use disorder is 5 times more likely, alcohol use disorder is between 3 and 4 times higher and cocaine use disorder is 5 times more likely. Also, post traumatic and substance use disorder co-occur with a three-fold greater likelihood and phobias are twice as likely (Hubbard & Martin, 2001).

For the World Mental Health Surveys initiative, participating countries assessed the natural history of mental disorders including substance abuse. The study design allowed for the assessment of likelihood for comorbidity and the ages of onset and progression of disorders. The following data reported for the first time in this chapter come from the study conducted in Mexico (Medina-Mora & Fleiz, 2003). The target population was non institutionalized inhabitants from households in urban locations of more than 2,500 people between the ages of 18 to 65 years of age. That group represents 72% of the national population. The instrument used was the World Mental Health Surveys' version of the Composite International Diagnostic Interview—WMH-CIDI certified version 15- (WHO, 2001). The overall response rate was 76.6%.

For this analysis, published for the first time in this chapter, individual DSM-IV mental disorders were grouped as: (1) affective disorders; (2) anxiety disorders; (3) impulsive disorders that included attention-deficit disorder and eating disorders; and (4) substance abuse disorders that included alcohol and other psychoactive drugs. The likelihood of comorbid disorders as well as prediction of substance abuse disorders was analyzed also.

Eighteen percent of the sample had one or more psychiatric disorders. Slightly less than 12% (11.5%) had one disorder; 3.8% had two disorders; and 2.4% had three or more disorders. Anxiety disorders had the earliest age of onset. Within this group of disorders, the median age of onset for specific phobia was 8 years old. Substance abuse disorders showed the next youngest median ages of onset, the earliest for drug dependence (17 years) and abuse (18 years), followed by alcohol abuse (22 years) and both alcohol dependence (25 years) and tobacco dependence (25 years). Mood disorders were estimated to have the latest ages of onset, especially for major depression. The median age of onset of major depression was 24 years, 19 years for hypomania, and 20 years for mania. Data indicated a strong relationship between anxiety disorders, affective disorders, and substance misuse and dependence.

Further data analyses showed that half of the cases of depressions and about two thirds of the cases of anxiety disorders occurred prior to developing substance problem. Finally, the odd ratios for presenting a substance abuse/dependence disorder when there is a preexisting mental disorder indicate that when mental problems precede drug exposure it is more likely for females than for males to develop a substance abuse/dependence disorder

These findings are consistent with those of other studies. Substance abuse disorders with mood and anxiety disorders have been reliably observed regardless of culture and geographic location (Merikangas et al., 1998). Results from the WHO International Consortium in Psychiatric Epidemiology (ICPE) across multiple sites demonstrated a strong association between mood and anxiety disorders as well as conduct and antisocial personality disorder with substance use disorders at all sites (Merikangas et al., 1998).

Treatment of Comorbid Disorders

The evidence presented clearly suggests an urgent need to identify and treat persons with comorbid disorders. Many abusers of legal and illicit substances have underlying psychiatric disorders, and appropriate treatment for their illnesses would benefit not only themselves but their families as well.

Due to an increased risk of suicide and poor compliance with treatment, substance-abusing depressed individuals require an intensive treatment intervention that often includes a period of hospitalization for detoxification and other purposes. The literature suggests these individuals can benefit from pharmacological and psychosocial interventions. Finally, the unique life

circumstances of Latinos discussed in this chapter requires mental health clinicians in the United States to be especially sensitive to the needs of the Latino population. Such sensitivity may bridge the language and stigma barrier, it may also bring a new awareness to the complexity of the lives of these individuals who find themselves living in the United States for a variety of reasons—some desirable others not as desirable.

Conclusion

This chapter has reviewed the evidence about depression, substance abuse, and sociocultural factors among Latinos in the United States and their countries of origin. Despite existing evidence, there remains a need for sound and comparable epidemiological studies in this area. The World Mental Health Surveys initiative is an important step in this respect (Kessler et al., 2001). A better understanding of neurobiological mechanisms, genetic predisposition and development, and psycho-social-cultural factors that affect inherited and acquired vulnerabilities, in the context of communities, families and peers is also needed.

The relationship between depression and substance abuse disorders supports the need for individuals with substance abuse to be evaluated for mood disorders and, in turn, that persons with depressive disorders be evaluated for substance abuse disorders.

Comorbidity affects Latinos in particular ways determined by minority status, migration and cultural issues. There are important differences between Latinos originating from various racial and ethnic backgrounds, sociocultural and economic considerations both in their countries of origin and in their lives in the United States. These differences can affect rates of drug use, stress, coping styles, psychiatric disorders, rates of disabilities, and service utilization.

Finally, a gender perspective is important. The data reviewed describe important differences between males and females. Cultural female role expectations in Latin America place a special burden on those who develop a substance abuse disorder.

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Chapter 5

Cultural Considerations in the Diagnosis and Classification of Depression: The Hispanic Perspective

Renato D. Alarcón

Personal Journey: Renato D. Alarcón

It was a sunny weekend afternoon in Atlanta. Dressed in a T-shirt and blue-jeans I was cutting the grass and enjoying the exercise. Suddenly, the lawn mower got stuck, and I did the most naïve (or stupid) thing one can imagine: without turning the engine off, I put my hand under the blades attempting to clear the path. A sharp pain only meant that in an instant, two fingernails had been “erased,” and one finger severely fractured. My wife took me to the Emory Hospital ER (I was professor and vice-chair of psychiatry at the time). The radiology technician took a look at the X-rays of my hand. Then he looked at me—brown, sweaty, dusty, with a bloodied hand wrapped in gauze: “Sorry man,” he said “you’ll have to change your line of work, no more cutting the grass, get a safer job. Perhaps you can learn to make hamburgers or tortillas at McDonald’s.”

I had decided to be a psychiatrist early in my high school years. When I was 11, my father gave me, a book on psychology, written by the greatest Latin American psychiatrist of all time, Honorio Delgado, as a birthday gift. Delgado was born in Arequipa, my hometown in Perú, a city known for its rebellious adherence to reason, justice, and freedom, and for its love of knowledge and poetry. He had introduced psychoanalysis in the Spanish-speaking world, trained in Germany with Schneider and Conrad, followed Kraepelin and Jaspers’ nosological and phenomenological thinking; he was a neurobiologist and a humanist, a scientist and a philosopher, a Renaissance man—my first intellectual hero.

I pursued my studies at the Peruvian University Cayetano Heredia (UPCH), in Lima, graduating in 1966. The following year, I came to Johns Hopkins as a fellow in psychosomatic medicine, completed my residency training in psychiatry, then another fellowship in clinical psychopharmacology. After also earning a master of public health degree at Hopkins, I returned to Lima in 1972, and worked at UPCH and in private practice for the next eight years. This

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homecoming allowed me to repay my country for all it had given me during my formative years. It also allowed me to renew and enjoy a close relationship with my large extended family, and learn from gifted teachers and colleagues whose friendship and inspiration will remain with me forever.

My desire to do clinical work and research in a full-time academic environment eventually pulled me back to the United States in 1980. I came to work at the University of Alabama in Birmingham (UAB), where I remained for the next 13 years. Educating and training future colleagues, examining and implementing research ideas, these were the real joys of my years at UAB. I was able to value the virtues of teamwork, and the bittersweet taste of administrative responsibilities. The lessons learned from these challenges undoubtedly refined the compass to be used in future journeys.

It was also during the 1980's that I first made close contacts with other Hispanic psychiatrists in the United States. I witnessed the clamor of growing minorities, the subtle and not-so-subtle consequences of racism and social injustice. I perceived the collision course of different psychiatric philosophies and ways of looking at mental health and mental illness—at life. At the same time, I felt I was a tiny but relevant part of America's continuous search for balance and fairness, its almost naïve desire to lead the world through clean and lofty pathways, in spite of its sometimes maddening provincialism and its lack of a genuine engagement with the world beyond its borders.

Between 1993 and 2002, I worked at Emory University School of Medicine, Department of Psychiatry and Behavioral Sciences. The telling anecdote that opens this essay is from this period. At the time, it brought into sharp focus the issues of identity, perception, prejudice, and stereotyping so pervasive in the everyday life of Hispanics in the United States—issues that I, as a professional, had been somewhat shielded from. My administrative responsibilities as chief of psychiatry at the Atlanta VA Medical Center were enormous, the challenges were great, but the balance was rich. I walked the thin line between the purely academic mentality (arrogant, narrow-minded, conceptually brilliant, at times dictatorial in establishing the “rules of the game” with its affiliates), and a massive, impersonal, rigid federal bureaucracy. I faced the dilemmas of fair and bright idealism vs. mediocrity and darkness. I focused my research on post-traumatic stress disorder, and became even more aware of the growth of the Hispanic community and its emerging health and mental health needs. My participation in different national and international organizations gave me new perspectives on culturally based problems in clinical work, diagnosis, treatment, research, and academic endeavors. And an interesting thing was also happening: through my work, I felt more and more identified with the Hispanic community in the United States, but also gained a fundamental understanding of myself as an American, as part of this nation's valuable experiment in integration.

For the last 14 months, I have worked at Mayo Clinic and the Mayo Clinic College of Medicine. Mayo is a unique institution, admirably respectful of the true meaning of its triple shield (clinical care, education, and research) in an

atmosphere of mutual cooperation and open dialogue. There is always an anticipation of better times, a cogent mixture of idealism and pragmatism, a sense of destiny supported by an impeccable history. Mayo's essential worldview is hopeful: the notion that even supposedly unreachable goals are reachable. The clinic's international scope forces us to look at the world as a plausible and real setting for great accomplishments in science and medicine. Mayo is both protagonist and participant in the current extraordinary development of scientific, technological, and research resources, as well as a leader in the preservation of the eternal humanistic values of medical practice.

My Latino identity has inevitably been forged by all these experiences. Yes, Hispanics are the largest minority group in this country; yes, we have a growing voice in public affairs, and play an ever-greater role in the social fabric and economic power of the country. Yet, Hispanics also are among the poorest segments of American society, and we have not fully escaped racism, discrimination, stigma, and plain injustice. As our educational levels and our economic power remain circumscribed, so too is our ability to realize the dream we came to seek.

On the other hand, the Hispanic populations, though diverse, share more than a set of disheartening socioeconomic indicators. I have learned to look for similarities rather than differences within the Hispanic community. A shared ethnicity forms the backbone of Hispanic: a culture of strong family ties, respect for parental and authority figures, firm religious and moral values, a socio-centrism that still makes parents, home, and family bastions of memories, legacies, and actions. Yet, the pervasiveness of substance abuse, domestic violence, and other consequences of living at the margins are alarming reminders of an ongoing alienation from the American project. It is our duty to take up these challenges and look creatively for solutions, engaging potential adversaries, making the voice of the voiceless heard across the land, and, at the center of political powers, making certain, in short, that a Latino physician cutting his grass or a Latino laborer working on a farm, when seen in the emergency department of any hospital, is first and foremost a human being, and not a stereotyped piece of a sadistic chess game. This search and this hope—anchored by interests in diagnosis, psychotherapy, the links between neurobiology and culture, cultural competence, and relativism as both a pragmatic and heuristic principle—will only end when my ashes return to Arequipa.

Introduction

Mental health clinicians working in different regions of the world agree on the complexity of the diagnostic process. Arriving at a comprehensive perspective on the patient's clinical history, symptoms, behaviors, emotional correlates, and eventual neurobiological substrates entails the assessment of observed psychopathological events, environmental factors, information from individuals

connected with the person identified as a patient, and, most importantly, the patient's subjective report. The clinician, then, processes all these data, discerns relevant and irrelevant details, "digests" the array of observations and reports, and, finally, summarizes the whole picture using some of the diagnostic terms or labels provided by the official nomenclatures. All these processes, incidentally, are included in the etymological origin and the definition of the word *diagnosis* (Nurcombe & Gallagher, 1986).

There are both traditional and modern versions of the scope and impact of diagnosis in medicine and psychiatry. The traditional roles incorporate the need for a solid systematization of knowledge, delineation of clinical symptoms and syndromes, proven, intuited or consensually accepted implications of causality and course of the clinical events, implicit or explicit indications and guidelines for treatment, and an educated assessment of prognosis. In modern times, the use and applications of diagnosis have expanded considerably. Today, diagnoses are considered essential components of epidemiological surveys conducted with sophisticated instruments and tools. Diagnosis helps in the elucidation of risk and protective factors in the evolvement of any given clinical condition, and ascertains the roles (both pathogenic and protective) of families and communities surrounding the identified patient. Diagnosis forms the basis for policy-making decisions, and of different rules and regulations regarding delivery of services to communities, cities, entire nations, and regions of the world. Last but not least, modern times have made the need to actively incorporate cultural elements both in the structure and desired outcomes of the diagnostic process, explicit (Group for the Advancement of Psychiatry, Committee on Cultural Psychiatry, 2001).

Enter, then, the concept of culture, defined as a set of meanings, behavioral norms, and values or reference points utilized by members of a particular society as they construct their unique view of the world, and ascertain their identity. Culture must be conceived in very dynamic terms. It changes from one generation to the next. Originally, culture was comprised of so-called material elements such as diet, tools, housing, etc. Centuries later, it acquired its current, universally accepted meaning, namely the consideration of a number of variables such as language, nonverbal expressions, traditions, values, religious beliefs, moral thoughts and practices, social relationships, gender and sexual orientation, and socioeconomic status. More recently, culture has absorbed the notions of financial philosophies, and the ever-changing realities imposed by technological advances (Alarcón, 1995). The range of possible interactions between culture, clinical phenomena in general, and psychiatric diagnosis in particular is impressively broad.

While the concept and scope of *culture* differ from those of *race* and *ethnicity*, the confusion among these three terms still persists. Race has a physiognomic, descriptive, superficial quality, which, paradoxically, carries a strong political weight. In fact, the concept of race is not as solid conceptually and epistemologically as the concept of ethnicity, which implies powerful components of identity, feelings of belonging, and commonality of views and values that

identify groups from the same geographic or historical origin. Thus, there may be Blacks or individuals of African descent who, having been brought up in Brazil, are culturally and ethnically Latinos, therefore not to be considered Africans or “Blacks.” By the same token, the so-called Asian cultures actually do not have a monolithic presence as they include numerous ethnicities and, therefore, different cultural heritages.

The same relativistic approach must be used when talking about the Hispanic or Latino culture, even more so in a diverse society such as the United States. Considered the largest demographic minority in the United States according to the latest census figures, the Latino population (the majority of which is comprised of immigrants) is projected to grow from its current 14% to 25% in 2050 (U.S. Bureau of Census, 2006). It is also composed of a variety of subgroups. From the almost 45 million Hispanics currently living in the United States, 64% are of Mexican origin; about 14% are of Puerto Rican, Dominican, and Caribbean origin; 9% of Cuban origin; and the remainder are from Central and South America. Geographically, the accepted notion is that Mexican Americans are located mostly in the Western and Southwestern states; Puerto Ricans and Caribbeans in the Northeast, particularly New York and New Jersey; Cubans in Florida; and Central and South Americans in the Southeast or Midwest. However, the growth of this population has made it very difficult to assign it to specific geographic locations. There is an extensive relocation of Hispanic groups to areas that were considered “untouched” by this new wave of immigrants until a few years ago. As a result, states such as North Carolina, Georgia, Nebraska, and Michigan have seen an impressive rise in the number of Hispanics. This has changed the economic, social, political, and public health scope of the whole country (Lopez & Katz, 2001). Clearly, the cultural impact of these changes deserves the very close attention of social scientists, health professionals, and elected public officers alike.

Sociocultural Characteristics of Hispanic Populations

Any study of the cultural aspects of the diagnosis and classification of depression in Hispanic populations must include examination of the sociocultural characteristics of this demographic group. In addition, a variety of features distinguish Hispanics from other ethnic minorities in the United States. They grant credibility to the generic notion that somehow, despite obvious differences, the several segments of the Latino population share common denominators of a strong sociocultural nature (Menjívar, 2002; Stavans, 1999). By far, the most important characteristic is the use of Spanish as the main language; even individuals of Portuguese descent are able to understand Spanish, thus facilitating communication among the different Latino/Hispanic subgroups.

The religious factor also is a distinctive mark of Hispanic groups: more than two thirds are Catholic, and about one fourth are members of other Christian

groups. Perhaps the most important feature of religion among Hispanics has to do with what social scientists call the personalization of religious convictions, the peculiar and unique relationship between the believers and the Catholic Church deities. On the other hand, the Catholic/Christian tradition imbues its practitioners with an enormous sense of guilt and shame when rules or dogmas are violated. The mental health implications of these tenets are obvious (Lukoff, Lu, & Turner, 1995). Finally, spiritualism plays a significant role in the population's perceptions of health and illness issues, explanatory approaches that may have a "double-edged" implication. On the one hand, they may provide consolation and refuge against the adversity of illness and its flagellations, but on the other, the same level of resignation and passivity may militate against the potential success of some therapeutic interventions (Rogler, 1993).

The role of family is central among Hispanic groups. It provides a stronger sense of identity and network support, as well as pride and a sense of having roots (or being rooted) despite physical or geographic distances. The concept of *familism*, meaning that family needs and views prevail over individual ones, is a reflection of this process. *Familism* emphasizes the value of interdependence, connectedness, and sharing, while at the same time optimizing the management of problems within such natural support systems (Portes & Rumbaut, 1997). Another result is a strong sense of privacy that goes along with the avoidant approaches substantiated by the guilt and shame mentioned above (Triandis, Marin, Betancourt, Lisansky, & Chang, 1982). At the same time, life events, among which disease symptoms are extraordinarily important, are attributed to external forces against which the family group rallies in a display of unity and strength (Suarez-Orozco, Todorova, & Louis, 2002).

There are other common and even controversial depictions of Hispanic populations in the United States. The perception of rigid sex or gender roles colored by nonegalitarianism gives way to the stereotype of *machismo*, a tyrannical, strong, almost dictatorial approach of males to the relationship with the opposite sex (Carrillo, 2001; Vigil, 1988).

Interestingly enough, Hispanic women have contributed to the shaping of a different notion, which may be equal to or even stronger than *machismo*. Called *Marianism*, it privileges the role of women as the permanent presence in households and family groups—strong, devoted, peaceful yet powerful in their own way, very much as the figure of the Virgin Mary has emerged in the history of Catholicism (Gil & Vasquez, 1996). Characteristics such as fatalism (acceptance of adversity with stoic resignation) (Neff & Hoppe, 1993), dependency (subordination to authority figures, external situations, or even social, economic and political realities), high emotionalism (hyperexpressiveness of affective and other emotional states), and guardedness (short of distressfulness, a cautious approach to strangers, and fast, searching return to relatives or friends when exposed to new or novel situations) are combined with concomitant hypersuggestibility (easiness to be persuaded by external influences) (Schwartz, Montgomery, & Briones, 2005; Ticho, 1971).

Epidemiological studies clearly show a high incidence and prevalence of depression among Latino groups in the United States, higher among second-generation U.S.-born Hispanics than among immigrants (Alegría et al., 2006; Vega et al., 1998). In the clinical (symptomatic and syndromic) field, Hispanic patients, like many of their counterparts in other countries, particularly those from the so-called Third World, seem to exhibit significant levels of somatization (Escobar, Burnam, Karno, Forsythe, & Golding, 1987; León et al., 2003). These bodily symptoms, without consistent anatomic or physiological correlates, are particularly predominant in depressive and other affective states. Finally, the Hispanic culture is a good example of what many call the “pathogenic power of culture,” namely the firmly entrenched beliefs that some factors coming from the cultural endowment of the group or community may influence the triggering, occurrence, severity, and course of a number of illnesses, including those uniquely rooted in native environments—the so-called “culture-bound syndromes” (Briones et al., 1990; Lewis-Fernández, Tun, Reyes, Sánchez-Lacay, & Caracci, 2000). These folkloric beliefs reflect not only a deeper religious and spiritual commitment on the side of this population, but also the propensity to exaggerations from mythical rituals to sheer charlatanism. As a result, beliefs in magic and the supernatural as important factors in health and illness make the Hispanic populations a large natural laboratory for anthropologically oriented health researchers. The “witches” and *brujos* can do good or evil; *curanderos* or folk healers treat symptoms with traditional medicines and rituals; spiritists (*espiritistas*) talk to the spirits in order to heal; *yerberos* or herbolaries treat exclusively with herbs and plants. Regardless of their primary work, all of them may perform *limpias* or “processes aimed at the spiritual, and therefore physical purification of the affected person” (Durie, 2003; Vega, 1982).

Cultural Dimensions in the Diagnosis of Depression among Hispanics

Roberto is a 24-year-old, single, Hispanic, college-educated male, the oldest of three children who came to the United States as an immigrant with his family, when he was 7. A mechanic by occupation, he self-referred to a Community Mental Health Clinic saying that he felt “tired, aching all over my body,” and had been having outbursts of anger and frustration at work.

The patient initially had some difficulties learning to speak English, but nine months after his arrival in the United States he already was able to speak fluently although with some accent. He started first grade in a school located in a predominantly white neighborhood. His academic performance was less than average, he made only a few friends at first, and was quiet and isolated in school, but rather talkative at home where his relative success playing soccer was his favorite topic. He was also very “obedient” according to his mother, and always

went to the first mass every Sunday at the neighborhood Catholic Church. On occasion, when he was 9 or 10 years old, he would complain to his mother about his classmates making fun of his accent, as well as of his skin color. Sometimes he reported these in tears; other times, he was visibly angry and agitated. Nevertheless, he always listened to his mother's exhortations to accept these as "facts of life."

The impact of cultural factors on different aspects of the depressive experience among Hispanics is extremely significant. The origin, clinical features, meaning of symptoms, somatic concomitants, and management issues have profound cultural implications. The five clinical dimensions of contemporary cultural psychiatry (Alarcón, Westermeyer, Foulks, & Ruiz, 1999) clearly can be applied to these interactions. The first dimension concerns the interpretive/explanatory role of culture, which is aimed, primarily, at the depathologization of observed behaviors. In the case of Hispanic populations facing the clinical realities of depression, it is, however, important to rescue this cultural principle. Some behavioral manifestations that Hispanic individuals present may not have to be labeled clinically as depressive, pathological, abnormal, or dysfunctional. Culture provides a way to understand such behaviors in a context that confers objective validity, normality, and subsequent acceptance and respect for these types of behavior. The setting of grief or bereavement among Hispanics, for example, is such that the way individuals dress after the death of a loved one (all in black, called *luto*), plus the continued remembrance, weekly, monthly, or annually with anniversary mass celebrations in the church, family gatherings, and even predetermined emotional outbursts, are part of an extended *duelo*, grief period. This period must not be considered abnormal as it may serve a healing objective, even if the culture has primarily depicted it as a duty owed to the departed. Similarly, pointing to bewitchment as the cause of depression may implicitly exempt the patient from guilt-ridden, aggravating ruminations.

During his adolescent years, Roberto described himself as "curious and adventurous," but he always stayed mostly to himself. During the initial interview, he reported that he had masturbated actively as an adolescent, always feeling "guilty" afterwards; furthermore, he was "afraid" of approaching girls, or having sexual intercourse. His curiosity was more oriented toward going alone to the neighboring park, looking for insects, collecting and studying them. On the other hand, he said that he had always felt pressure from his father about his performance in school, the "need" to become a professional, and have an "upper middle class family." At times, he felt so overwhelmed by this that he entertained the idea of getting into the priesthood. Later, he changed his mind because his attraction for the opposite sex "was getting stronger."

He had his first girlfriend at age 19, a classmate in his senior high school year. She was a Chinese-American girl, a very good student, at the top of her class, and somebody he had "admired" for many years. She was rather sociable, had many friends, but she said to Roberto that she had chosen him "because I was quiet, and seemed to be very sincere." They spent many hours a day together. She encouraged

him to perform better in the school, and he obliged. As a result, his grades during his senior year were quite high and he ended up in the top quartile of his class.

Secondly, culture plays a pathogenic role in the clinical configuration of any entity. Among Hispanics, high emotionality in the face of everyday events, excessive guilt or shame, guardedness, and fear of authority figures may contribute pathogenically (not etiologically) to the production and severity of depressive symptoms. It therefore is important for the clinician to explore such components carefully, including possible links with suicidal ideation or related behaviors. Similarly, the pathoplastic facet of culture, that is, the influence in the shaping and expression of symptoms, has a number of examples among depressive Hispanic patients; for instance, apathetic depressions may be seen in segments or subsegments of Hispanic groups due to the guardedness and passivity described above. On the other hand, some of the high emotional background of other subgroups can induce irritable, dysphoric, or agitated types of depression (Hovey & King, 1996; Pumariega, Rothe, & Pumariega, 2005). Even in the case of psychotic depression, the delusions of the Hispanic patient may strongly reflect a sense of doom, unforgivable guilt, catastrophic outcomes, God's punitive messages, and perennial ostracism.

In applying to college, Roberto tried to stay close to where his girlfriend was planning to go. Nevertheless, this did not materialize as the girlfriend's family moved to the East Coast and the relationship ended. This was quite a shock for him. He felt "abandoned" and "betrayed." Things did not improve when, a few months later, the girlfriend called him long distance to tell him that she now had an American boyfriend. His depression increased, he withdrew from social activities and even from talking about his problems with the closest members of his family. Occasionally he would feel "paranoid," thinking that his classmates "were trying to set me up." He went to see a priest seeking help and advice, started to attend mass three times a week, and twice on Sundays. He prayed, addressing God in the first person, sometimes finding himself talking loudly and demanding God's attention. When he became aware of this, he was quite ashamed, and avoided going out with friends or venturing out of the house even more. He had trouble sleeping, woke up very early in the morning, felt very tired during the day. Occasionally he would not get out of bed and would spend the time reading or writing poetry. He denied suicidal ideation but exhibited an occasional passive death wish.

Culture can be a therapeutic and protective instrument vis-à-vis different types of psychopathology. The close-knit nature of Hispanic families can be significantly reinforced by the presence of emotionally disturbed individuals in their midst. The hierarchical structure is utilized to protect the identified patient from real or potential stressors, to rearrange roles, and "face the bad times together." Although the level of stigmatization among Hispanic families remains to be assessed, the protectiveness of the affected family is evident, and the tolerance toward the handicaps and burdens imposed by the depressive condition and its management is demonstrably higher in this group. Finally, psychotherapeutic approaches to depression in Hispanics are most definitely

colored by cultural features such as the use of sayings (*dichos*), stories, inspirational techniques, and religious-based supportive strategies (Koss-Chioino & Vargas, 1999).

At one point, Roberto asked to talk with his father alone. However, when they got together he could not address the issues that were worrying him. He thought that his father “was a good man but was not sophisticated enough to understand my problems.” Later he felt very guilty that he had underestimated his father’s wisdom, but did not find a way to apologize or ask for forgiveness. When asked whom he trusted the most, his immediate response was “my mother, my father and my priest.” When he came to the clinic, he had dropped out of his first year in a master’s program in economics, and returned to work as a mechanic. He had been feeling despondent for several months but did not want to come to a psychiatrist “because I didn’t want people to think I was crazy.” Finally, he decided to come, but initially gave a different name, and said that he came “because of headaches.” When, finally, he found the courage to present his full case, he was an articulate, polite young man. He could not sustain the interviewer’s look, kept his head down throughout most of the interview, spoke softly, but provided good information. At some point, while describing the end of his romantic relationship, he broke into tears and admitted feeling “very confused, because I still love her.” He gradually calmed down, used his hands and body language very profusely, and at the end of the interview, said that he was feeling “much better, because I have unloaded a great deal here.”

For a depressed Hispanic patient, the cultural components of service provision and management styles are features of crucial importance. Because of their strong family bonding, these patients may need to be evaluated with the rest of the family. This sociocentrism is crucial for the patient’s sense of support and hope of recovery. The clinician or mental health professional must be culturally competent (Cross, Bazron, & Dennis, 1989; Koss-Chioino & Vargas, 1999), recognize and respect these expectations from the patient and his/her family, and facilitate the process by offering cultural incentives for the patient’s well being and perception of helpfulness. The depressed Hispanic patient may experience a deep sense of loneliness and fear of abandonment, an expression of how much the loss represents in his/her life. Therefore, the Hispanic perspective (and expectation) in the provision of support entails close interpersonal attachment and expressions of genuine affection. The use of interpreters, clinical resources from the community itself, or Spanish-speaking professionals can only help in this process.

DSM-IV-TR Cultural Formulation and the Hispanic Depressed Patient

In the area of diagnosis and classification, the cultural features of Hispanic patients acquire greater significance when depression occurs. The most pragmatic approach to this entails the active and systematic use of the DSM-IV-TR Outline

for Cultural Formulation (CF) (American Psychiatric Association, 2001). This comprehensive outline of different aspects of the culture-psychopathology interactions can assist the clinician in a more precise delineation of diagnostic and therapeutic objectives. In addition, it can give him/her a broader perspective on the sheer existential aspects of depression. Unfortunately, there is a dearth of systematic studies on the use of the CF in Hispanic populations. Nevertheless, the instrument can be used both clinically and in research projects on depression and other conditions. The outline has five sections, which are discussed below.

Part A of the CF pertains to an accurate description of the cultural identity of the individual, including ethnic or cultural reference groups, level of acculturation, and language, including multilingualism. When applied to depression, the more salient features are related to the degree of pathogenicity of the environment, early childhood and household experiences, possible history of domestic violence, strict religiously based family rules, level of education, and other factors. It is critical that the clinician know about these subcultural features, hierarchy, and organizational and functional characteristics of the family group as possible factors in the development of clinical symptoms.

Part B elicits cultural explanations of the individual's illness or the so-called "explanatory models" offered by the individual regarding his/her own illness and its symptoms (Lewis-Fernandez & Kleinman, 1995; Lim, 2006). Hispanic culture's explanations of depression encompass idioms of distress (i.e., strong somatization), and perceived causes such as bewitchment, ill intentions, envy, or deserved divine punishment for faults or sins. Again, the diagnosis should include these explanations because of their powerful impact on the therapeutic approaches to be used in specific cases.

Part C deals with factors related to psychosocial environment and level of functioning, include culturally relevant interpretations of social stressors, available social supports, and levels of disability. In the case of depression among Hispanics, they represent the translation of those explanations and cultural interpretations into professionally adequate perspectives. Understanding the role of religion and kin networks in the provision or withdrawal of emotional, instrumental, or informational support will help significantly in the clinician's grasp of the individual and collective response toward depressive symptoms (Kirmayer, 1989). The level of disruption or support generated by the symptoms, the position of the ill person, and the concomitant tensions within the family are real doors into the life of the family group, its cultural constellation, and the assessment of prognosis.

When the mental health professional told Roberto that he should come to therapy on a once-a-week basis, he demurred, and was able to "negotiate" to come only once a month. Four months later, he was still in therapy, had returned to full activities in his social milieu, and was planning to date another girl on a steady basis. In the course of therapy, one of his father's brothers died in a car accident. The patient came dressed in black, said that he had to attend several religious services for "the soul of my uncle," and was visibly shaken. He also confided that he had a very close friend from his childhood, another Hispanic

young man who was attending a neighboring college, and they had re-established contact after many years. He was very happy for this, and was planning to see his friend fairly often.

At the start of treatment, the counselor consulted with a psychiatrist who prescribed a small dose of an antidepressant. Initially, the patient experienced sleepiness, significant dryness of mouth, and some heaviness in his arms and legs. The dose was titrated down, and the side effects disappeared. The clinical response in the next three months was very good.

Part D of the CF deals with the cultural elements of the relationship between the individual and the clinician. The Hispanic patient respects authority figures on the basis of the esteem he/she owes to the family's elders, and to the tradition and legacy that they represent. In such a sense, this item has both the implication of submissiveness, but also that of faith and hope. The Hispanic depressed patient may be guarded initially, dependent or passive, but once his trust is won over by the clinician, his/her level of cooperation with treatment plans will increase significantly. The improved cooperation will, in turn, increase the possibility of a favorable outcome. The clinician's style undoubtedly will have meaningful repercussions, both in favor of or against the elicitation and level of the patient's cooperation.

Finally, Part E of the CF is the overall cultural assessment for diagnosis and care, which is made, after all the prior information has been accumulated. A summary discussion of the cultural considerations substantiating a comprehensive diagnosis and care plan of the depressive episode is at the core of this section. In the case of depression, it will allow the clinician to dissect the pathogenic or negative aspects of the patient's cultural frame of reference, as well as the strengths, principles, and values that will help to outline a treatment plan. The plan should aim at both the symptomatic, or phenomenological/descriptive aspects of the depressive condition, and its human, social, cultural and existential parameters.

Suggestions for Diagnosis and Classification of Depression among Hispanics

There are general and specific suggestions to be made in this area:

General

Clinical and epidemiological surveys of depression among Hispanic populations in the United States (Adler et al., 1994; Alegría et al., 2006; Golding & Lipton, 1990) offer significant support to culturally specific suggestions regarding diagnosis and classification of depression. If possible, it is important for clinicians and researchers to correlate these findings with those of

research studies in the continent of origin, namely Mexico and Central and South America (Caraveo-Anduaga, Colmenares, & Saldívar, 1999a; Caraveo-Anduaga et al., 1999b; Castellanos, Jacobs-Alvarez, & Castellanos, 2002; Medina-Mora et al., 2003).

It is important to recognize the potentially pathogenic role of “Americanization” as outlined by Vega et al. (1998). It also is relevant to recognize the avatars of acculturation and the acculturative stress with its significant depressive component (Alarcón, 2003; Rogler, Cortes, & Malgady, 1991; Smart & Smart, 1995). It is crucial to assess the potential fragmentation of the Latino family due to work demands, geographic separations, weakening of parental authority, and other stressors. This growing fragility of family links that is reflected in increasing reports of domestic violence and antisocial behavior by Hispanic youth gangs (Blue & Griffith, 1995; Rodriguez, Bauer, & Flores-Ortiz, 2001) has a powerful pathogenic role, not only in the triggering of depressive symptoms, but of other conditions including drug and alcohol abuse, post-traumatic stress, and personality disorders. Oscillating suicide rates reflect factors of a strong cultural nature such as acculturation, the influence of the Catholic church, issues of social stigma, an understudied aspect among Hispanic groups, the role of gender, and the psychopathology under study (Castellanos et al., 2002; Muñoz, Boddy, Prime, & Muñoz, 1990).

The improvement of clinical and diagnostic skills among Hispanic and non-Hispanic mental health professionals and clinicians, the integrated and culturally competent services to these populations, the feasibility of case management with strong cultural features, and the need to strengthen service and outcomes research are extremely important. Finally, the growing significance of ethnopsychopharmacological research as applied to Hispanic groups has important cultural effects that are worthy of study (Mendoza, 2003; Smith & Mendoza, 1998). It deals not only with the different metabolic processes at work, but also with the impact of culture on the practice patterns of clinicians who may use different doses, different ways of administration, different lengths of treatment, and ultimately different diagnostic approaches (i.e., identifying more “psychotic” symptoms) in the assessment of Hispanic depressed patients (Lin, Anderson, & Poland, 1995).

Specific

The diagnostic assessment of depression among Hispanics should include careful, individualized scrutiny of all the variables mentioned above, particularly religiosity, fatalism/pessimism, tendency to somatize, and level of insight. The latter, particularly, has to do with the strong family microculture and sense of privacy alluded to above. Obviously, the use of culturally validated instruments is a matter of critical importance in the diagnostic arena (Bauermeister, Berríos, Jiménez, Acevedo, & Gordon, 1990; Brislin, 1970; Canino, Lewis-Fernández, & Bravo, 1997; Marcos, Urcuyo, Kesselman, & Alpert, 1973).

The issue of somatization among Hispanic patients deserves both clinical and research attention (Escobar et al., 1987). Clinical attention is important because the implications of additional tests to be considered, with the concomitant increase in costs, must be weighed against the real need to rule out physical causes of the behavioral or emotional symptoms. Depression as a systemic condition affects all functions and structures of the human body, and its impact on the cardiovascular system, for instance, is notable among Hispanics (Perez-Stable & Nápoles-Springer, 2001). Once somatization is identified as such in the context of a depressive picture, the management will entail not only educational efforts but also precise behaviorally based approaches. From a classification perspective, one wonders whether this category—somatic depression?—should not be described and included in standard taxonomies with specific criteria and solid multidimensional perspectives.

Suicidality among Hispanics is a topic that deserves thorough consideration (Castellanos et al., 2002). Epidemiological surveys show that suicide rates in Mexico are lower than those among Mexican Americans of first and second generation in the United States (Caraveo-Anduaga et al., 1999b; Felix-Ortiz, Muñoz, & Nurcombe, 1994; Kessler et al., 1994). Interestingly, there are higher rates of suicide among elderly Mexicans but lower rates among women and young men. The means of suicide have not been appropriately evaluated. Psychological autopsies are conspicuous by their scarcity in the literature on Hispanic populations. Young Hispanic men, whose suicide rates are climbing among suicides in the United States, may have greater levels of anger, frustration, and concomitant violence at the root of their self-destructive behavior. In short, suicidality among depressed Hispanic patients has its own characteristic aspects that need to be assessed. Scales should continue to be devised with due ethnic and cultural comparability and validity in order to help in the assessment process.

Hispanic patients represent a significant pool to support adding the category of “anxious depression” to the list of diagnoses in any nomenclature. The co-existence of anxiety and depression, while demonstrated in different groups and in different parts of the world, shows some special characteristics in terms of frequency and intensity among Hispanic patients. A good example is the *ataque de nervios*, a culture-bound syndrome characterized by a range of symptoms from a “frozen,” almost catatonic state to uncontrollable emotional lability against a background of frustration, guilt, and conflict-avoiding behaviors (Lewis-Fernández et al., 2000). This widespread impression is confirmed by the comorbidity between depression and a number of anxiety conditions such as post-traumatic stress disorder, obsessive-compulsive disorder, generalized anxiety disorder, and phobic symptoms (Alegría et al., 2006; Regier & Narrow, 2002; Rothe et al., 2002). Dysthymia among Hispanics may be more anxiety-charged than in other groups. It may even be more prominent than the so-called “irritable depression” as it may better reflect the basically quiet and more passive temperamental demeanor of Hispanics.

“Anxious depression” has implications in the consideration of dysphoria as another diagnostic category. Conceptualized as the combination of anxiety and

irritability, dysphoria may express particular syndromic loads among younger members of the Hispanic population.

The appropriate assessment of Axis II may have extraordinary importance for this type of demographic group. It has been said that among the existing Axis II categories in DSM-IV-TR, those of Cluster B (particularly histrionic features) and Cluster C (particularly dependent personality and its concomitant suggestibility) may play a significant role (Alarcón, Foulks, & Vakkur, 1998; First et al., 2002). While genetic backgrounds may play a role in the delineation of these behavioral characteristics, it would be important to study the applicability and utilization of this label as well as the even more controversial categories of borderline personality and schizoaffective disorders among Hispanic populations in detail (Alarcón, 2004).

The endoreactive depression category, which was popular before DSM-III and ICD-9, may have some relevance for Hispanic populations. It has to do not only with the level of dysphoria mentioned above, but with the characteristics of the so-called hyperthymic temperament (Khouri & Akiskal, 1986) that can typically be recognized in the highly emotional expressiveness of Latino individuals. Like in the case of anxious depression, differential diagnosis between this category and varieties of bipolar mood disorders is pertinent.

Finally, the notion of a dual diagnosis in Hispanic patients deserves strong consideration. Conceived as the association of substance abuse (alcohol and drugs) with another psychiatric condition, there are solid reasons to affirm that depression would be the second largest diagnosis (behind anxiety disorders) among dually diagnosed Hispanics. Alcohol and drug abuse are vicarious ways of coping for a population that faces numerous social and interpersonal stressors, both intrafamilial and in its relationship with the outside world in the host country. Rather than assigning a primary category to the alcohol and substance abuse component of the dual diagnosis, clinicians and researchers should strive to look at the pathogenic chain uncovered by clinical epidemiological studies. Adding the notion of cultural epidemiology (Weiss, 2001), namely the patterns of distress, concomitant symptomatology, and help-seeking pathways, would provide the necessary comprehensiveness to this type of diagnostic study.

A Research Agenda

Hispanic mental health professionals have been active participants in the development of the III and IV versions of the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (DSM). Naturally, their contributions have focused on the need to add the essential cultural dimension to diagnostic endeavors. The inclusion of the CF and the glossary of culture-bound syndromes and terms in Appendix I of the DSM-IV TR documents some but not all the expected outcomes of their efforts. To some extent, they also reflect the input that several Latin American groups have had in the elaboration

of national glossaries to complement the criteria and terminology of the World Health Organization's (WHO) 10th edition of the *International Classification of Diseases* (ICD-10, Section V) (Berganza & Jorge, 2002; Otero, Rabelo, & Echazabal, 2001).

Much remains to be done, however. In 1999, the American Psychiatric Association and the National Institute of Mental Health launched an initiative aimed at setting the stage for DSM-V. The most immediate requirement to achieve the goal of a new edition of the manual by the end of the first decade of the 21st century was to generate a research agenda that will provide evidence-based support to all clinical diagnostic areas. Initially, five work groups were created: Neuroscience, Nomenclature, Developmental Issues, Gaps in DSM-IV (particularly focused on Axis II), and Disabilities. As a result of pressure from APA's Council on National Affairs, a sixth group—Cultural Issues—was appointed about eight months later. After more than two years of active work, several presentations at national and international meetings, and joint conferences by the various groups, a book, published in 2002 (Kupfer, First, & Regier, 2002), presented six monographs outlining research recommendations. By promoting interdisciplinary and international cooperation in these efforts, and by “developing alternative research criteria for some disorders that are not constrained by the requirements of the neo-Kraepelinian categorical approach,” (Kupfer et al., 2002, p.xxii) the lofty goal of a truly comprehensive, integrated psychiatric diagnosis of ecumenical scope may still be distant but certainly looks more reachable.

One interesting feature of the research agenda for DSM-V is the pervasiveness of ethnic and cultural issues. The chapter on neuroscience recognizes not only their role in the interpretation of most genetic studies, but also their influence on individuals' vulnerability and resilience, coping styles, cognitive responses to stress, and the nature of social support. The possibilities of ethno-cultural components of endophenotypic manifestations of psychiatric conditions, and the realities of pharmacological epidemiology (i.e., care disparities) (Harman, Edlund, & Fortney, 2004; Lagomasino et al., 2005), and ethnopsychopharmacological findings (in a significant proportion among Hispanic populations) open fascinating avenues in the field of diagnosis.

Similarly, the nomenclature chapter clearly acknowledged the issues of meaning and context, which is dear to cultural psychiatry as essential for the interpretation and application of diagnostic criteria in communities across the globe. Following on the contributions of numerous Hispanic researchers (Rounsaville et al., 2002), it is said that the new nomenclature should include clear delineation of core criteria and recognition of cultural and cross-cultural variants in symptom definition and behavioral and symptomatic manifestations. The Developmental Issues Work Group elaborated further on the topic of context and its effect on the expression of particular behaviors, and on the risk for psychopathology throughout the different developmental phases. The implications of these notions for epidemiology and prevention are both research avenues and quite desirable goals in any diagnostic system.

The Axis II and Gaps Group proposed “to explicate the social, cultural and neurophysiologic mechanisms that explain the impact of maladaptive (and adaptive) personality traits on physical disease, and physical health” (Kupfer et al., 2002, p.146). It also pointed out typological and behavioral differences in different cultures, and remarked on the uneven results of well-known measurement instruments in different ethnic groups, such as Hispanics. Similar comments came from the Disabilities Group, which also focused on pathways, comorbidity (depression being a frequent co-occurrence or sequelae of disability and handicaps), health services, and government policies.

Research on culture and psychiatric diagnosis with a particular emphasis on depression must start by assessing the desirability factor in diagnostic processes, and the ethnocultural and linguistic biases in mental health evaluations (Kirmayer, 1989; Manson, 1995). In the methodological field, depressive thresholds, predictive power of help-seeking pathways, and utilization of existing assessment instruments, with incorporation of indigenous categories of experience, are some of many topics that deserve investigation. The area of cultural epidemiology and comparative studies (urban-rural, DSM-ICD, international or interhemispheric), with strong reliance on ethnographies as a research tool, are equally relevant. The value of the CF in weighing naturalistic contexts and explanatory models of depression among Hispanics is very significant. In connection with health services and outcomes research, depression must be studied longitudinally to ascertain the impact of issues as varied as risk factors, perception of time, labeling, stigmatization, or expressed emotions. The same applies to studies on the pathogenic and pathoplastic role of the guilt-shame or anger-resentment dichotomies, family and social support systems, and the impact of care disparities on diagnostic practices.

The interaction between culture and neurobiology has, in depression and in the Latino communities, a number of connections with the diagnostic process. The study of the depression-creativity equation (Alarcón et al., 1999) must be added to the ethnopsychopharmacological and pharmacogenetic elucidations about antidepressants in Hispanic patients (Mendoza, 2003), and the influence of ethnicity in possible biological markers and neurophysiological correlates of depression. Finally gender, acculturation, religion, and spirituality are factors whose impact on the diagnosis, course and outcome of depression in Hispanics still needs additional inquiries (Alarcón, 2003; Lukoff et al., 1995; Vidaver, Lafleur, Tong, Bradshaw, & Marts, 2000).

Conclusions

Culture is an important basis of the broad health care system in this country (Satcher, 1999). In its interaction with diagnosis and classification, culture sets up a significant “natural laboratory” (León, 1976) to study not only the basic relationships outlined in the CF, but also deeper links that have to do with the

neurobiological and genetic endowment, and the features of the social fabric, aspirations, and collective role of Hispanic populations in contemporary American society. The specific comments and suggestions included in different sections of this chapter reaffirm the need for changes in the existing classifications and nomenclatures, changes that then will have a significant impact on the mental health care of U.S. Hispanics for decades to come.

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Part II
Prevention, Screening, Assessment,
and Diagnosis of Depression

Chapter 6

Prevention of Depression in Latinos

John E. Pérez and Ricardo F. Muñoz

Personal Journey: John Pérez

My interest in depression stemmed from a love of psychology and a desire to reduce unnecessary human suffering. Among the disorders that cause suffering, depression is one of the most pervasive. I saw an opportunity for psychosocial interventions to make a significant impact on alleviating the suffering caused by depression. Moreover, I was intrigued by the role of culture in shaping the phenomenology of depression. My thinking was shaped by Arthur Kleinman's and Byron Good's (1985) edited book, *Culture and Depression*, which provided anthropological and ethnopsychiatric perspectives on the etiology of depression, symptoms of depression, and help-seeking behavior. In the summer of 1997, I participated in a Fogarty International research training project in Mexico that was led by Steve López of UCLA. Under the direction of Pablo Fariás and George Collier, I had the opportunity to study indigenous categories of mental illness among the highland Maya of Chiapas. I was intrigued that there was no word for depression in Tzeltal or Tsotsil, the two Maya languages spoken in the region. The closest construct to depression was extreme sadness, described as being "two-hearted." One narrative of persistent sadness described the pain as rising from the heart into the head—an eloquent description of both the affective and cognitive dimensions of dysphoria.

During graduate school at Yale University from 1996 to 2002, I studied cognitive and social risk factors for depression, as well as the psychosocial treatment of depression. With the emergence of the positive psychology movement, I became interested in understanding how individual strengths buffered individuals against depression. During this time, I discovered Ricardo Muñoz's work on depression prevention. The concept of preventing the onset of depression was exciting, innovative, and made tremendous sense to me. If we can develop programs to prevent public health problems such as substance abuse

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and HIV, why not work to prevent depression? My work on strengths and resiliency factors fit nicely with the idea of preventing depression. Thus, in 2002, I came to the University of California, San Francisco, as a postdoctoral fellow to work with Dr. Muñoz to develop and evaluate interventions to prevent the onset of major depression.

In 2004, I began my first faculty position as an assistant professor at the University of Massachusetts, Boston. Complementary to my interests in depression prevention in multicultural populations, I study the impact of spirituality and religiousness on health and well-being. In particular, I investigate how people use spiritual and religious resources (e.g., prayer, meditation, support from religious communities) to cope with stress and chronic illnesses such as HIV/AIDS and cancer. My long-term goal is to identify the mechanisms in the link between spirituality and health in order to develop depression prevention interventions that enhance the strengths of Latinos and other multicultural populations.

Personal Journey: Ricardo Muñoz

At age 10, I immigrated from Perú to San Francisco's Mission District, the Latino *barrio* of the city. I quickly had to deal with the immigrant's dilemma: how to decide which ideas and behaviors from each culture to adopt as my own. As a student at Stanford University, I read *Principles of Behavior Modification* (Bandura, 1969) and due to a very fortunate chance encounter (Bandura, 1982), I did my senior honor's thesis with its author, Albert Bandura. The social learning approach I learned under his mentorship (Bandura, 1977), with its strong focus on cognitive factors and self-control approaches (Bandura, 1986, 1997, 2001) has been a key element in my personal and professional activities since then (Psychology Lessons that Transcend Generations, 2005).

As a graduate student at the University of Oregon, in Eugene, I heard an impassioned talk by a psychologist named Richard Ingraham. He chided mental health professionals for waiting in their offices or clinics until people were impaired enough to need treatment. He asked, "Why not go out into the community and share what psychology has learned in order to prevent disorders?" That talk became a key "conversion" experience for me. Ever since then, I have attempted to actualize the idea of prevention and of reaching people in the community, and to test whether interventions intended to be preventive or therapeutic are truly effective. James G. Kelly, a leader in the field of community psychology, served as an important mentor in the development of these ideas (Kelly, Snowden, & Muñoz, 1977; Muñoz & Kelly, 1975; Muñoz, Snowden, & Kelly, 1979).

My dissertation, under Peter Lewinsohn, was a randomized trial using cognitions, increased activity levels, or interpersonal skills training for the treatment of depression. These methods were superior to a waiting control

and not significantly different from each other (Zeiss, Lewinsohn, & Muñoz, 1979). I have continued using these methods ever since, adapting them to a number of health problems (Muñoz & Mendelson, 2005).

Six days after getting my Ph.D., I started to work as a professor at the School of Medicine of the University of California, San Francisco, at one of its teaching hospitals, San Francisco General Hospital, the county hospital in the *barrio* where I grew up (Daw, 2002). My goal is to reach as many people as possible with ways to manage their personal reality (Muñoz, 1996). My ultimate goal is to help individuals to lead a good life, in all senses of the word “good,” and to use psychological science to help individuals reach an optimal state of being within the parameters of our human nature.

Introduction

Major depression is the leading cause of disability worldwide (Murray & López, 1996). It is a chronic and recurrent illness across the lifespan with highly detrimental effects on mental and physical functioning. The Depression Guideline Panel (1993) estimated that persons who have experienced a single episode of major depression have a 50% risk of recurrence; this risk increases to 70% after two episodes and to 90% after three episodes. Moreover, results from the National Comorbidity Survey Replication (NCS-R) suggest that only 22% of 12-month major depressive disorder is adequately treated (Kessler et al., 2003). Such data indicate that efforts to prevent the onset of major depression are warranted.

The burden of depression may be higher among U.S. Latinos than among non-Hispanic Whites. Epidemiological studies show higher rates of major depression for Latinos compared to non-Hispanic Whites (Blazer, Kessler, McGonagle, & Swartz, 1994; Dunlop, Song, Lyons, Manheim, & Chang, 2003). Moreover, Latinos in the United States utilize mental health treatment services at lower rates than do non-Hispanic Whites (Lasser, Himmelstein, Woolhandler, McCormick, & Bor, 2002; Vega, Kolody, Aguilar-Gaxiola, & Catalano, 1999; see Vega, Chapter 2). Prevention services hold promise for reaching Latinos who may fear stigmatization if they seek mental health services. Muñoz and Ying (1993) have suggested that the educational format of prevention programs can make these services more palatable to ethnic minority populations. Moreover, depression prevention programs can be administered in a variety of settings, media, and by health care professionals, paraprofessionals, and lay personnel (Christensen, Miller, & Muñoz, 1978; Muñoz & Ying, 1993).

In this chapter, we describe the developing field of depression prevention, highlighting its impact on Latino populations, and suggest promising future directions for preventing depression among Latinos. We began by describing how we became interested in depression, particularly the prevention of

depression in multicultural populations. Next, we define prevention and provide an overview of research in depression prevention, with an emphasis on applications for Latinos. We also discuss the meaning of culturally competent prevention interventions with Latinos. In addition, we highlight population- and community-level risk factors for depression, as well as potential protective factors that have salience for prevention of depression among Latinos. We discuss the need for multilevel interventions and the promise of innovative approaches for the delivery of depression prevention interventions. Finally, we make specific recommendations for research, practice, and public policy addressing the prevention of depression among Latinos (See Table 1).

Levels of Prevention

The Institute of Medicine (IOM) Report on Preventing Mental Disorders (Mrazek & Haggerty, 1994; Muñoz, Mrazek, & Haggerty, 1996) recommended a clear differentiation among prevention, treatment, and maintenance efforts. *Prevention* refers to interventions that occur prior to the onset of the disorder. *Treatment* refers to interventions occurring after the onset of the disorder to bring an end to the clinical episode. *Maintenance* refers to interventions that occur after the acute episode has abated, in order to prevent relapse, recurrence, or disability in a patient who has received treatment. Prevention interventions are divided into three categories: Universal preventive interventions target a whole population group regardless of risk. Selective preventive interventions target groups with elevated risk for the disorder based on biological, psychological, or social risk factors. Indicated preventive interventions target high-risk individuals with early signs or symptoms of mental disorder but who do not meet current criteria for the disorder.

Muñoz and Ying (1993) describe five steps involved in prevention research:

1. *Identifying the target.* What do you want to prevent? (e.g., depressive symptoms, major depressive episodes, multiple outcomes).
2. *Choosing a theory to guide the intervention.* What mechanisms are involved? (e.g., changes in negative thinking patterns, improved interpersonal skills).
3. *Identifying high-risk groups.* For whom is the intervention most appropriate? (e.g., populations with high levels of depressive symptoms, children of parents with major depression).
4. *Designing the intervention.* How do you propose to prevent the target condition? (e.g., intervention protocols should specify the content and process);
5. *Designing the study.* How will you measure the effects of the intervention? (e.g., randomized, controlled trials, reliable and valid outcome measures, assessment of mediators and moderators).

How well have prevention programs performed thus far? A recent meta-analysis examined factors that predicted the efficacy of 69 depression

prevention programs (Jané-Llopis, Hosman, Jenkins, & Anderson, 2003). Overall, the weighted mean effect size was 0.22, indicating that an 11% improvement in depressive symptoms was achieved through prevention programs. The most effective programs were multicomponent, had more than eight sessions, had sessions between 60 and 90 minutes long, had a high quality of research design, and were delivered by health care providers. In addition, programs that included a competence enhancement component were more effective, whereas programs that included behavioral methods only were less effective. Programs that attempted to foster social support generally did worse than those that did not, except for older participants, for whom social support enhanced the efficacy of the prevention programs. Interestingly, there was no significant difference between universal, selective, and indicated programs.

In the next section, we highlight recent research on the prevention of depression. Because there have been few controlled studies with Latino populations, we include examples with non-Latino samples to illustrate relevant approaches. For instance, we describe randomized controlled studies of prevention interventions that sought to lower levels of *depressive symptoms* among individuals who did not meet criteria for major depressive disorder (MDD). We also present randomized controlled studies aimed at preventing the onset of major depression, an approach that is consistent with the IOM's concept of prevention. For more comprehensive reviews of depression prevention interventions, see Muñoz, Le, Clarke, and Jaycox (2002) and Jané-Llopis et al. (2003).

Randomized, Controlled Prevention Trials Focusing on Depressive Symptoms

Children are rarely diagnosed with major depressive disorder (Garber & Horowitz, 2002). Therefore, the aim of prevention programs with children often has been a significant reduction in depressive symptoms. For example, the Penn Prevention Program is a school-based program designed to prevent depressive symptoms by teaching cognitive-behavioral and social problem-solving skills to children (Gillham, Reivich, Jaycox, & Seligman, 1995; Jaycox, Reivich, Gillham, & Seligman, 1994). The program has been modified for use with ethnically diverse populations, including Chinese children (Yu & Seligman, 2002), African American children, and Latino children (Cardemil, Reivich, & Seligman, 2002). In these studies, the prevention program produced a significant decrease in depressive symptoms at post-test, three-month follow-up, and six-month follow-up among Chinese and U.S. Latino children, but not among African American children.

In the study with Latino children, Cardemil et al. (2002) revised the content of the prevention program (relabelled the Penn Resiliency Program) to make it culturally appropriate for inner-city minority populations. The

cognitive-behavioral program teaches children about the links between thoughts and emotions, how to generate a list of possible explanations for negative life events in their lives, and how to use evidence to choose the most plausible explanations for these events. The race/ethnicity of many of the characters used as examples throughout the program was changed while maintaining the original structure of the program. In addition, many of the problems targeted for discussion reflected issues that were relevant to a low-income, urban environment, such as growing up in a single-parent home and resolving problems without physical confrontation. A two-year follow-up of the Penn Resiliency Program demonstrated that Latino children in the intervention group maintained significantly lower levels of depressive symptoms compared to Latino children in the control group; however, there was no beneficial effect for the African American children (Cardemil, Reivich, Beevers, Seligman, & James, 2007).

Prevention of depressive symptoms also has been attempted with Latina adults. Vega, Valle, Kolody, and Hough (1987) obtained a countywide probability sample of a high-risk population of low-income Mexican-American women between 35 and 50 years of age who were initially exhibiting low levels of depression. The investigators invited participants to interventions intended to prevent higher levels of depression. Intervention conditions used a social learning-based approach focused on instrumental, problem-solving techniques to cope with the stresses that low-income Latina women face. Indigenous Latino natural helpers (*servidoras*) were trained to carry out a one-to-one contact condition (the “link-person” mode) or an educational group (the *merienda educativa* condition). The subgroup with the lowest initial depression levels showed significantly lower depression scores at follow-up when compared to similar controls (Vega, Valle, & Kolody, 1995). Unfortunately, evaluation of diagnostic status at one year was not carried out, so effects on prevention of clinical episodes are not available.

Randomized, Controlled Trials Designed to Prevent Major Depressive Episodes

While there is substantial evidence that depressive symptoms can be reduced through prevention programs, few studies have demonstrated that major depressive episodes (MDEs) can be prevented. Moreover, most studies have focused on non-Latino Whites. Muñoz and colleagues (Muñoz & Ying, 1993; Muñoz, Ying, Armas, Chan, & Gurza, 1987; Muñoz et al., 1995) conducted a selective intervention with Spanish- and English-speaking adult patients in public-sector primary care clinics at San Francisco General Hospital. Notably, 24.3% of the sample was Latino. The intervention was the Depression Prevention Course (Muñoz, 1984, 1998), consisting of eight weekly two-hour group sessions teaching cognitive-behavioral self-control methods in small-group format based on the book *Control Your Depression* (Lewinsohn, Muñoz,

Youngren, & Zeiss, 1978). Both Spanish- and English-language versions of the course were adapted to a low-income, predominantly minority population by simplifying language and using culturally appropriate examples. Of 150 randomized participants, 139 (93% 67 participants from the experimental group and 72 from the control group) were contacted at one year. Of these, six met DIS-DSM-III criteria for major depression during the last year, four in the control group and two in the experimental condition. (Both of the latter were dropouts: one had attended two of the eight sessions, and the other none.) Although these figures are in the predicted direction, the low incidence of MDEs did not allow sufficient statistical power to adequately test whether the rate of new cases was significantly reduced. Depressive symptoms (as measured by the BDI, but not the CES-D) were lower among participants in the prevention group at 12-month follow-up. Furthermore, cognitive-behavioral variables mediated changes in depressive symptoms in the prevention group (Muñoz et al., 1995).

Seligman, Schulman, DeRubeis, and Hollon (1999) conducted an intervention with 231 college freshmen who were selected because they scored in the most pessimistic quartile on a measure of explanatory style. The intervention was the Apex Project, a prevention workshop with eight weekly two-hour group sessions plus six individual meetings teaching cognitive restructuring and problem-solving skills. At the three-year follow-up, there was a nonsignificant trend ($p < .08$) in incidence of major depressive episodes (MDEs) in the workshop group (40% MDE) compared to an assessment-only control group (48% MDE). There were significantly fewer depressive and anxiety symptoms in the prevention group as measured by self-report (Beck Depression Inventory; Beck Anxiety Inventory), but not by clinicians' ratings (Hamilton Depression Rating Scale and Hamilton Anxiety Rating Scale). Improvements in explanatory style, hopelessness, and dysfunctional attitudes partially mediated changes in depressive symptoms in the prevention group.

Clarke and his colleagues demonstrated that clinical episodes of depression *can* be prevented in two studies that focused on adolescents. In one study, Clarke et al. (1995) conducted an intervention with 150 high school students with elevated levels of depressive symptoms. The intervention was the Coping with Stress Course, which included 15 hour-long group sessions teaching cognitive restructuring skills. The authors reported a significantly lower MDE incidence rate in the intervention group versus the usual care control group at 12-month follow-up (14.5% vs. 25.7%, respectively), although no difference in CES-D depressive symptoms was observed. In another study, Clarke et al. (2001) conducted a selective intervention with 94 adolescent offspring of depressed parents, using a modified version of the Coping with Stress Course. Again, the MDE incidence rate was lower in the intervention group versus the usual care control at 12-month follow-up (9.3% vs. 28.8%, respectively). This time, participants in the intervention group also scored lower on the CES-D. These studies suggest that adolescence may be a critical period for the prevention of major depression.

A more recent intervention development project intended to prevent major depressive episodes during pregnancy and postpartum is the San Francisco General Hospital “*Mamás y Bebés*/Mothers and Babies: Mood and Health Project.” The project has completed two initial phases. The first phase consisted of a study designed to identify pregnant women at high risk for a major depressive episode during pregnancy and postpartum in a public sector Women’s Clinic. This study found that women with high scores on self-report depression scales, a history of major depressive episodes, or both, had a 27% incidence rate compared to 3% for the rest of the sample (Le, Muñoz, Soto, Delucchi, & Ghosh-Ippen, 2004). The second phase consisted of developing and pilot testing the Mothers and Babies Course (Muñoz et al., 2001a, 2001b), a 12-session course to be used during pregnancy adapted from the Depression Prevention Course (Muñoz, 1984, 1998). The high-risk sample was identified using the criteria from the earlier high-risk study. The course applies cognitive-behavioral methods within a social learning theory context to increase a woman’s control over her mood, focus her attention on teaching her baby to manage his or her own mood, and to increase attachment between them. Eighty-five percent of the women in the pilot study were Latinas.

The Mothers and Babies Course was developed simultaneously in Spanish and English by the University of California, San Francisco/San Francisco General Hospital Latino Mental Health Research Program. Participant response to the project was highly positive. Pilot testing was carried out to determine the feasibility of conducting a randomized control trial in this public sector setting. The pilot trial yielded major depressive episode incidence rates of 14% for the intervention condition and 25% for the comparison condition, representing a small effect size ($h = 0.28$), but, given the small sample, not a statistically significant difference (Muñoz et al., 2007). The project also studied the impact of simple relaxation instructions on the women’s cortisol levels (Urizar et al., 2004), the relationship between alexithymia and depressive symptoms (Le, Ramos, & Muñoz, 2007), and the impact of interpersonal factors on depressive symptoms (Diaz, Le, Cooper, & Muñoz, 2007).

Overall, the literature indicates that depression prevention programs are successful at reducing depressive symptoms, but it is far more difficult to show that major depressive episodes can be prevented. Indeed, very large samples are typically needed to permit sufficient statistical power for detecting an effect on MDE incidence (Cuijpers, 2003), given the disorder’s relatively low incidence rates in the general population. Thus, not surprisingly, few studies have examined the effect of depression prevention programs on the incidence of major depression, especially among Latinos. Focusing on high-incidence groups is one way to increase the statistical power in prevention studies. Another strategy is to strengthen the impact (effect size) of prevention programs under study. With respect to depression prevention among Latinos, enhancing the cultural salience of the interventions may be a powerful way to increase their impact.

Enhancing Cultural Competency in Depression Prevention Interventions

“Every man is in certain respects

- a. like all other men
- b. like some other men
- c. like no other man.”

(Kluckhohn and Murray, *Personality in Nature, Society and Culture*. Cited in Sundberg, 1976, p. 140)

This quote helps us remember that there are some aspects of human nature that are universal, some which are shared by subgroups of humans (such as groups defined by gender, age, culture, socioeconomic status, etc.), and some which present in a unique configuration in each individual. But one could also use this framework to think about the heterogeneity within any one group. For the purposes of this chapter, the quote could be used to remind ourselves that “Every Latino is in certain respects (a) like all other Latinos, (b) like some other Latinos, and (c) like no other Latino.”

There is substantial heterogeneity among Latino populations based on race, country of origin, socioeconomic status, migration patterns, language, and so on. Cultural beliefs and practices influence the phenomenology of depression (e.g., symptoms, help-seeking behavior) and thus can moderate the effectiveness of depression prevention interventions. We do not advocate a one-size-fits-all approach among Latinos. However, we recognize that there are some common cultural beliefs and values among many Latino groups. We must place a high priority on research that guides us toward understanding how cultural mechanisms influence the risk and protective factors for depression among Latinos. Such work will lead to more effective depression prevention efforts.

Rogler, Malgady, Costantino, and Blumenthal (1987) outlined three broad approaches to the development of culturally sensitive therapy programs for Latinos: (1) rendering traditional treatments more accessible to Latinos, (2) selecting available therapeutic modalities according to the perceived features of Latino culture, and (3) extracting elements from Latino culture to modify traditional treatments or to use them as innovative treatment tools. Most studies examining the effects of culturally adapted psychotherapy services fall under the first category. As with other ethnic minority populations, efforts to provide culturally competent services for Latinos include components such as providing bilingual-bicultural staff and observing customs or folkways consistent with the client’s culture. These efforts have led to greater utilization of services and lower dropout rates, but neither therapist-client ethnic match nor ethnic-specific services are consistently associated with improvements in treatment outcome for ethnic minorities (Sue, 1998). In both the Muñoz et al. (1995) and Cardemil et al. (2002, 2007) prevention programs, traditional

cognitive-behavioral methods were modified for use with low-income Latinos. The success of these interventions encourages us to look at other features of Latino culture that may be used to enhance the efficacy of depression prevention programs.

The significant increase in depression rates during adolescence (Merikangas & Avenevoli, 2002) justifies depression prevention interventions during childhood and early adolescence. This may be particularly indicated for girls and young women (Le, Muñoz, Ghosh Ippen, & Stoddard, 2003; Mendelson & Muñoz, 2006), especially those with parents and grandparents with serious depression (Weissman et al., 2005). In fact, we note that the two studies to show a prevention effect of major depressive episodes have focused on adolescent samples (Clarke et al., 1995, 2001). Integrating more explicit cultural techniques such as “cuentos” may enhance interventions for Latino children, particularly of Puerto Rican origin. Based on social learning theory, cuento therapy is a modeling technique that uses folktales from Puerto Rican culture as a method for children to express themselves in a manner that is consistent with their cultural values (Costantino, Malgady, & Rogler, 1986). Therapists relate the children’s role-playing to their own problems in order to reinforce adaptive behavior and correct maladaptive behavior. The use of cuentos could be adapted for use in depression prevention interventions with Puerto Rican and possibly other Latino children.

The team that created the *Mamás y Bebés*/Mothers and Babies Course (Muñoz et al., 2001a, 2001b) was a bilingual, bicultural team that included Latino immigrants. The course was made culturally appropriate by

- Taking into account Latino values in terms of cultural expectations about being “good mothers.” For example, we discussed the costs of “sacrificing” for one’s children and family versus taking good care of oneself in order to be able to provide a good role model for both male and female children. We also discussed with mothers-to-be the ways in which having fun with their children would create a stronger positive bond with them. The latter concept fit very well with the technique of maintaining a high enough level of positive activities in order to promote a healthy mood.
- Addressing issues of racism and prejudice within the Latino community (such as reports by mothers that their older children had talked about concerns about having darker skin color than other members of their own family) and in the larger U.S. community (perceived discrimination, including feelings of helplessness to address discrimination directly because of lower power or fears of deportation if they were undocumented).
- Addressing the need to make conscious decisions about whether to teach their children customs that were used in their country of origin or those that they discovered in the United States. This was presented as one of the benefits of being bicultural: One can choose the best practices for living from two cultures, rather than being limited to only one. We discussed that there are costs and benefits to choosing one or the other, and that none of

them are perfect. This exercise was very compatible with the cognitive technique of considering the consequence of particular ways of thinking, rather than whether these ways of thinking are “correct” or not.

In addition to addressing such cultural factors, an understanding of risk and protective factors for depression among Latinos is needed to enhance the cultural competence of prevention interventions. Identification of macro-level risk factors allows us to target the most high-risk populations for interventions. Micro-level factors, such as cognitive and personality variables, can be helpful in developing specific elements of the interventions by focusing on modifiable characteristics of individuals. In the next section, we discuss some salient risk and protective factors for depression among Latinos.

Risk Factors for Depression

There are a number of well-identified risk factors for major depression, including genetic/biological predisposition, social and economic factors, and individual psychological characteristics (Mrazek & Haggerty, 1994). General risk factors include having a parent with an affective disorder, being female, loss of a parent during childhood, sexual abuse/victimization, low socioeconomic status, stressful life events, and poor physical health (see Gotlib & Hammen, 2002). Individual cognitive and personality variables, such as negative attributional style and poor coping skills, also contribute to risk for depression (Abramson et al., 2002), although such factors have rarely been investigated among Latinos. In a landmark study, Caspi and colleagues (2003) found that an interaction between the serotonin transporter (5-HTT) gene and stressful life events predicted depression. Compared to individuals homozygous for the long allele of the 5-HTT gene, individuals with one or two copies of the short allele who had four or more stressful life events across the lifespan were at significantly higher risk for more depressive symptoms, major depressive episodes, and suicidality. As the participants in the study were Caucasian New Zealanders, the results need to be replicated with other racial/ethnic groups, including Latinos. Unfortunately, we know little about specific risk factors for depression in Latino populations, particularly factors that are culturally transmitted (see Vega, Chapter 2). However, we highlight two factors that are particularly salient for Latinos, socioeconomic status and length of residence in the United States.

Socioeconomic Status

Relative to non-Latino Whites, U.S. Latinos are overrepresented at lower levels of socioeconomic status (SES). There is a well-established gradient between SES and health. As SES increases, so does health status (Adler & Snibbe, 2003). A recent meta-analysis showed an increased risk for major depression at lower

levels of SES (Lorant et al., 2003). Low SES and related risk factors such as poverty, economic inequality, and discrimination are associated with higher risk not only for depression, but also for other mental and physical disorders. Indeed, depression and other negative affective states may be mechanisms by which SES influences physical health (Gallo & Matthews, 2003). Moreover, the degree to which SES accounts for the link between race/ethnicity and depression is not yet well understood and merits further study. Given what is already known about the effects of low SES, it is critical that we target low SES Latino populations for depression prevention efforts, as well as working toward public policy that reduces economic inequality.

Residence in the United States

An epidemiological study of 3,012 Mexican Americans in California showed that the lifetime rate of any mental disorder was significantly higher in U.S.-born respondents compared to immigrants (Vega, Kolody, Aguilar-Gaxiola, Alderete, Catalano, & Caraveo-Anduaga, 1998). Moreover, greater time spent in the United States was associated with higher risk of lifetime affective disorders, particularly among respondents of indigenous Mexican origin (Alderete, Vega, Kolody, & Aguilar-Gaxiola, 2000). In particular, lifetime prevalence of major depression was 3.2% for immigrants less than 13 years in the United States, 7.9% for immigrants over 13 years, and 14.4% for U.S.-born individuals of Mexican descent (Vega et al., 1998). Spanish language use was the strongest predictor of lowered risk for affective disorder. However, it is important to note that these studies have focused predominantly on Mexican American populations and may not generalize to other Latino populations.

Length of residence in the United States and use of Spanish language represent general proxies for other acculturative processes. More fine-grained analyses of cognitions and behaviors are needed to understand the complex association between acculturation, stress, and depression. Both native and adopted cultures have positive and negative elements, and “acculturation” will not be able to shed light on risk factors if the construct fails to differentiate between these elements. For instance, certain aspects of acculturation may enhance economic and social opportunity, such as learning English. On the other hand, maintaining traditional Latino traditions may contribute to healthier habits such as better diet and less drug use, which in turn leads to better health and mental health outcomes (Escobar, 1998). Indeed, the rate of substance abuse is significantly higher among U.S.-born Mexican Americans compared to Mexican immigrants or Mexican nationals, and the risk of substance abuse among immigrants substantially increases as time living in the United States increases (Swanson et al., 1992; Vega et al., 1998). Thus, substance abuse may be one of many important mechanisms in the link between residence in the United States and depression among Latinos.

Enhancing Protective Factors

In these early stages of developing depression prevention programs, the focus has been almost exclusively on reducing risk factors. In particular, interventions have focused on individual-level cognitive risk factors, such as negative attributional style or pessimistic thinking patterns. Intervention researchers should also focus on enhancing positive attributes that may buffer individuals against depression. The growing field of positive psychology offers the promise of identifying positive attributes and institutions that promote well-being in the population (Seligman & Csikszentmihalyi, 2000). A number of authors have advocated for assessing and enhancing resiliency factors in interventions that seek to prevent depression (Beardslee & Gladstone, 2001; Muñoz, 1998; Park, 2003). While there are myriad positive factors that could buffer individuals against depression, we highlight two factors that may have particular salience for Latinos. Such factors may mediate and/or moderate the effectiveness of depression prevention interventions.

Social Support/Family Network

There is a large body of research indicating that lack of social support and low social integration are associated with higher risk for depression (Barnett & Gotlib, 1988; Paykel, 1994). Interpersonal connectedness and support among family members is a strong Latino value that may help buffer both immigrant and U.S.-born Latinos against the development of depression. Depression prevention interventions could blend psychological information regarding social supports as a protective factor with Latino cultural values of *familismo*. The values of *familismo* may also be used to enhance adherence to more self-focused skills by highlighting benefits for the family (Organista, Muñoz, & Gonzalez, 1994).

Cardemil and his colleagues (Cardemil, Kim, Pinedo, & Miller, 2005) have developed and piloted the Family Skills Coping Program (FCSP) for low-income Latina mothers. This program is a cognitive-behavioral intervention that consists of six weekly group sessions and two family sessions. It draws on both the Depression Prevention Course (Muñoz & Ying, 1993) and the inner city version of the Penn Resiliency Program (Cardemil et al., 2002). The family component was developed based on empirical evidence that family functioning plays an important role in the development and maintenance of depression, which may be particularly salient in Latino culture. In a one-group pilot study of the FCSP, Cardemil et al. (2005) found good recruitment feasibility and acceptability of the program among Latina mothers, although participation in the family sessions was low (52% attended at least one family session and only 15% attended both sessions). Results showed a 36% reduction of depressive symptoms from pre- to post-intervention among participants who completed at

least four group sessions. Cardemil and his colleagues are currently assessing the efficacy of this innovative depression prevention program in a randomized, controlled trial.

Religion and Spirituality

A growing body of literature suggests that religiousness and spirituality may buffer individuals against depression (Koenig, McCullough, & Larson, 2001; Smith, McCullough, & Poll, 2003). The great majority of U.S. Latinos (93%) are Christian, and 70% are Roman Catholic. Three quarters of U.S. Latinos indicate that religion provides “quite a bit” or “a great deal” of guidance in their daily living (Espinoza, Elizondo, & Miranda, 2003). Despite the importance of religion and spirituality for many Latinos, there are few empirical studies on the role of religion and spirituality in promoting well being of Latino mental health. In one example, Simoni and Ortiz (2003) found that spirituality was negatively associated with depressive symptoms among 142 Puerto Rican women living with HIV/AIDS in New York City, and that mastery and self-esteem scores appeared to mediate this relation. More research is needed to understand the mechanisms that link spirituality and depression among Latinos.

Depression prevention interventions could be administered by religious professionals and lay educators in faith-based organizations such as churches and religious schools. Mood regulation skills can be couched within a religious framework to enhance their acceptability and efficacy with religious individuals (Larrañaga, 1985). Spiritual issues have been incorporated into a variety of health and mental health therapies (Miller, 1999). Cognitive-behavioral treatments, which form the foundation for many depression prevention interventions, have successfully been adapted for use with religious populations (e.g., Propst, Ostrom, Watkins, Dean, & Mashburn, 1992). Religious content can be integrated into prevention interventions in a number of ways: religious rationales for the procedures (e.g., taking care of one’s physical and emotional health as a means of taking good care of the body and mind that God has given us), religious scripture and ideas to promote healthy thoughts and to counter irrational thoughts, and religious/spiritual imagery procedures for stress management.

Multilevel, Multidisciplinary Approach

We advocate for intervention research at multiple levels. Depression is a major public health problem that requires prevention efforts on community, societal, and global levels (Gillham, 2003; Ialongo, 2002). There is evidence that prevention interventions successfully reduce depressive *symptoms* at the universal, selective, and indicated levels (Jané-Llopis et al., 2003). More research is needed

to discover how major depressive *episodes* can be prevented in various populations, including Latinos. Selective and indicated interventions target individual risk factors and are usually presented in live, small-group formats. Universal interventions have the potential to address societal and community factors. Though the individual impact of universal interventions may be smaller than the impact of targeted interventions, they can reach large segments of the population through print, radio, television, and the Internet. Universal and targeted interventions may be used in conjunction as well. For example, Parks and Herman (2003) suggest that schools are an optimum setting for cost-effective, multitiered prevention programs that provide a universal intervention to all students, with more intensive care provided to individuals who do not respond to the basic intervention.

A multilevel approach will require collaboration among a wide range of health professionals including psychologists, psychiatrists, medical anthropologists, social workers, and epidemiologists. Such collaboration should derive from comprehensive models of vulnerability (and resilience) to depression, placing a strong focus on the mechanisms that moderate and mediate risk and resilience factors (e.g., Hankin & Abramson, 2001). Knowledge of normal as well as abnormal development across the lifespan is needed to inform prevention interventions. Furthermore, such a developmental perspective requires an understanding of the cultural factors that influence well-being.

A multidisciplinary approach also would help address multiple health problems simultaneously. Depression can be both an antecedent and a consequence of difficult health problems such as cancer, HIV, obesity, diabetes, and chronic pain (Muñoz, 2005). Depression also is comorbid with other health problems such as smoking (Lasser et al., 2000) and psychiatric problems such as alcohol/substance dependence and anxiety disorders. Incorporating depression prevention interventions with the treatment and prevention of medical illnesses and other psychiatric disorders can lead to multiple positive outcomes. Indeed, Latinos with depressive symptoms are more likely to present themselves to primary care settings than in mental health care settings (Vega et al., 1999). Therefore, it would be helpful to provide automated screening for depression and high risk for depression among Latinos in primary care settings, using computerized speech recognition and audio and visual prompts for low-literacy populations (Muñoz, McQuaid, Gonzalez, Dimas, & Rosales, 1999). This would allow primary care providers to intervene before the onset of a major depressive episode.

Use of Innovative Delivery Methods

The National Institute of Mental Health recently carried out a major strategic planning process to chart the most likely path toward progress in the study of depression. The initiative yielded a document called “Breaking Ground, Breaking Through: The Strategic Plan for Mood Disorders Research of the

National Institute of Mental Health” (See <http://www.nimh.nih.gov/strategic/mooddisorders.pdf>). One of the 10 workgroups involved in this process was the Psychosocial Intervention Development Workgroup, which recommended three priorities for future innovation: (1) development of new and more effective interventions that address both symptom change and functional capacity, (2) development of interventions that prevent onset and recurrence of clinical episodes in at-risk populations, and (3) development of nontraditional delivery methods to increase access to evidence-based interventions (Hollon et al., 2002). The second priority addresses the need for prevention research. The third priority is particularly relevant to Latinos because of the underutilization of mental health services and limited resources for traditional face-to-face interventions that are culturally and linguistically competent.

Psychosocial interventions have been delivered through a variety of media, including television (Muñoz, Glish, Soo-Hoo, & Robertson, 1982), telephone (Hunkeler et al., 2000), printed material (Cuijpers, 1997; Muñoz, Marín, Posner, & Pérez-Stable, 1997), and the Internet (Fiel, Noell, Lichtenstein, Boles, & McKay, 2003; Lange et al., 2003; Muñoz et al., 2006). The Internet, in particular, holds great promise for the innovative delivery of depression prevention interventions (Christensen & Griffiths, 2002).

The online audience of Latinos is growing significantly. Spanish is currently the third most common language (after English and Chinese) on the Internet with an estimated 87 million Spanish-language users in 2007 (Internet World Stats, 2007). There are an estimated 19.8 million Internet users in Spain and 96.4 million in Latin America, with tremendous growth estimated from 2000 to 2007 (266.8% growth in Spain and 433% growth in Latin America) (Miniwatts Marketing Group, 2007). In the United States, estimates of Latinos who use the Internet have ranged from more than 16 million (Arketi Group, 2006) to 20.7 million (UCLA Center for Communication Policy, 2003).

Researchers, clinicians, and mental health system administrators who focus on services to Latinos should undertake a concerted effort to develop Internet and other mass media interventions for use by Spanish- and English-speaking Latinos. In addition to making health information available online, we should develop evidence-based interventions that can be delivered through the World Wide Web to anyone who has access to the Internet, whether at home, work, or through health care agencies. Such websites could also be used as adjuncts to traditional care, as they already are in the United Kingdom (Times Online, 2007). For example, a Web-based cognitive-behavioral intervention could be used in conjunction with antidepressants prescribed by primary care physicians. If the Web intervention is available in Spanish, then it could be useful to Latinos, many of whom do not have access to Spanish-speaking providers (either in primary care or mental health specialty services). Moreover, once the site is up and running, it could be made available to anyone in the Spanish-speaking world. The additional cost of providing such service would be

minimal, especially compared to training and providing therapists across the nation and the world.

These recommendations are not intended to imply that Web-based interventions are just as effective as those provided by live therapists. That is ultimately an empirical question. It is very likely that for some people and some problems only a live therapist can be of help. However, evidence-based Web interventions would be preferable to *no* interventions for the thousands or even millions of people who would otherwise lack access to any mental health care services, due to financial constraints, geographical isolation, or language barriers. Thus, the Internet may contribute substantially to the development of global health practices. Of course, initially Internet services will be available primarily to individuals with higher education and income. But Internet access is certain to grow, just as phone access has grown immensely over the last few decades. During this growth, efforts must be made to reduce the technological disparities that limit access to low-income Latinos. In the developing world, public health clinics may serve as the point of distribution for Web-based services. A small clinic with limited expertise in psychological interventions may still be able to provide Internet access to its patient population, or download and print educational materials designed specifically for people of limited literacy. The University of California, San Francisco/San Francisco General Hospital Latino Mental Health Research Program has established the Internet World Health Research Center (www.health.ucsf.edu) to use the Internet to contribute to the reduction of health disparities worldwide.

Table 1 Recommendations for the prevention of depression among Latinos

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- Screen for depression in primary care settings. Refer clinically depressed individuals for treatment and refer high-risk individuals to mood management programs to prevent the onset of major depression. Screening should be done in the languages spoken by the patients.
 - Target critical periods across the lifespan, particularly adolescence and pregnancy, in order to prevent the cross-generational transmission of depression. For Latino immigrant populations, attempt to prevent the documented increase in depression as they remain in the United States longer.
 - Enhance the cultural relevance of depression prevention programs by tapping into natural strengths such as *familismo* and religious/spiritual support. Work with Latino communities to develop and empirically evaluate the effectiveness of culturally sensitive interventions.
 - Evaluate cultural mechanisms of change in depression prevention programs among subgroups of Latinos.
 - Employ multilevel interventions that include universal programs for the general population, selective programs for high-risk communities, and indicated programs for high-risk individuals. Incorporate these interventions into community organizations such as schools and churches.
 - Integrate depression prevention courses into treatment programs for substance abuse/dependence, anxiety disorders, and other comorbid disorders.
 - Use innovative technologies such as the Internet to disseminate and evaluate depression prevention programs in Spanish, English, and indigenous languages worldwide.
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Conclusions

The burden of disease due to mental health problems is substantial. In terms of lost years of healthy life, depression is estimated to be the second greatest burden of disease worldwide by the year 2020 (Murray & López, 1996). Treatment services are currently insufficient to address this problem. We must develop and evaluate prevention services. These services must be tested in all affected populations, including Latinos. The documented increase in prevalence of depression in Latinos who immigrate to the United States has identified a clear population at risk. It is particularly important that we prevent the development of depression among the first generation of Latinos born in the United States.

Depression is one of the most painful of human conditions. It can even take away the will to live. We have grown accustomed to accepting the proposition that a certain proportion of our population will be inevitably enslaved by this condition. We must question that assumption, and we must use creative means to combat the spread of the disorder and reduce its threat for the generations to come. We must redouble our efforts to push back the boundaries of what is currently considered inevitable suffering.

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Chapter 7

Assessment of Depression Symptoms: Self-report Paper-and-Pencil and Computerized Questionnaires

Gerardo M. González

Personal Journey: Gerardo M. González

I was one of nine children from a migrant farm-working family in central California. My experiences as a farm-worker and as a member of an ethnic minority roused a strong interest for seeking social and economic justice for Latinos. While at California State University, Fresno, I was a student and community activist involved in several causes, including increasing access to higher education for ethnic minority students and supporting the United Farm Workers union. As a psychology major, I was disturbed by the lack of valid research on Latino populations. After graduating college, I worked for several years as union organizer for the Service Employees International Union Local 250. I entered graduate school to study clinical psychology. At first, I aspired to become a clinician to provide bilingual services but over time my interest in research grew. While completing a clinical post-doctoral fellowship at the University of California, San Francisco, I collaborated with Dr. Ricardo Muoz. We conducted research on computerized speech recognition for assessing depression symptoms in English- and Spanish-speaking patients. After this fellowship, I became an assistant professor in the department of psychology at California State University, San Marcos. I am the former director of the National Latino Research Center at that school. I am the former director of the NLRC. Currently the Dean of Graduate Studies and Associate Vice President for Research at CSUSM. The emphasis of the NLRC is to promote research on Latino populations in the areas of health, education, and community development; however, my research interest remains the bilingual computerized assessment of depression.

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Detection of Depression

Depression remains largely undetected and untreated in the general population (Coyne, Schwenk, & Fechner-Bates, 1995). Depression is underidentified because only 20–25% of clinically depressed persons actually see a mental health professional. People with depression most often visit nonpsychiatric medical care providers for relief of their depressive symptoms (Shapiro et al., 1984). Many depressed individuals are seen in primary care settings; 12–30% of the patients may be clinically depressed (Broadhead, Clapp-Channing, Finch, & Copeland, 1989; Tylee & Katona, 1996; Sharp & Lipsky, 2002). Primary health care settings experience high patient volume and enormous time constraints that prevent the adequate recognition of depression. Pérez-Stable, Miranda, Muñoz, and Ying (1990) found that depression was detected accurately in only 36% of primary care medical patients. Moreover, another study revealed that family physicians overdiagnosed depression in 26% of primary care cases (Aragonès, Piñol, & Labad, 2006).

Obstacles to Depression Assessment and Services for Latinos

Latino populations face numerous barriers to mental health services because of cultural, financial, and service delivery issues (Rogler, 1989; Wells, Hough, & Golding, 1987; Woodward, Dwinell, & Arons, 1992). An Epidemiological Catchment Area (ECA) study found that only 11% of Mexican Americans (vs. 22% of non-Hispanic Whites) who met the criteria for clinical depression sought treatment from a mental health care provider (Hough et al., 1987). Another study revealed that 24% of Latinos with depression or anxiety disorders received appropriate treatment, compared to 34% of Whites (Department of Health and Human Services, 2001). Moreover, Latinos comprise nearly one of four Americans who do not have health insurance (Brown, Ojeda, Wyn, & Levan, 2000). In the United States, 37% of Latinos are uninsured; more than twice the rate of Whites (Kaiser Commission on Medicaid and the Uninsured, 2000).

Latinos generally lack accessibility to culturally responsive and linguistically compatible mental health services (González, 1997; Organista, Muñoz, & González, 1994). Spanish-speakers' access to services is impeded by linguistic barriers, cultural miscommunications, and patient-perceived exploitation (Marín & Marín, 1991). According to the U.S. Bureau of the Census (2000), 40% of the U.S. Latino population primarily speaks Spanish or has limited English proficiency. However, there is a dearth of appropriately trained culturally sensitive bilingual mental health professionals. The absolute number of Latino therapists in the United States (29 for every 100,000 Latinos) represents an insufficient number to meet the present mental health needs of Latino populations (Center for Mental Health Services, 2000). The growing

disparity between the Latino population (estimated to increase over 50% in the next decade) and Latino clinical psychology doctoral students in the training pipeline (levels static since 1980) makes it unlikely that ample Spanish-speaking professionals will be available to provide necessary services (Bernal & Castro, 1994). Thus, depression among Latinos will continue to be underrecognized and untreated.

Conventional Methods of Depression Screening

A commonly used method for screening depression is the self-report paper-and-pencil approach. These measures assess the severity of symptom levels but are not intended to be diagnostic instruments. This chapter focuses on the most frequently utilized self-report depression screening measures for adults, adolescents, and children, such as the Beck Depression Inventory-II, the Center for Epidemiological Studies–Depression Scale, and the Geriatric Depression Scale. Table 1 presents a summary of the depression screeners discussed in this chapter. Instruments that specifically generate diagnostic impressions are discussed in Chapter 8, by Polo and Lopez.

The Beck Depression Inventory-II (BDI-II)

The revised BDI-II is a 21-item self-report measure that assesses the severity of depressive symptoms during the past two weeks (Beck & Steer, 1987). A total score based on the sum of the responses to the 21 items suggests the level of depression including minimal (1–13), mild (14–19), moderate (20–28), and severe (29–63). The BDI-II has strong normative, reliability (Coefficient Alpha = 0.92), and validity data for screening depression in clinical and non-clinical populations (Beck, Steer, & Brown, 1996). The BDI-II has been translated and is widely used with Spanish-speaking samples (Novy, Stanley, Averill, & Daza, 2001).

The Center for Epidemiological Studies–Depression Scale (CES-D)

The CES-D is a 20-item self-report screening measure developed by the National Institute of Mental Health (NIMH) for assessing the frequency of depressive mood and symptoms during the past week (Radloff, 1977). The respondent selects one of four encoded choices—Less than 1 day = 0; 1–2 days = 1; 3–4 days = 2; and 5–7 days = 3. A total score, indicative of the level of depression symptoms, is the sum of the 20 weighted responses. In the general population, a cutpoint score of 16 or greater suggests a high level

Table 1 Matrix of frequently used depression screening measures

Measure	Test Format	Age	Spanish		Psychometric Properties
			Version	Yes	
Beck Depression Inventory-II (BDI-II)	21 items. Select one of four groups per item.	Adults	Yes	Yes	Good reliability and validity in English- and Spanish-speaking samples.
Center for Epidemiological Depression Scale (CES-D)	20 items. Select one of four choices per item.	Adults	Yes	Yes	Good sensitivity but limited specificity. Good reliability and validity in English- and Spanish-speaking samples.
Children's Depression Inventory (CDI)	27 items. Select one of three statements per item.	7 to 17 years	Yes	Yes	Good sensitivity but limited specificity. Factor analyses exhibits ethnic and gender differences. Good reliability and validity in English-speaking samples.
Reynolds Child Depression Scale (RCDS)	30 items. Select one of four choices on a Likert-type scale.	8 to 12 years	Yes	Yes	Data on Spanish-speaking samples are limited. Good reliability and validity in English-speaking samples.
Reynolds Adolescent Depression Scale-2 (RADS-2)	30 items. Select one of four choices on a Likert-type scale.	13 to 18 years	Yes	Yes	Data on Spanish-speaking samples are limited. Good reliability and validity in English-speaking samples.
Geriatric Depression Scale (GDS)	30 items. Yes or No format. 10- and 15-item short forms.	Older adults	Yes	Yes	Data on Spanish-speaking samples are limited. Good reliability and validity. Data on Spanish-speaking samples are limited.

of depressive symptoms (Myers & Weissman, 1980). The CES-D has well-established, normative reliability and validity data as well as strong psychometric sensitivity for identifying symptomatic individuals in clinical and nonclinical populations (Mahard, 1988). The CES-D has extensive testing with Spanish-speaking populations (Mosciki, Locke, Rae, & Boyd, 1989; Roberts, Vernon, & Rhoades, 1989).

The Children's Depression Inventory (CDI)

The CDI is a 27-item self-report scale, designed to detect depression symptoms in school-aged children and adolescents (ages 7–17 years). Each CDI item consists of three statements. The child or adolescent selects the statement for each item that best describes him or her for the past two weeks. The CDI total score includes five factors that have been normed according to gender and age: Negative Mood, Interpersonal Difficulties, Ineffectiveness, Anhedonia, and Negative Self-Esteem. Reliability data (Coefficient Alpha = 0.81; test-retest = 0.60) and validity evidence are adequate (Kovacs, 1992). The CDI has been translated into Spanish and tested with Latino samples (Siegel, Aneshensel, & Taub, 1998; Worchel et al., 1990).

Reynolds Child and Adolescent Depression Scales

The Reynolds depression scales are designed to assess depression symptoms in children from ages 8 to 12 years and adolescents from ages 13 to 18 years. The Reynolds Child Depression Scale (RCDS) is a 30-item self-report measure with items and responses that represent a 4-point Likert-type scale, ranging from 1 to 4 (0 = “almost never” to 3 = “all the time”). The RCDS exhibits sound reliability (coefficient alpha = 0.90, split-half = 0.89 and test-retest = 0.85) (Reynolds, 1989a). The Reynolds Adolescent Depression Scales-2 (RADS-2) is a 30-item self-report measure comprised of four subscales (Dysphoric Mood, Anhedonia/Negative Affect, Negative Self-Evaluation, and Somatic Complaints) that measure the severity of an adolescent's depressive symptoms ranging from normal, mild, moderate, or severe. The RADS-2 also yields a total score that represents the overall severity of depression and the level of risk for a depressive disorder. Reliability data are good (internal consistency coefficients for grades 7-12 range from 0.91 to 0.94, split half reliability = 0.91, and test-retest coefficients = 0.80). Validity evidence includes content validity, criterion-related validity, and construct validity (convergent, discriminant, and factorial). The RADS-2 also discriminates between adolescents with major depressive disorder in an age- and gender-matched control group (Reynolds, 1989b). The Reynolds depression scales have been translated to Spanish, but a literature search did not find psychometric data on these scales with Latinos.

Geriatric Depression Scale (GDS)

The GDS is a 30-item scale for screening depression symptoms in older adults. The scale measures cognitive complaints, motivation, future/past orientation, self-image, losses, agitation, obsessive traits, and mood. Participants answer yes or no in reference to how they felt on the day of testing. A total score indicates the level of depression symptoms: normal (0–9), mild depression (10–19), and severe depression (20–30). The GDS is used with healthy, medically ill, and mild to moderately cognitively impaired older adults and has been implemented in community, acute and long-term care settings (Yesavage et al., 1982). Reliability and validity data show that the GDS had 92% sensitivity and 89% specificity when evaluated against diagnostic criteria (Yesavage et al., 1982). The GDS has been translated to Spanish, however, a literature search did not locate psychometric data on the GDS with Latinos.

Limitations of Conventional Screening

Limitations of self-report paper-and-pencil screening methods contribute to the underdetection of depression (Muñoz, 1993). Many persons who are reportedly “symptomatic” are not clinically depressed or anxious at all. Self-report depression screening measures display limited psychometric specificity, yielding 25–40% false positive depression cases (Coulehan, Schulberg, & Block, 1989; Fechner-Bates, Coyne, & Schwenk, 1994). Moreover, many self-report screening instruments demonstrate moderate predictive value resulting in poor discrimination between anxiety, depression, general distress, and other psychiatric disorders (Santor, Zuroff, Ramsay, Cervantes, & Palacios, 1995). Self-report assessment is limited by respondent biases, such as memory distortions, inhibitions, and reactivity (Plutchik, 1994). Alternative strategies for delivering culturally responsive mental health services in Spanish-speaking communities are essential.

Computerized Assessment of Depression

Computer technology represents a powerful alternative strategy and tool for depression assessment. Computer-assisted depression assessment has several major advantages over conventional techniques by improving the accuracy, structure, flexibility, and ease of test administration (Kobak, 1996). Structured computerized interviewing improves the quality, quantity, and integrity of clinical data by accurately transcribing, scoring and storing patient responses, standardizing administration procedures, and minimizing errors attributable to human oversight (Erdman, 1985). Despite adequate training, an experienced clinician may inadvertently omit up to 35% of clinically meaningful inquiries during an unstructured face-to-face interview (Climent, Plutchik, & Estrada,

1975; Simmons & Miller, 1971). Computer-assisted depression screening can promote cost savings by reducing high costs associated with misdiagnoses and by offering accurate and efficient assessment that makes more effective use of clinicians' time to provide mental health services (Butcher, 1987).

Advances in computerized technology offer alternative screening methods for populations not reliably assessed with conventional English language techniques such as paper-and-pencil assessment. For example, persons who cannot read or write English or non-English speakers are less likely to utilize mental health services because of written assessment or language barriers (Starkweather & Muñoz, 1989). In busy health care settings, computerized screening systems offer avenues to increase accessibility to mental health services by conducting reliable and valid brief clinical interviews and generating interpretative reports to inform health care staff. Thus, computer technology can reduce obstacles that contribute to the underidentification of depression, particularly for Latinos.

The following is a summary of several studies that employed computer-assisted approaches for commonly used depression screening techniques, such as the BDI-II and CES-D. Table 2 summarizes the studies that included Latino populations.

Several studies found that computerized versions of the BDI-II were reliable (Dozois, Dobson, & Ahnberg, 1998; Schulenberg & Yutrenzka, 2001; Steer, Rissmiller, Ranieri, & Beck, 1994). However, it is unclear whether representative samples of Latinos were included in the studies. González and Shriver (2004) found that the Spanish language version of the computerized BDI-II displayed good reliability and validity.

The CES-D has been used in several studies on computerized depression screening. My colleagues and I developed bilingual computerized speech recognition applications for screening for depression. A computerized speech recognition system can be programmed to vocally administer a discrete choice questionnaire in English or Spanish by presenting digitally recorded prompts, recognizing respondent spoken answers, scoring the responses, and storing the data. Much of the following review summarizes a *selected* sample of our research findings on bilingual computerized speech recognition assessment of depression.

Muñoz, González, and Starkweather (1995) developed a bilingual speaker-dependent speech recognition prototype to screen for depression symptoms in English- and Spanish-speaking adults. The speaker-dependent system required each participant to complete template training. That is, each respondent had to train the computer to recognize his or her voice patterns for each possible questionnaire choice. The prototype was based on the Center for Epidemiological Depression scale (CES-D). The CES-D is a 20-item self-report screening measure for assessing the frequency of depressive mood and symptoms during the past week. A counterbalanced experimental design involved randomly ordered paper-and-pencil (PP) and computer prototype (CP) forms of the CES-D. Nineteen English-speaking and 19 Spanish-speaking patients (public

Table 2 Matrix of research on computerized assessment of depression in Latinos

Authors	Year	Sample	Application	Findings
Muñoz, González, & Starkweather	1995	19 Spanish- and 19 English-speaking primary care patients	Speaker-dependent speech recognition system for the CES-D	Paper-and-pencil and computerized versions were equivalent. Good reliability and validity. English-speakers preferred computer.
González, Costello, Valenzuela, Chaidez, & Nuñez-Alvarez	1995	30 Spanish- and 22 English-speakers	Cellular telephone speaker-dependent speech recognition system for the CES-D	Face-to-face and computerized versions were equivalent. Good reliability and validity.
Muñoz McQuaid, González, Dimas, & Rosales	1999	48 Spanish- and 56 English-speaking women's clinic patients	Speaker-dependent speech recognition system for the CES-D and DIS	English-speakers preferred computer. Face-to-face and computerized versions were equivalent. Good reliability and validity.
González, Winfrey, Sertic, Salcedo, Parker, & Mendoza	2000	85 Spanish-speaking and 82 English-speakers	Digital telephone speaker-independent speech recognition system for the CES-D	Face-to-face and computerized versions were equivalent. Good test-retest reliability and validity. Speech recognition accuracy negatively correlated with depression level. Participants more often selected a digitized female voice.
Houston, Cooper, Vu, Kahn, Toser, & Ford	2001	24,000 respondents including a subset of Latinos	Internet-based CES-D	The application was efficient and accessible to computer users but few Latinos participated.
Gonz & Shriver	2004	128 Spanish-speaking and 128 English-speakers	Speaker-independent speech recognition system for the CES-D and DSM-IV criteria. Computer-assisted BDI-II and CIDI	Good test-retest reliability, validity, sensitivity and specificity for the CES-D, BDI-II, and CIDI. Participants more often selected a digitized female voice for the CES-D.

sector primary care patients referred to a depression clinic) completed the CES-D in an immediate test-retest sequence during a single session. The study found that two CES-D methods were not significantly different, and strong psychometric properties were evident for both methods. In both languages, ranked-order correlations between methods and coefficient alpha reliability estimates for the methods were all above .90. The CP took significantly longer than PP because template training added time to the entire interview. A majority of the patients were computer novices, however, they rated computer assessment as equivalent (in the Spanish-speaking group) or even preferable (in the English-speaking group) to PP. Among the participants' reasons for preferring the CP included perceptions that it was easier to use, captivating, and presented a feeling of personal interaction.

Muñoz, McQuaid, González, Dimas, and Rosales (1999) evaluated the psychometric properties and congruence of equivalent computerized speech recognition and face-to-face versions of the CES-D and items adapted from the Diagnostic Interview Schedule (DIS) for major depression. Fifty-six English- and 48 Spanish-speaking adult female primary care patients completed computerized and face-to-face CES-D in counterbalanced order. Participants also completed the PRIME-MD (Primary Care Evaluation of Mental Disorders). Results suggested that the two CES-D methods displayed good psychometric properties. There were no significant differences between the means and variabilities for the CES-D methods. Overall kappa correlation between the CES-D and DIS methods was very high (.89). The CES-D methods also demonstrated strong agreement with the PRIME-MD depression criteria (.75 to .82).

Telephone-Assisted Computerized Screening

Telephone-assisted interviews can increase access for populations not likely to visit health care settings (Lavrakas, 1987). Marín, Pérez-Stable, and Marín (1989) found that telephone interviewing generated lower refusal rates among Latino research participants than non-Hispanic Whites. Latinos also perceived telephone interviews as person-friendly and displayed more willingness to answer highly sensitive items on drug use and sexual behavior on the telephone than face-to-face, (Marín & Marín, 1989). Thus, my colleagues and I pursued research on bilingual telephone-assisted speech recognition depression screening.

González, Costello, La Tourette, Joyce, and Valenzuela (1997) developed a bilingual speaker-dependent telephone-assisted speech recognition CES-D. The exploratory study evaluated computerized speech recognition integrated with cellular telephone technology. Thirty Spanish-speakers and 22 English-speakers completed both computer-telephone (CT) and face-to-face (FF) versions of the CES-D in immediate test-retest counterbalanced order. Participants also completed a face-to-face depression checklist as a validity criterion. In both samples, the CES-D methods yielded high internal consistency estimates (.80),

high alternate forms reliability coefficients (.75 to .90), and similarly high correlations to the depression checklist (>.60). The CT took significantly longer to complete than the FF because of template-training. However, the actual time to administer the CT questions was comparable to the FF method. Both groups reported positive ratings for the two methods, but English-speakers preferred the CT method because it seemed more person-friendly.

We also conducted several experimental studies with the CES-D using telephone-assisted continuous speaker-independent speech recognition depression screening in Spanish and English. A continuous speaker-independent system is designed to recognize natural continuous speech across multiple independent users without requiring template training, thus significantly reducing overall interview time. Also, the computer conducted the interview using a prerecorded digitized female or male voice selected by the participant. In previous prototypes, only a prerecorded digitized male voice was presented. We explored vocal behavior, such as the relationship between depression levels and vocal response latency (reaction time to answer a presented item) and speech recognition accuracy (computer accuracy level for recognizing a participant's utterances). We hypothesized that longer vocal response latency and lower vocal response latency would be related to depressed mood.

González et al. (2000) assessed the psychometric congruence of two similar CES-D (0–7 days) methods for detecting depression levels in English-speakers and Spanish-speakers. A $2 \times 2 \times 2$ Language \times Method \times Session repeated measures experimental design was employed. The CES-D was randomly administered to 82 English-speakers and 85 Spanish speakers in computer-telephone or face-to-face form in two sessions (at least a two-week interval). Additional measures included a structured demographic interview, the Bidimensional Acculturation Scale (BAS), and the BDI. The CT method also recorded verbal response latency (VRL) and speech recognition accuracy (SRA). The results suggested that both methods displayed strong psychometric properties. The means for the two methods were generally not significantly different for both English-speakers and SS. The two methods demonstrated high inter-item consistencies (coefficient α range .83 to .94) and strong correlations to the BDI (range .68 to .88) for both languages. Test-retest reliabilities were very good (range .84 to .89), however, reliability of the English-speakers CT method was moderate (.47). Although the two language groups rated both methods highly, both groups preferred the FF method. Analyses of the digitized interviewer gender showed that English-speakers chose a female voice significantly more often in the first session while Spanish-speakers selected a female voice more frequently in the second session. FF VRL was positively correlated with depression scores for the English-speakers sample in the first (.29) and second sessions (.46). SRA for both language groups was negatively correlated with depression scores in the English-speakers' first session (–.28) and Spanish-speakers' second session (–.45). In other words, depressed persons tended to experience more voice recognition complications during the computer interview, requiring more repetitions of the items and more time to complete the interview.

The Voice-Interactive Depression Assessment System (VIDAS)

The goal of the VIDAS project was to extend my research on voice-interactive depression screening to enhance the *early* and *accurate* detection of clinical depression. I sought to develop an accurate, efficient, and culturally sensitive computerized speech recognition screener that effectively assessed the severity of depressive mood and symptoms in English and Spanish-speakers. The VIDAS project adapted and integrated items based on the CES-D and DSM-IV criteria to assess the severity (frequency, intensity, and duration) of depressive mood and symptoms. The VIDAS project also sought to identify risk factors for depression, such as stressful life events and poor health status. Previous research neglected the rich data on respondent vocal interaction. Beyond primary reliance on respondent self-report, VIDAS utilized digital voice analysis for evaluating the intensity of depressed mood. VIDAS sought to strengthen depression screening by examining depressed persons' vocal properties and acoustics. Table 3 summarizes the VIDAS interview sequence.

Table 3 Summary of the telephone-assisted VIDAS interview sequence

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1. Introduction
 - a. Interviewer briefs participant (English or Spanish) on completing VIDAS and initiates the application to enter data
 - b. Interviewer asks participant to choose the gender of the automated interviewer (Male or Female digitized voice)
 - c. Interviewer calls VIDAS by telephone (computer located at a secured university facility)
 - d. Over the telephone, VIDAS greets participant in primary language (English or Spanish) and presents brief instructions
 2. CES-D-based items
 - a. VIDAS presents brief instructions for completing the items orally
 - b. VIDAS begins by presenting an item and waits for the participant's response
 - c. Participant verbally responds to the item
 - d. VIDAS registers and records the participant's recognized spoken response
 - e. VIDAS continues to the next item until all the items are completed
 - f. VIDAS proceeds to the DSM-IV criteria items
 3. DSM-IV criteria items
 - a. VIDAS presents brief instructions for completing the items orally
 - b. VIDAS begins by presenting an item and waits for the participant's response
 - c. Participant verbally responds to the item
 - d. VIDAS registers the participant's recognized response and records voice characteristics
 - e. VIDAS continues to the next item until all the items are completed
 - f. VIDAS proceeds to the conclusion
 4. Conclusion
 - a. VIDAS thanks the participant, requests that the interviewer be advised, and hangs up
 - b. VIDAS scores and analyzes the responses
 - c. VIDAS saves the results in a database
 - d. VIDAS generates a brief interpretative report (summary of responses and interpretation)
-

We sought to improve the accuracy of detecting depression through voice analysis. Digital analysis of voice characteristics represents a powerful methodology for objective assessment of depression (Starkweather, 1992). Voice characteristics are useful clinical indices for depression symptoms because vocalizations (respiration, articulation, and tension or relaxation of larynx and oral muscles) are mediated by psychomotor disturbance stemming from neurophysiological and subcortical (mesolimbic) dysfunction (Flint, Black, Campbell-Taylor, Gailey, & Levington, 1993). Furthermore, changes in speech variables are better predictors of mood change for patients in treatment than psychiatrists' impressions (Siegman, 1987). The following is a summary of the VIDAS studies:

González and Shriver (2004) evaluated VIDAS using the CES-D and 10 discrete choice items based on DSM-IV criteria. In addition, pre- and post-repetitions of a structured spoken phrase ("This computer responds to my voice") prior to and subsequent to answering the depression items were recorded for the analysis of voice characteristics. Also, significant risk factors (life event stressors and health status) for depression were examined. Participants completed demographic, acculturation (BAS), health status (SF-36), stressful life events (SEPRATE), and depression measures (BDI-II and CIDI). In total, 128 English- and 128 Spanish-speakers were interviewed. The results suggested that VIDAS CES-D and DSM-IV subscales demonstrated high inter-item reliability (.81 to .92), strong criterion validity (.58 to .67), high sensitivity (.64 to .87), and moderate to high specificity (.44 to .71). Frequency of stressful life events and health status were significantly correlated to depression levels (-.46 to -.58) and (-.29 to -.66), respectively. Both language groups positively rated VIDAS for comfort. English- and Spanish-speaking participants most often selected a digitized female voice to present VIDAS (84% and 72%, respectively). Vocal energy and intensity (spectral tilt and kurtosis) were significantly different for depressed and nondepressed groups.

González and Shriver (2007) explored the comorbidity of depression and anxiety symptoms. Participants completed demographics, BAS, BDI-II, CIDI, VIDAS, and the Beck Anxiety Inventory (BAI). The study included a pilot study of 50 English- and 50 Spanish-speakers and a formal study of 120 English- and 120 Spanish-speaking participants. Preliminary analyses on the pilot data suggest that VIDAS depression and anxiety subscales displayed high inter-item reliability (.82 to .92) and high criterion validity for the BDI (.71 to .88) and the BAI (.63 to .80). Comorbid participants reported the most severe levels of depression and anxiety symptoms followed by MDD group. The GAD and control groups did not show significant differences.

In sum, our studies provided evidence that the bilingual voice-interactive speech recognition prototypes generally were reliable, valid, and equivalent to standard interview methods. The data also suggested that the prototypes were culturally and linguistically acceptable tools for screening depression. The VIDAS project established a strong foundation to enhance computerized speech recognition and digital voice analyses for assessing depressed mood

and symptoms in English and Spanish. The findings of the project suggested that VIDAS is a reliable, valid, and culturally sensitive tool for screening for depression in English and Spanish. Technological advancements in speech recognition systems made computerized administration time comparable to a face-to-face interview. English- and Spanish-speakers positively rated the computerized interviews. Most participants selected a female digitized voice, suggesting higher comfort with a female voice (Kaplan, Becker, & Tenke, 1991). Several voice characteristics displayed significant relationships to depression levels. Moreover, VIDAS demonstrated the importance of considering the comorbidity of anxiety in the assessment of depression. Overall, significant progress has been made toward developing a tool to increase the early and accurate detection of depression. VIDAS has been implemented in high-volume health care settings that serve diverse patient populations but lack bilingual personnel. VIDAS collects participant data quickly, scores the data, and generates a report to inform health care staff of the participant's mood and symptoms. As a result, VIDAS assesses many individuals who initially are unlikely to seek out mental health services (González, Gonzalez, & Goldwaser, 2007; González, Parker, Shriver, & Reza, 2007).

As previously noted, depression screening measures are not adequate diagnostic predictors because they have moderate correlation with depression diagnostic tests (Liang, Van Tran, Krause, & Markides, 1989; Roberts et al., 1989). The CES-D, in particular, exhibits several limitations. A CES-D total score of 16 or greater suggests a high level of depressive symptoms in the general population (Myers & Weissman, 1980). However, Schulberg and colleagues (1985) argue that 27 is a more accurate cutoff score for primary care patients because they suffer additional ailments. Factor analysis revealed that the CES-D basically is comprised of four factors: positive affect, negative affect, somatic and retarded activity, and interpersonal relations (Radloff, 1977). Recent studies, however suggested that the factor structure of the CES-D may vary across gender, language, and ethnic groups for Latinos (Posner, Stewart, & Marin, 2001). Among Latinos, a mixed affective/somatic factor may represent the behavioral expression of emotion (García & Marks, 1989; Guarnaccia, Angel, & Worobey, 1989).

Other studies of computerized depression assessment included the Hamilton Depression Rating Scale (HDRS), a 17-item semi-structured clinical interview that evaluates depressed mood, somatic and cognitive symptoms, and anxiety symptoms (Hamilton, 1960). The 17 items are rated on a 5- or 3-point scale. The 5-point scale items are rated as 0 = absent; 1 = doubtful to mild; 2 = mild to moderate; 3 = moderate to severe; 4 = very severe. The 3-point scale items are rated using 0 = absent; 1 = probable or mild; 2 = definite.

Kobak, Reynolds, Rosenfeld, and Greist (1990) conducted a validation study of a self-administered computerized version of the HDRS ($N = 97$). The findings revealed a correlation of .96 between the computer and clinician HDRS scores. Mean score difference between the computer and the clinician versions were not significantly different. The computer and clinician versions

demonstrated similar levels of internal consistency reliability, convergent validity, and correlated highly with the Beck Depression Inventory.

A computerized version of the HDRS administered over the telephone using an Interactive Voice Response (IVR) touch-tone interface was developed and tested. A validation study of the IVR HDRS ($N = 367$) revealed internal scale consistency reliability and the mean item-to-total scale correlation comparable to the previous computer versions. The correlation between the IVR and the clinician HDRS scores was 0.88 (Mundt et al., 1998). It is unclear whether these studies included Latinos.

Overall, the literature reflects abundant evidence to support the reliability and validity of computer-assisted depression assessment (Greist & Klein, 1980). Client users also reported positive ratings and evaluations of computer-assisted depression assessment (Lukin, Dowd, Plake, & Kraft, 1985; Rozensky, Honor, Rasinski, Tovian, & Herz, 1986). Depressed patients may prefer computer interactive interviews to face-to-face interviews, even when patients know the clinician (Carr, Ghosh, & Ancill, 1983; Lucas, Mullin, Luna, & McInroy, 1977;). One explanation for this finding is that computer-assisted interviewing may increase respondent self-disclosure because of discomfort with revealing sensitive issues (e.g., suicidal ideation) to a clinician (Moore, Summer, & Bloor, 1984).

Future Directions in Depression Screening Methods

Given the strengths and limitation of depression screeners, there are several innovative research directions for enhancing bilingual screening for detecting depression in Latino populations.

Computerized Assessment with Latino Children

Computer-assisted methods can be developed for screening depression in children. Children express depression in similar ways to adults, but they also show unique features (Birmaher, Brent, & Benson, 1998). Computerized methods can be evaluated for children using age-appropriate techniques (e.g., animation, sound, and video).

Comorbidity

It is quite common for patients diagnosed with depression to have multiple psychiatric and medical diagnoses. Anxiety, substance abuse, alcoholism, or eating disorders often accompany depression (Rohde, Lewinsohn, & Seeley, 1991; Sanderson, Beck, & Beck, 1990). The National Comorbidity Study found that 56% of persons who met the criteria for current major depression were diagnosed with at least one other psychiatric disorder (Blazer, Kessler,

McGonagle, & Swartz, 1994). Personality disorders coincide with depression. Shea, Widiger, and Klein (1992) found that 74% of depression cases displayed personality disorders. Screeners that accurately detect the comorbidity of depression symptoms and other psychiatric symptoms (e.g., substance abuse and anxiety) can improve treatment planning. Several scales (Depression & Anxiety Stress Scales and the Hospital Anxiety and Depression Scale) assess depression and anxiety symptoms in English or Spanish (Crawford & Henry, 2003; Herrero, Blanch, & Peri, 2003).

The Internet

The Internet is a new medium for computer-assisted psychological assessment. The Internet has advantages over paper-and-pencil assessment: (a) assessment is accessible; (b) the user's responses are immediately ready for scoring, statistical analysis, and informational feedback; and (c) a researcher can gather large data sets in a short period of time (Barak & English, 2002). Research offers empirical support for Internet-based self-report psychological testing as reliable, valid, cost-effective, and advantageous alternatives to conventional testing (Bicanich, Slivinski, Hardwicke, & Kapes, 1997; Joinson, 1999; Pasveer & Ellard, 1998).

One study reported the evaluation of depression screening on the internet. Houston and others (2001) evaluated a web-based version of the CES-D that provided feedback to respondents about their results. More than 24,000 respondents completed the scale over an eight-month period. Fifty-eight percent of the respondents tested positive for depression but fewer than half had been in treatment for depression. However, a significantly lower proportion of ethnic minorities, lower income, and elderly adults accessed the on-line screener. The highly selective nature of the study respondents precluded the generalizability of the results.

Published systematic evaluation on the reliability and validity of web-based mental health assessment applications is not extensive (Barak, 1999). The literature demonstrates the need for more controlled experimental studies of internet screening (Taylor & Luce, 2003). Moreover, little is known about the cultural and linguistic appropriateness of English language psychological tests on the internet (Schmidt, 1997). Studies of the Internet assessment must be guided by empirical research and culturally appropriate practice standards that generate access for diverse populations, such as Latinos (American Psychological Association, 1999).

Practical Implications of Depression Screening for Latinos

Based on a review of the literature on paper-and-pencil and computerized depression screening, the following practical implications are offered regarding depression screening for Latinos.

- Paper-and-pencil and computer-assisted methods demonstrate evidence of adequate reliability and validity. However, more research is needed to examine gender and cultural differences.
- Paper-and-pencil and computer-assisted methods show equivalence. Mean scores, distributions, and test administration times are similar across these two methods. Thus, computerized methods are viable alternatives.
- In general, the paper-and-pencil and computer-assisted methods reviewed in this chapter exhibited cross-cultural sensitivity. English- and Spanish-speaking users reported positive ratings of conventional and computerized approaches.
- More research is needed to improve the detection of depression in Latinos. Research ought to examine comorbidity of symptoms (depression and anxiety) and physiological data (e.g., voice properties).

Conclusion

In summary, paper-and-pencil and computerized interviewing techniques are useful tools for the accurate detection of likely cases of depression in Latino populations. Depression screening may be implemented in a variety of settings including primary care facilities. Latino populations may benefit from depression screening strategies in view of the shortage of culturally competent Latino mental health professionals to adequately assess such patients for appropriate treatment. Innovative paper-and-pencil and computerized interviewing can contribute to the early detection and subsequent treatment of subclinical and clinical depression in Latino populations.

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Chapter 8

Diagnosis of Depression Among Latino Children and Adults

Antonio J. Polo and Steven R. López

Personal Journey: Antonio J. Polo

I came to the United States when I was 13 years old and my siblings, parents, and grandparents have all emigrated (not all to the United States) at some point in their lives. In 1985, my family and I moved from one large urban city (Mexico City) to another (Los Angeles). My experience with learning a new language and facing new expectations and values in the U.S. culture has shaped me greatly as a person. My professional observations and research questions have been fueled by experiences working with those who are culturally different from the mainstream groups in the United States. I first became interested in research on depression while in graduate school at the University of California, Los Angeles (UCLA). As a group therapist working in several middle schools in impoverished neighborhoods, a powerful training opportunity was made available to me. The Latino and Spanish-speaking youth referred to our program disproportionately reported suicidal ideation and other depressive symptoms. At the time, I wondered if there were specific stressors which these youth shared that were associated with these thoughts and feelings. Was the higher expression of this type of distress in Latino youth a function of the teacher referral process or were there cultural components and/or socioeconomic stressors involved? The answers to these questions are, in my opinion, increasingly relevant to clients, undergraduate students, service providers, and to the field of psychology, in general.

Currently, I am interested in two areas of research. The first is expanding our basic understanding about the mental health of Latino families especially in terms of disparities, but also more generally about factors associated to their adjustment and well being (e.g., immigrant status). A second area of interest relates to the prevention and treatment of depression in youth, and centers

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around developing treatments that are empirically supported, more easily implemented in community settings, and culturally adapted.

Personal Journey: Steven R. López

I am a fifth-generation Tucsonan. Two generations of the Lopez family were born under the Mexican flag in el Presidio de San Agustín, a Mexican military fort. With the Gadsden Purchase of 1852, San Agustín became part of a U.S. territory and later was named Tucson, Arizona. In contrast to my grandparents, who spoke to my parents only in Spanish or both Spanish and English, my parents spoke with me and my siblings only in English. We grew up in a middle-class community that was largely “White” with a sprinkling of other Mexican American families like ours, speaking largely if not only English. Growing up, my siblings and I knew that we were Mexican Americans, but we weren’t quite sure what that meant.

In 1971, I enrolled in Claremont Men’s College (now Claremont McKenna College), which is located in Southern California, 40 miles east of downtown Los Angeles. I was invited to participate in a number of social functions with other Mexican American students, many of them from the Los Angeles area who identified themselves as Chicanos. I had never heard that ethnic label before and was not sure it applied to me. My parents considered Chicanos to be “rabble-rousers.” I learned that I enjoyed activities with other Mexican origin students but I never felt quite comfortable nor fully accepted, with the exception of a handful of friends. Figuring out my ethnic identity became my personal project during that first year of college. Was I American of Mexican descent?, as suggested by my Great-Uncle Bert. Or was I Mexican American? my parents’ term, or Chicano?, the label of my new peers. Regardless of the label, did being of Mexican origin make me any different from my “Anglo” friends, and if so, why?

In my junior year I spent a semester in Mexico, trying hard to be Mexican, improving my school-based Spanish, and my understanding of Mexican history and literature. I took an independent anthropology course for which I studied my family roots. During my senior year I carried out an original study of mental health clinicians’ perceptions of standards of mental health for Mexican Americans. I think I was trying to figure out what being Mexican American actually meant. At the personal level, I learned that I was Mexican American and Chicano, even though I was different from my peers from East Los Angeles. But I also learned that I could apply my passion for the study of ethnicity and culture at the personal level to the study of ethnicity and culture as part of a research study. So what began as a personal project, turned into a vocation of studying ethnicity, culture, and human behavior. Given my interest in mental health I pursued a graduate degree in clinical psychology, and I applied my interests in ethnicity and culture to the study of mental health related issues particularly as they pertain to Latinos.

Introduction

A reliable and valid assessment of depression among Latinos depends greatly on the tools available and their ability to accurately capture this form of psychological distress. We present and evaluate several diagnostic instruments used in the assessment of depressive disorders among Latino adults and children. In particular, we review common structured and semi-structured diagnostic interviews used in epidemiological and clinical research, including those which have been translated and used with Latino populations. An important aspect of this review is the evaluation of how well the instruments function when applied to Latino and Spanish speaking populations, as indicated by available psychometric properties. Based on this review, we offer recommendations to improve current assessment methods of depressive conditions affecting Latinos. We conclude by suggesting that progress in this area is ultimately measured by the availability and widespread use of effective methods to evaluate the status, course, and treatment of depression among Latinos.

Classification and Diagnostic Criteria for Depressive Disorders

Before we examine available instruments, it is important to consider the diagnostic criteria of key depressive disorders based on the *Diagnostic and Statistical Manual of Mental Disorders*, Fourth edition, Text Revision (DSM-IV-TR; American Psychiatric Association, 2000). In addition, it is important to examine how the DSM-IV-TR addresses social and cultural factors. The DSM-IV-TR is currently the standard that is used in both research and clinical settings in the United States to determine whether an individual's symptom presentation warrants classification as a disorder, which often determines inclusion in research protocols, eligibility for mental health services in community settings, and course and outcome evaluations. The diagnoses that feature depressed states are grouped in the DSM-IV-TR under the mood disorders, and are divided into the depressive disorders, the bipolar disorders, and those that are substance induced or the result of a medical condition. This chapter focuses on the depressive disorders, which include both major depressive disorder and dysthymic disorder.

Major Depressive Disorder

According to DSM-IV-TR, a diagnosis of major depression disorder (MDD) is given to an individual if one or more major depressive episodes (MDE) is present. The criteria for MDE are outlined below. The core symptoms that are evaluated for a diagnosis of MDE/MDD have remained basically unchanged over the past 25 years. The DSM-III (APA, 1980), DSM-III-R (APA, 1987), and DSM-IV-TR use essentially identical diagnostic symptoms (Criterion A). However, starting

with the DSM-IV (APA, 1994), an additional emphasis was placed on the individual's clinical distress and impairment as part of the core diagnostic requirements (Criterion C), which did not exist in previous DSM versions.

Criteria for Major Depressive Episode (DSM-IV-TR; APA, 2000)

- A. Five (or more) of the following symptoms have been present during the same two-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure.
 1. Depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad or empty) or observation made by others (e.g., appears tearful).
 2. Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others).
 3. Significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day.
 4. Insomnia or hypersomnia nearly every day.
 5. Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down).
 6. Fatigue or loss of energy nearly every day.
 7. Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick).
 8. Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others).
 9. Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.
- B. The symptoms do not meet criteria for a mixed episode.
- C. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
- D. The symptoms are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hypothyroidism).
- E. The symptoms are not better accounted for by bereavement, that is, after the loss of a loved one, the symptoms persist for longer than two months or are characterized by marked functional impairment, morbid preoccupation with worthlessness, suicidal ideation, psychotic symptoms, or psychomotor retardation.

Dysthymic Disorder

A diagnosis of dysthymic disorder (DD) is warranted if the DSM-IV-TR criteria outlined below are met. In contrast to MDD/MDE, DD was modified significantly from the DSM-III to the DSM-III-R. For example, 3 of 12 possible symptoms were required for a DD diagnosis according to DSM-III. For DSM-III-R and DSM-IV, the list of symptoms was significantly reduced, and only 2 of 6 symptoms are now required, in addition to Criterion A (depressed mood). As a result, recurring thoughts of death or suicide, tearfulness or crying, and social withdrawal, are no longer required for the diagnosis. Furthermore, the symptom free periods required in the two-year period were further specified from a vague “no more than a few months at a time” to a more specific “two months at a time.” The added focus on clinical distress and functional impairment represented the only criteria modification between the DSM-III-R and DSM-IV editions.

Criteria for Dysthymic Disorder (APA, 2000)

- A. Depressed mood for most of the day, for more days than not, as indicated either by subjective account or observation by others, for at least two years.
- B. Presence, while depressed, of two (or more) of the following:
 - 1. poor appetite or overeating
 - 2. insomnia or hypersomnia
 - 3. low energy or fatigue
 - 4. low self-esteem
 - 5. poor concentration or difficulty making decisions
 - 6. feelings of hopelessness
- C. During the two-year period of the disturbance, the person has never been without the symptoms in Criteria A and B for more than two months at a time.
- D. No major depressive episode has been present during the first two years of the disturbance; that is, the disturbance is not better accounted for by chronic major depressive disorder, or major depressive disorder, in partial remission.
- E. There has never been a manic episode, a mixed episode, or a hypomanic episode, and criteria have never been met for cyclothymic disorder.
- F. The disturbance does not occur exclusively during the course of a chronic psychotic disorder, such as schizophrenia or delusional disorder.
- G. The symptoms are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hypothyroidism).
- H. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

A key component of the disorders listed in all editions of the DSM is that they are categorical in nature. An individual qualifies for a diagnosis only if all of the criteria are met for any given disorder. As a result, the difference between an individual who receives the diagnosis of MDD or DD and one who does not can center on the presence or absence of a single additional symptom or the presence or absence of a diagnostic criterion (e.g., impairment in functioning). Therefore, sound assessment techniques are essential. These decisions become crucial when evaluating individuals of diverse cultural backgrounds, to the extent that their presentations or expressions of distress are foreign to those designing diagnostic tools, or conducting the diagnostic evaluation.

The DSM relies largely on the extant literature about a specific disorder to determine and validate its criteria. A panel of experts or work group reviews the published research literature and collects data to make changes and to assist in resolving diagnostic-related issues. For example, the DSM-IV-TR was published in 2000 to update relevant information not available when the DSM-IV was published in 1994. The extent to which ethnic and cultural considerations are incorporated into the diagnostic criteria depends, in part, on the empirical data generated on this topic about each disorder. It is important to recognize, however, that the decision making process of the DSM-IV Task Force and the work groups is embedded in a political process that guides how cultural considerations are finally integrated (Kirmayer, 1998; Mezzich et al., 1999).

In an effort to acknowledge potential variants in the presentation and prevalence of disorders, the DSM-IV-TR includes a descriptive section for every disorder on cultural, developmental, and gender features to complement the symptom description and diagnostic criteria. This supplemental information, however, is not explicitly meant as a substitute for the diagnostic criteria listed for each disorder. Cultural considerations were first introduced into the DSM system with DSM-III. In the discussion of schizophrenia, DSM-III noted that beliefs or experiences of "subcultural groups" may reflect normative behavior and may not be indicative of psychosis. This was the only reference to culture in three main groups of disorders (schizophrenia, affective, and personality) and possibly throughout all of DSM-III (Lopez & Nunez, 1987). DSM-IV was the first edition that included cultural considerations across most disorders. For MDE, specifically, the DSM-IV-TR indicates that, in some cultures, feelings of depression may be experienced in somatic terms, instead of through sadness. Those of Latino and Mediterranean backgrounds are cited specifically as individuals who may express distress associated with depression as complaints of headaches or "nerves." Clinicians are encouraged not to misinterpret normative cultural experiences, such as "being visited by the dead," as evidence of hallucinations or delusions sometimes present in moderate to severe forms of depressive episodes.

Therefore, there is increased attention in our current nosological system to acknowledge that cultural presentations of depression vary and, as noted

earlier, some recommendations are based on cultural factors in the expression of distress related to depression and to major depressive episodes, specifically. However, no direct or explicit rules are presented for how to incorporate these alternative presentations into the diagnosis. Although the DD diagnosis has significant symptom overlap with that of MDE, less attention has been given in the DSM to the role of culture and ethnicity in the expression, prevalence, or assessment of DD. In fact, no information is offered regarding this topic on the DSM-IV-TR or any of its predecessors.

For both MDD and DD, there are no explicit criteria modifications related to cultural or linguistic factors. For children and adolescents, in contrast, the DSM-IV notes that when evaluating depressive disorders, irritable mood is frequently present in youth and should be considered when making diagnostic decisions. For this population, irritability can replace depressed mood as one of the core symptoms of both MDE and DD. Similarly, for DD, when applied to children and adolescents, the required duration of the depressed mood (or irritability) and associated symptoms are reduced from at least two years to at least one year. It is important to note that these criteria modifications concern developmental issues. The clinical presentation of these disorders is thought to differ for youth than for adults. In other words, specific and concrete recommendations about changes to the diagnostic criteria of specific disorders are given for these populations.

The need for clearer guidelines is suggested by a recent epidemiologic study of “nervios” that points out the intersection of professional and lay cultural models of illness. Salgado de Snyder, Diaz-Perez, and Ojeda (2000) found that among 942 Mexican adults residing in a rural community, 146 met criteria for “nervios.” Of those with nervios, several met criteria for any DSM-III-R mood (women: 28%; men: 7%) or anxiety disorder (women: 33%; men: 10%). Many did not meet criteria for any mood and anxiety disorders. These findings point out that the application of DSM-based models of illness capture only a proportion of individuals with definable models of distress or disorder.

Under the current DSM-IV system, instead, the responsibility for judgment about the consideration of alternative cultural presentations is left to the person making the diagnosis, or those designing instruments for clinical and research use. “Nervios” may go unnoticed if the clinician or diagnostic tool does not include some means to access the definition of their problem, symptom, or illness. Accessing their perspective can be accomplished by inquiring about distinct cultural-specific notions or by inquiring more generally about their problems/illness allowing the respondents to use their language and their terminology. More specific guidelines are needed to assist researchers and clinicians in systematically incorporating cultural considerations in clinical assessment. DSM-IV’s Outline for Cultural Formulation is a useful start as it encourages clinicians to assess their patients’ understanding of their illness as well as their sociocultural context. However, more work is needed to further develop the Outline for Cultural Formulation (Lewis-Fernandez, 1996).

Examining how clinicians consider culture in their daily practice can be useful as well in developing more specific guidelines (see, for example, Lopez & Hernandez, 1986).

Diagnostic Instruments for Depressive Disorders

Assessments of depressive disorders are commonly conducted through the use of clinical or research diagnostic interviews. In research studies, both structured and semi-structured interviews are used to evaluate the prevalence of disorders in community and clinical samples. These instruments are central in the evaluation of the efficacy of interventions. Key differences between these two groups of instruments are that structured interviews allow fewer options in the choice of responses allowed (mostly either “Yes” or “No”) and limit the level of interpretation and decision making by the interviewer. They are said to be “respondent based” and can be administered by lay persons. Structured interviews were designed specifically for use in large population-based studies. Semi-structured interviews, on the other hand, typically require clinical training or a professional degree in a mental health field, and were designed for use in research conducted in clinical settings. They are often regarded as “interviewer based,” since the judgment and interpretation about an individual’s responses and presentation are placed, to a larger extent, on the person conducting the interview.

To illustrate these two types of interviews, below are two examples of the assessment of psychomotor retardation, which is included in the diagnosis of MDD. The first is from the Diagnostic Interview Schedule for Children (DISC; Costello, Edelbrock, Dulcan, Kalas, & Klaric, 1984), a highly structured interview. The second is from the Schedule for Affective Disorders and Schizophrenia for School-Aged Children (K-SADS; Chambers et al., 1985), a semi-structured interview:

DISC-IV (MDD Module): *1. Do you often feel slowed down. . . like you walk or talk much slower than you usually do? 2. Do other people notice that you are slowed down? 3. Have you felt slowed down like this nearly everyday for two weeks or longer?* For all three of these questions, respondents are asked to provide a “yes” or “no” answer. No other responses are allowed (e.g. ,“in a way” or “a little”). Also, question 2 is only asked if a “yes” is endorsed for question 1.

K-SADS-Present and Lifetime Version (MDD Supplement): *Since you started feeling sad, have you noticed that you can’t move as fast as before? Have you found it hard to start talking? Do you talk a lot less than before? Have other people noticed it?* In addition to asking these questions, the interviewer/diagnostician is instructed to take into account observations of the individual during the interview. The interviewer is then asked to indicate whether

psychomotor retardation is present by selecting one of three categories: (1) Not at all; (2) Sub-threshold: Conversation is noticeably retarded but not strained, and/or slowed body movement; or (3) Threshold: Conversation is somewhat difficult to maintain, and/or moves very slowly.

No studies that evaluate the advantages or disadvantages of using structured or semi-structured interviews for Latinos could be located. Semi-structured interviews may have some appeal to clarify and consider cultural variations, due to their increased flexibility and various probes. A similar advantage may apply to evaluating persons whose native language is not English. Having flexibility in asking questions may reduce possible misunderstandings due to language factors. On the other hand, threshold or level of severity decisions for symptoms are left up to the interviewer, rather than the respondent, which may be problematic if the interviewer is not familiar with the client or subject's cultural background, including normative behavioral variations.

Diagnostic Instruments for Adults

Five widely used structured and semi-structured diagnostic instruments used in adult research studies are presented in Table 1. They include the Composite International Diagnostic Interview (CIDI; Robins et al., 1988), the Diagnostic Interview Schedule (DIS; Robins, Helzer, Croughan, & Ratcliff, 1981), the Schedule for Affective Disorders and Schizophrenia (SADS; Endicott & Spitzer, 1978), the Structured Clinical Interview for DSM-IV (SCID; Spitzer, Williams, Gibbon, & First, 1992), and the Anxiety Disorders Interview Schedule (ADIS; Di Nardo, O'Brien, Barlow, Waddell, & Blanchard, 1983). All use DSM criteria to evaluate the presence or absence of mood or depressive disorders, among many others.

Structured diagnostic interviews have been used in cross-cultural investigations, including several focused on Latinos. The CIDI, in particular, was designed for the World Health Organization (WHO) to be administered not only in the United States, but around the world. It is available in many languages, including Spanish, and its latest revision (version 2.1) included an international advisory committee, which examined each of the items and their applicability across cultures (see Andrews & Peters, 1998). The National Comorbidity Survey (NCS; Kessler et al., 1994) and the NCS-Replication (NCS-R; Kessler et al., 2003), two national epidemiological studies carried out with the English-speaking population in the United States, utilized the CIDI to determine the prevalence of disorders and included a significant English speaking Latino subsample. Additionally, Spanish versions of the CIDI have been administered to Mexican Americans in Fresno, California, and Mexico City (Vega et al., 1998) using DSM-III-R criteria, and to a national sample in Mexico most recently (Medina-Mora et al., 2003) using DSM-IV criteria. The CIDI is an adaptation of its predecessor, the DIS, which was

translated and evaluated for use with Mexican Americans and Latinos in Los Angeles (Burnam, Karno, Hough, Escobar, & Forsythe, 1983; Karno, Burnam, Escobar, Hough, & Eaton, 1983;), as well as in Puerto Rico (Canino et al., 1987), and Mexico City (Caraveo Anduaga, Gonzalez Fortaleza, & Ramos Lira, 1991; Gonzalez Fortaleza, Caraveo Anduaga, Ramos Lira, & Sanchez Baez, 1988;). While a number of studies using adult structured interviews have been conducted on Latino and Spanish-speaking samples, almost all were conducted before the latest DSM criteria (DSM-IV) were available and using the DIS. The NCS-R, as well as the Mexican national study, are exceptions, but neither includes Spanish speaking populations in the United States. The National Latino and Asian American Study includes a sample of Spanish- and English-speaking adults in the United States from Puerto Rican, Cuban, and Mexican backgrounds using DSM-IV criteria. In contrast, fewer studies focusing primarily on Latino adults have used semi-structured interviews. To our knowledge, of the three semi-structured interviews listed in Table 1, only the SCID is available in Spanish. Additionally, studies that have included English speaking Latinos often do not specify the results separately for this group (Weissman et al., 1999), while others have included very small numbers of Latinos (Brown, Di Nardo, Lehman, & Campbell, 2001). An exception to this trend is a recent study by Daza, Novy, Stanley, and Averill (2002), in which a bilingual Latino sample ($n = 98$) was administered the ADIS-IV, using DSM-IV criteria, as part of a validation study for an anxiety and depression symptom scale. However, since the ADIS is not available in Spanish, Daza and her colleagues reported that clinicians were only able to administer this interview in English. The SCID, on the other hand, has been translated into European Spanish, and has been used with a sample of patients in Spain (Herrero et al., 2003). A Spanish translation by Columbia University and the University of Puerto Rico Medical Sciences Campus is available and has been used with Spanish-speaking U.S. Latinos. This bilingual SCID contains the questions but not the criteria, in Spanish. Also, not all modules are available in Spanish, so not all of the disorders can be obtained using this interview. Modules A through F, including the mood episodes module (Module A), are available in Spanish. Modules on somatoform, eating, and adjustment disorders (G, H, and I) are not. Recent published reports using this version for patients diagnosed with depressive disorders were identified. Two studies carried out pharmacological noncontrolled clinical trials of adult outpatients (Sanchez-Lacay et al., 2001; Schneier et al., 2003;). A third study evaluated interpersonal therapy (IPT) for mothers of depressed youth (Verdeli et al., 2004). All three studies included Spanish-speaking adults and used the SCID as a diagnostic tool during the pretreatment stage only.

In sum, while a number of adult diagnostic instruments are available, not all have been translated into Spanish, and several have only rarely been used in studies that focus on Latinos. Spanish translations of two of the three semi-structured interviews reviewed are not available, thus limiting their use with Spanish-speaking U.S. Latino populations.

Diagnostic Instruments for Children and Adolescents

As with adults, both structured and semi-structured diagnostic interviews exist for use specifically with children and adolescents. Four instruments widely used to derive child and adolescent diagnoses are presented in Table 1. They include the Diagnostic Interview Schedule for Children (DISC), the Schedule for Affective Disorders and Schizophrenia for School Aged Children (K-SADS), the Diagnostic Interview for Children and Adolescents (DICA; Herjanic & Reich, 1982), and the Anxiety Disorders Interview Schedule (ADIS-C/P; Silverman & Nelles, 1988). The DISC is a highly structured interview, while the K-SADS, DICA, and ADIS-C/P are semi-structured interviews. Most of these (DISC, K-SADS, and ADIS-C/P) were modeled or patterned after their adult counterparts. However, they also include assessments of several disorders usually diagnosed in childhood and adolescence (e.g., enuresis, separation anxiety disorder, conduct disorder), most of which are not assessed in adult diagnostic interviews. All of the youth interviews listed in Table 1 have incorporated the latest DSM-IV criteria, and all assess for current and lifetime episodes of MDD and DD.

The DISC is by far the most extensively studied diagnostic interview for Latino youth. More than 30 psychiatric diagnoses that occur in children and adolescents can be obtained from the DISC, and it is available in parallel parent report and child self-report versions. Furthermore, the latest version of this instrument, which includes DSM-IV criteria, has been translated and adapted for a Spanish speaking population, and was administered to a clinic population in Puerto Rico using both children and parents as respondents (Bravo et al., 2001). An earlier version of the instrument, which was based on DSM-III-R criteria, also was translated for use with Spanish speaking Latinos, and was administered in the Methodologic Epidemiologic Study for Children and Adolescents (MECA; Dulcan, 1996; Lahey et al., 1996) to island Puerto Ricans (in Spanish) as well as a small sample of Latinos in the mainland United States (in English).

Spanish translations exist for both the K-SADS and the DICA. However, these translations were carried out in Spain, and thus may not be applicable for samples of Latinos in the United States or for use in Latin America. A Latin American Spanish version of the K-SADS is also available (Monica Wolffe, personal communication), but no published studies were identified that have used a version of this instrument with children and adolescents in the United States. Although studies using the English K-SADS have included Latinos (Kaufman et al., 1997; Weissman et al., 1999;), no studies were found in which this ethnic group was the central focus or in which the findings were presented separately for the Latino youth sampled.

The DISC currently represents the only well studied child diagnostic interview for U.S. Latinos. It is further developed than both the K-SADS and the DICA, in terms of its cross-cultural applicability and use, at least for Spanish

Table 1 Availability and use of diagnostic instruments for Latinos

Name	Original Publication	Type	Acronym	DSM-IV Spanish translation	Published use with US Latinos in English?	Published use with US Latinos in Spanish?	Psychometric data available for US Latinos?
Adult Diagnostic Instruments							
Diagnostic Interview Schedule	Robins, Helzer, Croughan and Ratcliff (1981)	Structured	DIS	No	Yes	Yes	Yes
Composite International Diagnostic Interview	Robins et al. (1988)	Structured	CIDI	Yes	Yes	Yes	No
Schedule for Affective Disorders and Schizophrenia	Endicott and Spitzer (1978)	Semi-structured	SADS	No	No	No	No
Structured Clinical Interview for DSM-IV	Spitzer, Williams, Gibbon, and First (1992)	Semi-structured	SCID	Yes	Yes	Yes	No
Anxiety Disorders Interview Schedule	Di Nardo et al. (1983)	Semi-Structured	ADIS	No	Yes	No	No
Child Diagnostic Instruments							
Diagnostic Interview Schedule for Children	Costello et al. (1984)	Structured	DISC	Yes	Yes	Yes	Yes
Schedule for Affective Disorders and Schizophrenia for School Aged Children	Chambers et al. (1985)	Semi-structured	K-SADS	Yes	Yes	No	No
Diagnostic Interview for Children and Adolescents	Herjanic and Reich (1982)	Semi-structured	DICA	Yes	No	No	No
The Anxiety Disorders Interview Schedule for Children	Silverman and Nelles (1988)	Semi-structured	ADIS	No	No	No	No

speaking populations in the United States. However, even the DISC has not been used extensively in the mainland United States and with English-speaking Latinos, and has mostly been used with Latino youth who are Puerto Rican. As was the case with adult instruments, semi-structured interviews are poorly represented in studies that focus on English also and Spanish-speaking Latinos.

Psychometric Properties of Depression Diagnostic Instruments

In addition to translating and using an instrument with Spanish- and English-speaking Latinos, several studies have assessed the measure's psychometric properties when applied to these populations. These assessments can help test the instrument's research and clinical utility, including its sensitivity to change as a result of an intervention. In this section, we review selected reliability and validity studies, highlighting the results for depressive disorders, including both MDD and DD. Our focus is on those that have included U.S. Latino adults and children, and Spanish-speaking populations.

A total of five test-retest reliability and four concurrent validity studies were identified for Latino and/or Spanish-speaking populations. Only three diagnostic instruments (DIS, DISC, and DICA) are represented in these studies. Despite the large number of diagnostic interviews available in both structured and semi-structured formats, we were only able to identify psychometric evaluations for U.S. Latinos in studies using the DIS and DISC.

Test-Retest Reliability Findings

An important barometer used to determine the soundness of a measure is the level of consistency of an individual's responses across administrations. A test-retest design is one method of evaluation commonly used. Although there is variation, studies including diagnostic interviews typically use a 1-2 week range in between test and re-test administrations. Cohen's (1960) kappa statistic (κ) is used to assess the level of agreement across categorical data (e.g., yes/no diagnosis). Landis and Koch (1977) recommend the following guidelines to interpret the kappa estimates: $\kappa < .40$, poor; $\kappa = .40$ to $.58$, fair; $\kappa = .59$ to $.75$ good; and $\kappa > .75$ excellent.

Table 2 presents a summary of five test-retest reliability studies conducted with Latino and Spanish-speaking populations using diagnostic instruments. The first study of this kind was published by Burnam and her colleagues (1983). The sample consisted of 151 adults from a community mental health center, including 61 monolingual (Spanish) patients and 90 bilingual (English-Spanish) patients. The design included test-retest administrations of the Spanish DIS using DSM-III criteria in the monolingual sample. For depressive disorders, the results indicate fair agreement for a lifetime diagnosis of MDE ($\kappa = .49$). For

Table 2. Test-retest reliability studies of depressive disorders among Latino children and adults

Study	Subgroup/Location	Language	Instrument	Setting	Informant	MDD/ MDE Kappa	DD Kappa
Burnam et al. (1983)	Mexican American adults in Los Angeles	Spanish- English- Spanish	DIS	Clinic	Adult/Self	Fair	Poor
Canino et al. (1987)	Puerto Rican adults in Puerto Rico	Spanish- Spanish	DIS	Clinic	Adult/Self	Good	Poor
Ribera et al. (1996)	Puerto Rican youth in Puerto Rico	Spanish- Spanish	DISC	Clinic	Parent	Fair	Poor
				Community	Youth/Self	Fair	Good
					Parent	Poor	Poor
					Youth/Self	Poor	Poor
					Parent and Youth	Good	Good
					Parent and Youth	Poor	Poor
Bravo et al. (2001)	Puerto Rican youth in Puerto Rico	Spanish- Spanish	DISC	Clinic	Parent	Fair	Not Reported
					Youth/Self	Poor	Not Reported
Espeleta et al. (1997)	Spanish youth in Spain	Spanish- Spanish	DICA- Current	Clinic	Children/Self	Good	Not Reported
					Adolescents/Self	Good	Good
					Parents of Adolescents	Poor	Good
					Parents of Children	Poor	Fair
					Children/Self	Fair	Not Reported
					Adolescents/Self	Fair	Not Reported
					Parents of Adolescents	Poor	Not Reported
					Parents of Children	Poor	Not Reported

lifetime DD, on the other hand, poor agreement was found ($\kappa = .16$). For the bilingual sample, a good ($\kappa = .61$) agreement level across languages was found for lifetime MDE, but not for lifetime DD ($\kappa = .38$; poor).

Several years later, Canino and her colleagues (1987) compared diagnoses made by a lay interviewer and a psychiatrist using the DIS in a modified test-retest design (also called a procedural validity design) and found good agreement for lifetime MDE ($\kappa = .61$) and poor agreement for lifetime DD ($\kappa = .33$). This adult sample consisted of 129 outpatients and 60 community subjects and used DSM-III diagnostic criteria. While the Burnam et al. (1983) study surveyed a predominately Mexican American sample, Canino's study sampled Puerto Ricans in Puerto Rico.

Two separate studies have assessed the test-retest reliabilities of the DISC with Spanish speaking children and their parents, one using DSM-III-R criteria (DISC 2.1), and the other using DSM-IV criteria (DISC-IV). Both have been conducted in Puerto Rico. In the first study (Ribera et al., 1996), parent reports of MDD diagnosis revealed fair agreement ($\kappa = .52$) for the clinic ($n = 28$) sample and poor agreement ($\kappa = -.01$) for the community sample ($n = 124$). For DD, the corresponding agreement levels were poor for both the clinic ($\kappa = .32$) and community samples ($\kappa = -.01$). For youth self-reports, the clinic sample obtained fair agreement ($\kappa = .50$ and $.64$ for MDD and DD, respectively). The community sample, on the other hand, had poor agreement levels on this self-report instrument ($\kappa = .26$ and $.00$ for MDD and DD, respectively). The combined (parent and child) reports increased the level of agreement on both diagnoses, but only for clinic samples. For the clinic sample, combined agreement was good for both MDD ($\kappa = .73$) and DD ($\kappa = .69$). Within the community sample, agreement for combined reports remained poor for MDD ($\kappa = .29$), and DD ($\kappa = -.02$), however.

In a second test-retest study, Bravo and coworkers (2001) used the DSM-IV version of the DISC on an outpatient and residential sample of youth, with administrations carried out an average of 12 days apart. Reliabilities for past year MDD indicated fair agreement for parent reports ($\kappa = .48$) and poor agreement for youth self-reports ($\kappa = .15$) for this disorder. Data for DD were not presented in this study.

The Spanish DICA's test-retest reliability was assessed with an outpatient sample of 110 children and adolescents and their parents in Spain (Ezpeleta, de la Osa, Domenech, Navarro, & Losilla, 1997). The average interval between tests was 11 days, and both parent and child/adolescent reports were obtained for DSM-III-R criteria. Agreement levels for current MDD were good for children ($\kappa = .65$) and adolescents ($\kappa = .67$). Reports for lifetime MDD were lower, reaching only a fair level of reliability for children ($\kappa = .49$) and a poor level of reliability for adolescents ($\kappa = .39$). In terms of parent reports, agreement levels for current diagnosis of MDD were poor for parents of children ($\kappa = -.04$) and parents of adolescents ($\kappa = .23$). For lifetime MDD, parents of children and parents of adolescents reported poor agreement ($\kappa = .35$ and $.32$, respectively). In this study, no agreement scores were reported for children's

self-report of DD, and parent report for this group was fair ($\kappa = .49$). On the other hand, the agreement level for adolescents was good for both self-report ($\kappa = .65$) and parent report ($\kappa = .77$) of DD.

These studies suggest that depressive disorders, using diagnostic interviews, may be particularly difficult to report reliably. As Table 2 shows, the agreement levels found in the test-retest reliability studies which focused on U.S. Latinos [i.e., excluding the Ezpeleta et al. (1997) study, which was conducted in Spain] were often fair or poor for both MDD (8/11) and DD (7/9) diagnoses. It is premature to suggest, however, that diagnostic measures used among Latinos have consistently obtained low test-retest reliability scores for depressive disorders. Several studies that have included Latinos have documented good and/or excellent reliabilities for MDD/MDE and DD. Shaffer, Fisher, Lucas, Dulcan, and Schwab-Stone (2000), for example, reported good agreement ($\kappa = .66$) for parent MDE reports, and excellent agreement ($\kappa = .92$) for child self-reports on the DISC (DSM-IV criteria), which was administered to a sample that was 60% "African-American and/or Hispanic." Roberts, Solovitz, Chen, and Casat (1996) also conducted a test-retest study using the DISC (DSM III-R criteria) and reported good agreement for DD ($\kappa = .59$) for the overall sample of Anglo, African-American, and Latino youth. Furthermore, the authors noted that no significant differences were found across ethnic groups for the reliability of affective disorders. Schwab-Stone and colleagues (1993) also reported good levels of agreement ($\kappa = .71$) for MDD in a study conducted in New York with a sample described as 30% "Hispanic." Unfortunately, while all of these studies were conducted with samples of English-speaking Latinos, none of them reported separate test-retest reliabilities for MDD or DD for this ethnic group.

Although preliminary, it appears that the depressive disorders reliability scores for Spanish-speaking Latinos may be lower than those for English-speaking Latinos. However, since the studies with English measures have not reported the results for this group separately, it is not possible to make more definitive conclusions. In general, it is difficult to make comparisons across studies, because of the different sampling criteria (inpatients and outpatients vs. outpatients), and the unique design features (e.g., lay person vs. clinician administration in some and lay person vs. lay person in others). Much would be learned from a study focusing on a direct evaluation of the impact of language on the reliability of these measures.

Only one child interview (DISC) and one adult interview (DIS) have been included in test-retest designs for U.S. Latinos. As a result, it is not possible to compare the psychometrics across adult instruments or across child instruments. A carefully designed study evaluating several diagnostic instruments using the same population (e.g., age groups, outpatients, etc.) is needed. Additionally, despite the widespread use of the CIDI, no study could be located which examined the test-retest reliability for this measure with U.S. Latino samples, in Spanish or English. Test-retest designs for Latino populations are

also missing for the SADS, SCID, and ADIS, which are widely used diagnostic instruments.

Historically, adult test-retest studies (not necessarily focused on Latinos) have shown difficulties in obtaining high reliability for DD (see Wittchen, 1994). However, recent cross-cultural assessments have shown improvement in the levels of diagnostic agreement (Wittchen et al., 1991), which warrants a reexamination of a Latino sample using the latest DSM criteria. This disorder consistently was found to have poor test-retest reliability in the studies among Latinos, and both of the adult test-retest studies were conducted using the now outdated DSM-III criteria. Given the diagnostic criteria changes to DD noted earlier, an updated psychometric evaluation of this diagnosis for Latino adults is needed.

Finally, the vast majority of the test-retest designs have examined reliability in the context of administrations that use the entire diagnostic instrument. Investigators wishing to improve the properties of DD or MDD may wish to study these modules separately. That way, elements associated with lower and higher agreement can be identified and addressed. These may include problems associated with subpopulations (e.g., across education levels, languages, age groups) as well as more general instrument or diagnostic criteria concerns (e.g., wording of specific symptoms or response options).

Concurrent Validity Findings

Concurrent validity is assessed when an instrument is evaluated relative to an existing or comparable standard. When assessing this type of validity, newly developed diagnostic interviews can be evaluated relative to existing instruments and/or alternative methods of obtaining a diagnosis, such as clinicians' evaluations. The level of agreement for concurrent validity assessments is measured with the kappa statistic, using the same categories to evaluate the level of agreement (poor to good). Good agreement indicates high concurrent validity. A limitation of this evaluation, however, is that it is not possible to determine which instrument represents the "gold standard." For the purposes of this review, the most valid instrument for the assessment of depression cannot be determined through these comparisons.

The studies by Burnam et al. (1983) and Canino et al. (1987) cited earlier included a concordance or concurrent validity component in their designs. In the study by Burnam and colleagues (1983) carried out in Los Angeles, the DIS was compared to clinical evaluations conducted by bilingual psychiatric social workers and masters level clinical psychologists using a DSM-III checklist. Since the study included administrations of both Spanish and English versions of the DIS, agreement levels were computed separately for both languages. For the Spanish DIS, agreement was poor for both MDE ($\kappa = .36$) and DD ($\kappa = .10$). For the English DIS, the levels

of agreement were fair for MDE ($\kappa = .41$) and poor for DD ($\kappa = -.03$). For the Puerto Rican study (Canino et al., 1987), a slightly different protocol was used. Psychiatrists conducted an evaluation instead of social workers or psychologists, and their diagnosis was obtained via a question and answer period, which followed the psychiatrist's administration of the DIS. All interviews were conducted in Spanish. The agreement between the psychiatrist and lay interviewer's diagnosis on the Spanish DIS was poor for both MDE ($\kappa = .26$) and DD ($\kappa = .33$). A third study using the DIS (Caraveo Anduaga et al., 1991) compared diagnoses by lay interviewers using the DIS and psychiatrists using a DSM-III checklist. The sample included inpatients and outpatients from three clinics in Mexico City. Agreement levels were poor for both MDE ($\kappa = .37$) and DD ($\kappa = .17$). As noted in the reliability section earlier, all three of these studies were conducted using DSM-III criteria, which included criteria for MDD and DD that are now outdated.

The diagnostic agreement of the DICA-R, using DSM-III-R criteria, was evaluated with a Spanish speaking outpatient sample in Spain (Ezpeleta et al., 1997). In this study, clinicians' intake evaluations were complemented with a DSM-III-R checklist. These results were compared to those found by trained interviewers using a separate DICA-R assessment. Self-report of MDD diagnostic agreement in this study was found to be fair for children (self-report, $\kappa = .40$; parent report, $\kappa = .55$) and poor for adolescents (self-report, $\kappa = .31$; parent report, $\kappa = .13$). For DD, reports indicated poor diagnostic agreement for both children (self-report, $\kappa = -.02$; parent report, $\kappa = -.02$) and adolescents (self-report, $\kappa = .24$; parent report, $\kappa = .25$).

Few validity studies have been conducted on Spanish diagnostic measures, and there is a scarcity of research on the concordance of these instruments for English- and Spanish-speaking Latinos. For example, we did not identify a single study that has directly compared more than one diagnostic instrument at a time for Latinos. Thus, it is difficult to evaluate which instrument is best suited for sensitivity to change evaluations (i.e., treatment outcome), course, and specificity, and sensitivity relative to symptom scales.

Of all the test-retest reliability and concurrent validity studies reviewed, only one involved a community sample, and it was conducted with the DISC, a child measure. A growing number of adult and child epidemiological studies have been conducted using structured diagnostic interviews with Latinos in the United States (Bird et al., 2001; Burnam et al., 1987; Canino et al., 2004; Karno et al., 1987; Vega et al., 1998) and abroad (Caraveo Anduaga et al., 1997; Medina-Mora et al., 2003;). These have provided prevalence rates of community samples, have informed us regarding differences within immigrant and U.S.-born Latinos, have highlighted disparities relative to other ethnic groups in the United States, and have even provided prevalence rates for Spanish-speaking populations in Latin America. Given the scope of these evaluations, a stronger focus on the psychometric properties of these adult instruments for nonpatient English- and Spanish-speaking Latino populations

is needed, since it can lead to increased confidence in these national and international findings.

Similarly, the only study to formally assess the Spanish and English equivalency of a diagnostic instrument using a bilingual sample was the Burnam et al. (1983) study conducted over 20 years ago and with an instrument using DSM-III criteria. Although authors have included ethnic minority groups in the psychometric studies of several English measures (see Table 1), separate reliability and validity estimates have not been offered for these different groups. It is important to test, and not assume, that the instruments will behave similarly with members of different cultural and ethnic groups, even if they are assessed in the same language (see Knight, Virdin, & Roosa, 1994).

It is noteworthy that, with the exception of the Burnam et al. (1983) study, all of the test-retest reliability and concurrent validity studies reviewed above which focused on Latino samples have been carried out outside of the mainland United States, and mostly with Puerto Rican samples in Puerto Rico. There is a sizeable immigrant population in the United States from various Latin American countries for whom we do not yet have well-validated diagnostic measures. This includes individuals of Mexican, Central American, and other Caribbean and South American backgrounds, who represent the majority of the Latino population in the United States.

Translation and “Real World” Considerations

Strategies to help obtain equivalence when translating measures from one language to another have been suggested by several authors (Brislin, 1980; Flaherty, 1987; Marin & Marin, 1991). These systematic approaches have been documented for several of the diagnostic instruments assessing depressive symptomatology for Latinos, including the DIS and the DISC. For example, Bravo and her colleagues (1993) described a comprehensive methodology study in which they applied Flaherty’s (1987) model to translate and adapt the DISC for use in Puerto Rico. The model includes semantic, content, technical, criterion, and conceptual equivalence. Other authors who have used diagnostic instruments in Spanish have fallen well short of describing their translation and equivalency strategies.

Efforts to include a test of the Spanish and English equivalency of the instruments are likely to improve the confidence in cross-cultural findings. These have rarely been applied in cross-cultural assessments of diagnostic instruments. For example, the Burnam et al. study (1983) was the only study identified which included a direct assessment of the Spanish and English equivalency, by administering both DIS versions to the same individuals and comparing the results. These equivalency studies can be enhanced further by the use of a formal language assessment (e.g., WMLS; Woodcock &

Muñoz, 1993), to select fluent bilingual individuals and to determine levels of agreement in the diagnostic instrument across levels of fluency in both languages.

A related translation and adaptation dilemma is the extent to which a version of an instrument designed for one Spanish-speaking group, say Mexican Americans in the Southwestern United States, applies to another Spanish-speaking group, say Puerto Ricans in Puerto Rico or Latin American citizens. Authors have reported variations of Spanish versions to include idioms that apply to a specific cultural or national group, to make the items and interview more easily understood. It is unclear how much these adaptations affect the equivalence of the instrument to other Spanish versions or to the English version. Since many epidemiological studies are used to describe the prevalence of disorders relative to those found in other groups, it is important to determine whether or not the impact of these modifications is significant. The more that authors deviate from the original instrument, the less comparable the findings are to those reported in other studies, thus potentially limiting our ability to detect areas of true need. Designing a depression assessment instrument that can be used across Spanish-speaking Latino subgroups in the United States and in Latin America can offer important advantages in terms of its applicability and practical appeal.

An additional challenge facing our field is the issue of providing state-of-the-art assessment to individuals in community settings. Clinicians wishing to use a well-established instrument to diagnose depression, among other disorders, for example, may find that the current versions of the research diagnostic interviews are too lengthy and not designed for use in practice settings. Furthermore, specialized training that only few can provide is required for many of these instruments. As a result, the diagnoses derived by clinicians in community agencies and medical settings vary substantially from those that would be obtained using a research instrument. A recent study by Jensen and Weisz (2002) reveals the importance of attending to the usual care diagnostic practices, and making "user friendly" instruments that can be easily implemented. Intake diagnostic evaluations made by clinicians from several community mental health agencies were compared to diagnostic results from the DISC. The diagnostic interview generated twice the number of diagnoses than those reported by clinicians in their charts. Furthermore, MDD appeared to be largely underreported by clinicians, relative to the DISC. Only 1.2% of the diagnoses assigned by clinicians were for MDD, compared to 16.1% found using the DISC. This was not the case for DD, which was actually diagnosed in approximately one fifth of youth by clinicians (17.2%) as well as by the DISC (22.9%). Fifteen percent of the sample in this study was Latino. However, patterns of over- or under-reporting were not reported separately for this group. The implication of this finding may be that therapists and other providers may not be as likely to identify and focus on MDD, even though it may be present in their patients.

Summary

The DSM-IV includes information about cultural features of some disorders, including depressive disorders. However, the diagnostic criteria for MDD and DD have yet to incorporate specific information about how to take, for example, a Latino heritage or cultural affiliation into account. The diagnostic instruments available similarly lack this cultural sophistication, since they are patterned after the DSM-IV. Work remains to be done to translate and adapt existing interviews so that they can be applied to Spanish speaking Latino youth (and their parents), as well as Latino adults. Most importantly, rigorous evaluations of these instruments must be carried out with both English- and Spanish-speaking Latinos, to determine the extent to which these measures represent sound assessments of depression and other diagnoses.

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Part III
Treatment of Depression

Chapter 9

Psychosocial Treatments for Depression with Adult Latinos

Guillermo Bernal and Mae Lynn Reyes

*Río Grande de Loíza!...Río grande. Llanto grande.
El más grande de todos nuestros llantos isleños,
Si no fuera más grande el que de mí se sale
Por los ojos del alma para mi esclavo pueblo.*

Julia de Burgos

Personal Journey: Guillermo Bernal

Sadness and oppression are issues that an 11-year-old immigrant boy cannot fully comprehend. In a sense, the first author's journey began at that age, when he became aware of a silent yet profound sadness within his family after migrating to the United States. For many years, everyone in the family was too busy struggling to survive in the new land. In the efforts to learn a new language and hold on to jobs or do well in school, there was little time to reflect on the loss of family, culture, and homeland, much less on the discrimination and oppression faced. Yet the sadness remained. Years later, this sadness manifested itself in different ways: For some family members, it was easier to be angry than sad; others found relief in substance abuse; and still others acted out during adolescence, thus distracting parents from experiencing sadness and loss. As the children grew into adults, many faced marital conflicts, which seemed to further distract them from their sadness. Therefore, the losses experienced—of family ties, language, culture, and connection with the homeland—were fundamental aspects in the journey to understand depression.

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Introduction

The term *depression* is used in various contexts and with different meanings. Often we say, “I feel depressed,” when we simply have the “blues” or feel sadness that may be a part of everyday life. The term *clinical depression* refers to a constellation of signs and symptoms that significantly affect a person’s ability to function for a substantial period of time (Rosen & Amador, 1996). As suggested above, depression can be hidden, both by the person suffering from it and by their family members; it may be difficult or impossible to accept that something is wrong. Depression is not easy to face, and we often see this difficulty in ourselves or in our family, friends, and patients. Depression is a complex disorder, and part of this complexity entails recognition of the condition, the challenge to seek or accept help, acknowledging the feelings of powerless and vulnerability, and the social stigma about mental health.

Historical Conceptualization of Depression

Throughout history, a variety of terms have been used to describe and define emotions such as sadness, blues, sorrow, melancholia, and depression. Hippocrates (330–399 A.D.) used the term *melancholia* in his early tripartite classification of disorders (i.e., mania, melancholia, phlebitis). The term *melancholy* was first used in ancient Greece to describe a disorder characterized by fear, nervous conduct, and sorrow. By the fourth century A.D., the Christian Church (Jackson, 1986) defined “melancholy” as a cluster of feelings and behaviors associated with dejection (Marsella, 2003). The condition often was associated with religious fervor among monks and others who practiced isolation and self-denial. The term *melancholy* was used extensively in Europe until the 17th century. In *The Anatomy of Melancholia*, Robert Burton (1652) describes “melancholy” as a major mood disorder and dysfunction (cited in Marsella, 2003). In subsequent centuries, the term *melancholy* remained a vital source of clinical insight and acumen on mood problems. This term reemerged in the *Diagnostic and Statistical Manual*, Fourth Edition (DSM-IV), as a major subtype of depression characterized by symptoms associated with the previous concept of endogenous depression (American Psychiatric Association, 1994; Marsella, 2003).

The term *depression* was initially conceptualized as a subset of melancholy, then used as a synonym, and later as a substitute for the term (Marsella, 2003). The word *depression* is derived from the Latin word *deprimere* meaning to “press down.” After the 17th century, the term *depression* began to gain popularity (Jackson, 1986). Western psychiatry’s first definition of depression emphasized its biological perspective. Then, with the emergence of psychoanalysis and other theories, the term *depression* was further refined in terms of a psychological condition. However, little attention has been focused on the ethno-cultural differences in depressive experience. The role of culture is an important aspect in the construction and interpretation of reality. Marsella

(2003) argues in favor of considering differences in mental disorders across cultures, as such disorders emerge from cultural experiences:

We cannot separate our experience of an event from our sensory and linguistic mediation of it. If these differ, so must the experience differ across cultures. If we define who we are in different ways (i.e., self as object), if we process reality in different ways (i.e., self as process), if we define the very nature of what is real, and what is acceptable, and even what is right and wrong, how can we then expect similarities in something as complex as madness?

(Marsella, 1982, p.363).

Ethnic Differences in the Concept of Depression

A review of the research literature on culture and depression (Sáez-Santiago & Bernal, 2003; Tanaka-Matsumi & Chang, 2002) suggests the need to consider ethnic and cultural issues. In a content analysis, Tanaka-Matsumi and Chang (2002) examined the definition of depression and affective disorders in specific chapters of abnormal psychology textbooks from 1927 to 2002. They found that the authors of these texts recognized the cultural relativity in the communication and reporting of depressive experiences, and that the language of depression varies considerably across cultures. However, they also found that many of the texts lacked cultural consideration in their definitions of depression, and that most of the texts written in the 1980s used the standard definitions for mental disorders categorized in the DSM. Notably, this literature clearly lacks careful attention to measurement, often incorrectly assuming the use of culturally reliable and valid measures of depression.

Compiling information from numerous publications that review cross-cultural studies of depression, Kleinman and Good (in Marsella, 2003) published a volume called *Culture and Depression* in 1986. They concluded that: (1) there is no universal conceptualization of depressive disorders; (2) the experience, meaning, and expression of depressive experiences vary as a function of the cultural context in which they occur; (3) somatic signs, symptoms, and complaints often dominate the presentation of depressive experiences in non-Western cultural contexts; (4) guilt, self-deprecation, suicidal ideation and gestures, and existential complaints vary across cultures and especially tend to be rarer within non-Western cultures; (5) standard personality correlates of depression in Western societies (e.g., low self-esteem) may not be present across cultures; and (6) there is a need to study idioms of distress specific to various cultures.

Epidemiology

The prevalence of major depression in Latinos and Latinas in the United States has been estimated at 4.3% by the Epidemiologic Catchment Area, and 17.7% in the National Comorbidity Survey. Latinos and Latinas had the

second-highest prevalence rate of depression (Sáez-Santiago & Bernal, 2003). In fact, their review of various Latino groups found that the prevalence rate fluctuated between 27.8% and 44%. The findings in these studies reveal that depression is a serious health problem for Latinos and Latinas. It is a problem that merits our attention as mental health care providers and researchers.

Psychosocial Treatment for Depression

Depression is a major public health problem. It is expected to become the second leading cause of disability worldwide (Murray & Lopez, 1997). Despite the fact that the prevalence of depression among Latinos is similar to (Canino et al., 1987) or higher than that of Anglos (Kessler et al., 1994), the vast majority of those in need of mental health services are not receiving care (Hough et al., 1987; USDHHS, 2001; Vera et al., 1998), and minority groups tend to delay seeking treatment for mental health problems until symptoms are more severe. During recent years, clinical researchers have recognized that treatment for depression is a complex process involving not only treatment, but also an interaction of the treatment with patient needs, and other environment factors (Jamison & Scogin, 1995; Moore, 1997; Rost, Williams, Wherry, & Smith, 1995; Simon, 1998).

There are two psychosocial treatments for depression—cognitive behavioral therapy (CBT; Beck, Rush, Shaw, & Emery, 1979) and interpersonal psychotherapy (IPT; Klerman, Weissman, Rounsaville, & Chevron, 1984)—that have received empirical support in predominantly middle-class and White samples in the United States. These treatments have been found to reduce symptoms of depression and improve functioning (Miranda et al., 2005).

Cognitive Behavior Therapy

Cognitive behavior therapy (CBT) is based on the view that individuals are the architects and the builders of their own environments. This approach recognizes human beings' capacity to build their own reality according to the particular meaning of the person's experience. The main function of the therapist is to help the client become conscious of how to create his or her reality and what the consequences of such constructions are. In this manner, the client-therapist relationship becomes a collaborative process in which both therapist and patient play an active role. The purpose of therapy is to produce changes in cognitive processes, thus promoting changes both in the affective and behavioral areas. It is assumed that disturbances in cognitive processes are closely related to emotional distress (Meichenbaum, 1995). To attain changes in the cognitive structure and, as a consequence, in behavior, CBT uses specific strategies. A few examples of such strategies are helping the client to identify

dysfunctional thoughts, providing healthier alternative thoughts, and incorporating activities with specific purposes. The strategies must be concrete and have defined objectives.

Treatment of Depression

CBT for depression was established as a brief therapeutic modality used to identify dysfunctional thoughts that were assumed to underlie symptoms of depression. By reformulating feelings and emotions as thoughts or cognitions, this modality enables movement from the more intangible realm of emotions towards the more concrete realm of thoughts. The identification of thoughts can help in the restructuring of dysfunctional thinking. As a clinical strategy, CBT utilizes rationalization of dysfunctional thoughts, defying them and subjecting them to the logic of reason in conjunction with specific behaviors. The therapy aims to trigger both cognitive and behavioral changes in patients. Beck (1967) found that depressed patients tend to structure negative thoughts about themselves and their experiences and have a negative view of the future. He named this structure “the cognitive triad of depression.” This initial work set the theoretical and clinical basis for what is now known as cognitive behavioral therapy for depression.

Schemas of dysfunctional thoughts include: (1) dichotomous thinking, such as “all or nothing”; (2) using a “negative filter” to interpret experiences through which positive events are ignored and only negative ones are observed; (3) magnification of experiences, such as underestimating one’s capacity to manage them; (4) generalization of a negative event, perceiving it as a general representation of all reality; (5) establishment of negative labels to define oneself; and (6) negativism or pessimism, in which only negative things are expected to happen and the probability of positive occurrences is not considered (Muñoz, Ghosh Ippen, Rao, Le, & Valdes-Dwyer, 2000).

According to the CBT approach, a person suffering from depression tends to interpret life events negatively, which promotes the development of dysfunctional thoughts. These thoughts, in turn, generate feelings of sadness and depression. It is important to point out that a particular starting point is not assumed, meaning that the person could enter the cycle at any point. CBT teaches patients to identify the cycles that perpetuate their depression, as well as working on breaking the cycle from any starting point.

Muñoz and Miranda (1986) developed the CBT model that has been empirically tested the most with Latinos. This variant of CBT draws from concepts of cognitive-behavioral therapy (Lewinsohn, 1975; Lewinsohn, Antonuccio, Steinmetz, & Teri, 1984; Lewinsohn & Libet, 1972), cognitive therapy (Beck et al., 1979), and rational-emotive therapy (Ellis, 1962; Ellis & Bernard, 1983). The model assumes a reciprocal relationship between thoughts, actions, and feelings, and, to work with depressive moods, the model identifies the thoughts

and actions that influence such feelings. The aim of therapy is to reduce depressive symptoms, minimize the length of each depressive episode, and teach preventive strategies for increasing the sense of self-control.

CBT is an intervention consisting of 12 weekly sessions that focus on the influence of thoughts (sessions 1-4), daily activities (sessions 5-8), and interpersonal interactions (sessions 9-12) on mood. The basis of this treatment is outlined below.

Working with Cognitions

During the initial session, the patient is asked to talk about his or her feelings and the CBT model is briefly explained as an alternative set of ways to manage feelings of depression. The purpose and structure of the therapy is reviewed and the goals of treatment are clarified. The definition of depression and its symptoms are reviewed, and the patient is encouraged to apply these to his or her own experiences in order to begin to identify how thoughts can affect mood. The next three sessions continue to work on cognitions. Depressive thinking is defined (inflexible and judgmental) and compared to nondepressive thinking (changeable, specific, and hopeful). The patient learns to identify types of thinking (constructive versus destructive, necessary versus unnecessary and positive versus negative). Exercises are assigned so that the patient can identify possible erroneous thoughts. Subsequently, techniques for increasing helpful thinking and decreasing unhelpful thinking are introduced. A range of activities are used, such as: doing thought-stopping exercises, setting up specific times to worry, considering the worst that could happen, and serving as one's own coach. These activities are then related to the patient's thoughts.

Pleasant Activities

During these sessions, the patient is introduced to the notion that the fewer pleasant activities one does, the more depressed one feels. The cycle between depression and activities is explained: The fewer activities one engages in, the more depressed one feels; and the more depressed one feels, the fewer activities one engages in. In order to alter the cycle, the patient must increase pleasant activities. To that end, a list of such activities is introduced. Part of increasing pleasant activities includes a plan to overcome depression, which entails setting realistic goals, acknowledging positive accomplishments, and planning rewards. The patient is encouraged to define specific goals and identify the obstacles in attaining them. Also, the notion of short-term, long-term, and lifelong goals are discussed and time management exercises are introduced. During these sessions, the patient learns to schedule time to work on high-priority goals and to incorporate pleasant activities into his or her weekly plans.

Contact with People

The last four sessions of the protocol focus on how personal interactions affect mood. The question of whether depression causes a person to be less sociable or whether being less sociable actually causes depression is introduced. The therapist supports the notion that both statements are probably true and focuses on how social support is critical in facing difficult times. The patient's support system is evaluated and steps are encouraged either to strengthen it, or to maintain the current level of support. The patient also is encouraged to reflect on his or her thoughts, expectations, behavior, and feelings during time spent with other people. Expectations that are too high might cause disappointments, whereas expectations that are too low may not give the relationship a chance to grow. The patient's interactions with others are examined, and the therapist explores both feelings and actions that relate to other people. Techniques to support effective and assertive communications are introduced. In the closing session, the concepts from earlier sessions are reviewed, as is the progress made throughout the course of therapy. The importance of social support and the value of working on interpersonal relationships are emphasized, because they can provide rewarding experiences, companionship, and are capable of increasing one's self-esteem.

Cultural Adaptations of CBT

Because CBT was developed and tested with predominantly White, middle-class samples, critics have questioned whether it can be generalized to other cultural groups (Bernal & Scharron-del-Río, 2001; Hall, 2001). Others have suggested the need to conduct cultural adaptations of CBT to ensure its effectiveness on a target population (Bernal, Bonilla, & Bellido, 1995; Bernal & Sáez-Santiago, 2006;). The CBT model has been successfully used within Latino settings and cultures, with changes to the protocol made that respond to specific cultural characteristics. Though the majority of clinical studies that have evaluated the effectiveness of CBT have been conducted with White, middle-class samples (Vera, Vilá, & Alegria, 2003), there are studies that have incorporated Latinos into their samples (Comas-Díaz, 1981; Miranda, Nakamura, & Bernal, 2003; Muñoz et al., 1995; Organista, Muñoz & Gonzalez, 1994). Muñoz and collaborators (1995) developed and tested a CBT manual for depression in Latino populations. The CBT manual for depression developed by Muñoz and colleagues (2000) incorporates some adaptations that are responsive to the Latino culture. One of the changes in the most recent protocol is the inclusion of interpersonal aspects of depression and the opportunity to work with important relationships in order to help manage depression. Interpersonal relationships play an important role, particularly given the value that many Latinos place on the family.

The Muñoz et al. (2000) adaptation of the CBT manual was tested in Puerto Rico with a sample of low-income and low education primary care patients (Reyes, Vera, Bernal, & Huertas, 2002). The therapy was offered to 15 women with major depression in a group format and was found to be highly effective for this sample. Thus, it was concluded that the model seemed to work well when used with low-income, minority, Spanish-speakers, a group that is rarely included in clinical trials. Furthermore, this manual, which underwent a local adaptation, was sufficiently flexible so that cultural adaptations could be made to enhance the therapeutic work relevant to these Latina women. One such adaptation was the incorporation of terminology and definitions that patients themselves used to refer to depression. Cognitions constructed through culture, such as the idea that one must suffer and make sacrifices in order to enjoy life, were a focus of the work. This cultural notion, which may be labeled as dysfunctional, was found to be common among these Latina women. Recognizing that these thoughts are culturally learned or constructed allowed patients the possibility of rethinking the individual burdens they had assumed. Cultural sensitivity on the part of the therapist and the flexibility of the model made the clinical work responsive to particular cultural needs.

Effectiveness of CBT with Latinos

We identified 10 studies to evaluate the efficacy and the effectiveness of CBT with adult Latinos (Miranda et al., 2005). To our knowledge, the first randomized trial of CBT was conducted by Comas-Díaz (1981), who compared cognitive group therapy with behavioral group therapy in a sample ($n = 26$) of depressed, unmarried Puerto Rican mothers. In that study, both the cognitive and behavioral therapy conditions were superior to the control. In another study, Organista and colleagues (1994) carried out a nonrandomized study of CBT for depression in 175 low-income and minority medical patients. In that study, 44% of the patients were Latinos who experienced modest improvements in care for individual and group therapy. Lara, Navarro, Rubi, and Mondragon (2003) evaluated outcomes of depression care for low-income women in Mexico. They compared a six-week educational group approach with a 20-minute individual psychoeducational meeting and found no significant differences in outcomes of depression between the two groups. Reyes and coworkers (2002) conducted a study of the treatment of depression in a primary care setting in Puerto Rico. In all, 45 low-income patients with major depression were randomized into three treatment conditions: (a) SSRI medication, (b) group CBT, and (c) treatment as usual, following the usual protocol of referral to a specialized provider under a carve-out system. The authors found that CBT was superior to the other treatment conditions on outcomes, as measured by the Beck Depression Inventory. Lack of participation in treatment was a major problem for patients randomized to the medication condition. Reyes et al.

(2002) point out the necessity to find new ways for those in need of care to engage in treatment.

In a randomized trial, Miranda, Chung, et al. (2003) compared CBT with a CBT plus clinical case management as an enhancement to improve outcomes of care for low-income medical patients. They found that the supplemental case management resulted in greater improvement in symptoms and functioning for Spanish-speaking patients than CBT alone. In another study, Miranda, Chung, et al. (2003) evaluated treatment with CBT and medication in Latina and African American women. Most of the women who participated had low incomes. The interventions were modified to be sensitive to low-income women, and culturally sensitive methods were used to encourage patients to enter care.

A few studies have evaluated the effectiveness of CBT treatment with Latinos. Effectiveness studies have been conducted examining care for depression in community settings (Miranda et al., 2005). Cooper-Patrick and collaborators (1999) found that minorities are more likely to seek help in primary care than in specialty care. Thus, the primary care setting is a critical target for improvements in mental health treatment for ethnic and racial minorities (USDHHS, 2001). Miranda, Duan, et al. (2003) evaluated the impact of a quality improvement intervention on outcomes of depression care for Latino medical patients. The study was conducted at primary care practices in six managed care organizations in the United States. The sample consisted of 398 Latinos, 93 African Americans, and 778 whites, all of whom presented with a possible depressive disorder. The authors compared medication and CBT with a quality improvement program. The intervention significantly improved rates of care for each ethnic group. The Latino depression studies are summarized and detailed in Table 1

The 10 CBT studies for depression suggest that this treatment model is indeed effective for Latinos. While these studies are varied, not all of them are randomized clinical trials and, when they are taken as a whole, it is clear that CBT enjoys support from both effectiveness and efficacy studies. Most of the studies utilized versions of a CBT manual that has undergone rigorous development and testing with minority populations, thus making it optimal for use with Latinos. In other cases, the manuals were further adapted to make them even more responsive to both individual and cultural needs. Certainly, evidence-based CBT is an effective treatment for Latinos and one that can be tailored to meet specific patient needs.

Interpersonal Psychotherapy

IPT is based on the original work of Klerman et al. (1984). This model of IPT was developed for the treatment of depressed adults. More recently, Weissman, Markowitz and Klerman (2000) published an updated and comprehensive guide to IPT. The IPT model proposes that depression is linked to problems in interpersonal relationships. Since depression can be explained as a result of problems

Table 1 Efficacy and effectiveness studies for depression with Latinos

Authors	Year	Sample	Treatment
Comas-Díaz	1981	26 Puerto Rican females	Behavioral group therapy
Organista et al.	1994	175 low-income medical patients	CBT individual and group
Reyes et al.	2002	45 Puerto Ricans low-income level	CBT and medication
Spinelli & Endicott	2003	38 outpatient women -13 Latina - 6 White -2 African American	IPT group parent education
Miranda, Azocar, et al.	2003	77 Spanish speaking 122 English Speaking	CBT group
Miranda, Chung, et al.	2003	134 Latina immigrant women, 117 U.S. born African American 16 White	CBT and medication
Miranda, Duan, et al.	2003	398 Latinos 93 African American 778 White	CBT, medication and quality improvement intervention
Araya et al.	2003	240 low-income women in Chile	Psychoeducational group intervention as a stepped care
Lara et al.	2003	Mexican women	Psychoeducational session

with interpersonal relationships, it is those relationships that are the primary focus of this treatment. IPT is assumed to reduce symptoms of depression by facilitating healthy interpersonal relationships. Therapist and patient work together to solve current problems in relationships associated with depression.

IPT is a brief form of psychotherapy delivered weekly over a three-month period. The initial four sessions are aimed at obtaining information about the symptoms, their development, and explaining IPT; evaluating the interpersonal relationships of the patient; and identifying the thematic focus of the treatment. The next set of sessions focus on helping the patient work on interpersonal relationship problems, continue to monitor depressive symptoms, and in supporting the therapy alliance. The last set of four sessions is focused on issues of closure, such as termination, assessing treatment progress, and skills in coping with interpersonal contexts.

Interpersonal Problem Areas

As a brief form of psychotherapy, IPT is aimed at identifying and focusing on one of four primary areas during treatment. These interpersonal problem areas

are: grief, interpersonal disputes, role transitions, and interpersonal deficits. It is important to note that these problem areas are not necessarily mutually exclusive. As an example, the therapist may consider an event such as the loss of a relationship, a death of a family member, or a current conflict as a guide to identifying the primary problem area to focus on during treatment. Yet, the focus of the problem may change during therapy. The problem areas are summarized below.

Grief

The feelings that follow the death of a loved one. If the symptoms of depression are associated with the loss of a loved one, then this will be the primary focus of the therapy. This form of therapy usually begins by facilitating the mourning process, and as the mourning is supported, the therapist helps the patient establish new interests and works toward establishing new relationships. IPT uses a variety of nondirective techniques to support this process.

Interpersonal Disputes

Conflicts between the patient and significant others that are based on nonreciprocal relationship expectations. The focus is usually on interpersonal disputes that are related to depression. Disputes that are ongoing, and that seem to increase in frequency or lead to a loss of self-esteem, lack of control, or threats of losing the relationship also are addressed. The treatment goals are to identify the key interpersonal disputes, develop a plan of action, encourage better communication, and re-evaluate expectations.

Role Transitions

These occur when depression is related to life changes that are perceived as losses. An example might be the unemployment of oneself or spouse, a divorce, new employment or changes in employment, the birth of children, etc. Coping with role transitions is further complicated by the loss of social support or other support systems, demands for new social skills, and a loss of self-esteem. The goals of treatment in relation to role transitions are to increase self-esteem and to encourage a new sense of competence in the new role.

Interpersonal Deficits

These are related to a history of poor interpersonal functioning. Patients describe feelings of emptiness, loneliness, and severe social isolation. These interpersonal deficits often entail the absence of long-term intimate relationships. IPT recognizes several types of interpersonal deficits: social isolation, being socially unfulfilled within relationships, and chronic depression. The treatment goal for interpersonal deficits is to reduce social isolation.

Effectiveness of IPT with Latinos

We were unable to find published studies of IPT with adult Latinos. However, we did find one unpublished study of IPT vs. fluoxetine in the treatment of depressed Hispanic adults (Blanco et al., 2001). In this pilot study, 20 monolingual Latinos with major depression were randomized to receive either weekly IPT or fluoxetine. Only 45% of the participants completed the trial (9 out of 20), and 67% of the completers were considered responders. However, if non-completers in the trial are considered, then only 30% of participants improved. The results are interpreted in terms of the need to enhance interventions such that access and adherence to treatment can improve the outcome of depression treatment in Latinos. Despite these equivocal results, IPT enjoys considerable empirical support with other populations, and because of its focus on interpersonal issues that resonate with Latino cultural values, this treatment should be further tested with Latino populations.

Visions for the Future and Recommendations

This chapter began with a quote from the Puerto Rican poet Julia de Burgos, who wrote, “The Great River of Loiza. . . great River. . . great weeping. The greatest weeping of all of our islands, if it were not greater than the weeping that flows from the eyes and soul of our enslaved people” (Burgos, 2007, pg. 1). Here, as was the case with Puerto Ricans, the writer evokes the sadness and the tears of Latinos and Latinas who had been subordinated. The weeping and sadness serve as a metaphor for other Latinos who also have experienced oppression (Sáez-Santiago & Bernal, 2003).

Our review of the literature suggests that, while important advances have been made in the psychosocial treatment of depression in adults, and there are a growing number of studies on the treatment of depression with Latinos (Miranda et al., 2005), we know very little about what mediates or even moderates change. The effects of poverty, discrimination, oppression, and migration on depression are commonly cited in the literature (e.g., Sáez-Santiago & Bernal, 2003), yet it is not altogether clear how these factors moderate depression outcome or how these contextual issues need to be incorporated into the treatment itself. Certainly more research is needed on the mechanisms of change, as well as the factors that moderate treatment.

Culture and language are aspects that are integral to the Latino experience yet the rich cultural and historical diversity among Latinos presents a unique challenge. The role of family, migration, language, and specific cultural values (e.g., *familismo*, ethnic identity, dependence vs. independence) may play different roles depending on the length of time spent in the United States, experience of migration if any, and relationship to the dominant culture. Thus, exploring the effects of such factors on treatment may mean that the specific Latino group

that serves as the target of any one study needs to be identified in terms of detailed social and demographic characteristics in order to tap into such processes. Despite the diversity among Latinos in the United States, there are cultural factors that are shared among different Latino groups. An examination of those shared cultural factors might yield a fertile common ground for treatment and prevention research.

In our review of the literature on the treatment of depression with Latinos, we found a set of studies that support the use of CBT, a well-established psychotherapy. In all, we found 10 studies conducted either exclusively with Latinos or with substantial percentages of Latinos to conclude that CBT is effective with Latino populations. For IPT, only one study was available, and its results were equivocal. Despite the limited evidence on the effectiveness of IPT with adult Latinos, there are studies that demonstrate its efficacy with adolescents (e.g., Mufson, Weissman, Moreau, & Garfinkel, 1999; Rosselló & Bernal, 1999). Furthermore, a recent study on the status of psychosocial interventions for ethnic minorities (Miranda et al., 2005) suggests that evidence-based care is likely to be effective and appropriate for ethnic minorities. This is particularly the case if an evidence-based intervention such as IPT is tailored to the particular needs of Latinos. Certainly IPT, as well as other psychosocial interventions, needs to be tested with Latino adults.

A priority in treatment research is the development of culturally centered methods to adapt evidence-based interventions to particular ethnic groups (Hall, 2001; Bernal & Sáez-Santiago, 2006). In the case of Latinos, it would be optimal to have models that would inform investigators about the specific procedures involved in making and documenting adaptations to treatments. Culture is a dynamic process. In part, the challenge is to identify key cultural and contextual factors that can be adapted to a given treatment. In addition, it will be important to specify in what ways the key elements of the treatment should be modified to maximize positive outcomes. The need to consider culture and context as part of therapy lead the way to the development of multicultural guidelines for clinical practice, research, and education. Recently, the American Psychological Association (American Psychological Association, 2003) adopted such guidelines as a way to inform psychologists on issues of diversity. We believe that culture, context, and language are essential considerations for the culturally competent care of Latinos. There are evidence-based interventions such as CBT that have been adapted and found effective with adult Latinos. Other evidence-based treatments, such as IPT, might be used in conjunction with the APA guidelines to ensure cultural sensitivity. Certainly, providing evidence-based intervention is better than no intervention at all, yet we are certain that tailoring the intervention to the cultural needs of the individual is essential for positive outcomes. Finally, in an increasingly multicultural society, Paul's (1969) question to the field of psychotherapy needs to be reformulated in cultural terms: "What *culturally sensitive* treatment, by whom, *in what language or languages*, is most effective for this individual *from this particular culture or cultures* with that specific problem, under which set of

circumstances *or cultural contexts*, and how does it come about?" (p. 111, italics ours). It is our hope that in the near future we will be able to answer this question in order to tailor care in a manner that will be optimally effective for more diverse populations.

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Chapter 10

Pharmacological Treatment of Depression in Hispanic Americans

Alex J. Kopelowicz, Humberto Marin, and Michael W. Smith

Personal Journey: Alex J. Kopelowicz

My personal journey began with my family's emigration from Argentina when I was three years old. My earliest memories are as a four year old attending nursery school. Although those early school years were generally fun, I remember feeling embarrassed and frustrated during the first few weeks of school because I could not speak English with my classmates. In my house, only Spanish was spoken (my father was bilingual but my mother was not). Soon after I learned to speak English, I refused to speak Spanish at home but retained a good working knowledge of it because my parents spoke to me only in Spanish (they still do). That working knowledge came in handy years later when, after finishing my residency in psychiatry, I decided to work in a community mental health center located in a Hispanic neighborhood of Los Angeles.

My first experience with mental illness occurred many years earlier. I was 11 when a close friend of my mother's from Argentina committed suicide. My dad worked long hours in those days and my mother confided many of her feelings to me. I distinctly remember my mother's anguish during that time as she shared her memories of her friend, but I also recall how much better she felt after having the opportunity of sharing with me her thoughts about the good times she had with her friend. I also remember how much pleasure I felt by just listening and helping her cope with some of her suffering.

A few years later, my best friend had his first episode of what later would be diagnosed as schizophrenia. Throughout high school, he was in and out of psychiatric hospitals as his doctors tried to identify a medication that would control his symptoms but not cause intolerable side effects. I was very involved with him during those years: visiting him in the hospital, keeping him up-to-date on the latest happenings at school (both social and academic), and just making sure he stayed connected to the people who cared about him. My friend is very lucky. He has not been hospitalized in over 20 years, he's married to a lovely

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woman, has two children and a very demanding but satisfying job. His experience and those of others I have known have convinced me that, along with proper medication, maintaining social and family ties is a key component of a person's ultimate recovery from serious mental illnesses. This viewpoint is the foundation for the work we do with Hispanic patients and is culturally congruent with the expectation of most people of Hispanic heritage.

Now I've come full circle. I incorporate my experiences as an immigrant into the treatment we provide at my mental health center. My staff and I try to identify those cultural characteristics that can improve or impede successful treatment, including biological indices, psychological traits, and social concerns. Taking these all into account within a perspective that acknowledges the complexities of how a person with mental illness interacts dynamically with his or her environment provides the framework for culturally competent treatment. In this chapter, Michael Smith, Humberto Marin, and I have tried to describe how these concepts apply to the pharmacological treatment of depression among Hispanics.

Introduction

Despite the fact that Hispanics are the largest ethnic minority in the United States, the pharmacological treatment of depression in Hispanics has been understudied in this group. Although publications on the pharmacological treatment of depression in Hispanic Americans go back more than 25 years (Escobar & Tuason, 1980), the number of published studies is still in the single digits. Because of this lack of information, the question arises as to the utility of using evidence from studies conducted in Latin America and Spain for determining treatment practices and protocols. Because treatment response in psychiatry is influenced by multiple biopsychosocial (e.g., diet or herbal/alcohol/substance use) and economic (e.g., being a disadvantaged minority in the country of the study) factors that may differ between societies, we decided to review only those studies that were done in the United States. However, we believe that by complementing this literature review with other types of information, including data on medication selection, drug metabolism, treatment attrition, and the physician-patient relationship, it is possible to draw recommendations for the clinician treating depressed Hispanic patients.

Hispanics are less likely than the majority population to receive or use mental health services. In addition, if they do seek mental health treatment, they are less likely than other groups to receive a prescription for medication. For example, in a prospective study of 124 adult outpatients (20 Hispanics) receiving treatment at mental health clinics in New York who met criteria for major depression, 56% of the Hispanics received a recommendation for antidepressant drugs, compared with 84% of Caucasians (Sirey et al., 1999). Similar results have been found in studies focused on elderly Hispanics (Crystal, Sambamoorthi, Walkup, & Akincigil, 2003; Gonzalez, Hinton, Ortiz, & Haan, 2006; Virnig et al., 2004;) and Hispanic youth (Richardson et al., 2003).

Even when depressed Hispanics do receive a prescription for antidepressant medication, they are not always prescribed the most advanced pharmaceutical agents, including selective serotonin reuptake inhibitors (SSRIs), the class of antidepressants that has largely replaced the older and more toxic tricyclic antidepressants. For instance, the National Ambulatory Medical Care Survey of the National Center for Health Statistics (1992–1997) provided data on over 50 million visits, including 3 million Hispanic visits, for which a depressive disorder diagnosis was recorded and antidepressant prescriptions written. Comparing the earliest (1992–1993) to the latest (1996–1997) time periods, the percentage of visits in which an SSRI was prescribed increased from 50.0% to 65.8% for Caucasians and 40.5% to 58.2% for African Americans, but declined from 51.4% to 48.6% for Hispanics (Skaer, Sclar, Robison, & Galin, 2000).

Efficacy of Antidepressant Treatment in Hispanic Americans

Unfortunately, much more is known about the barriers to treatment for Hispanics diagnosed with depression than the actual benefits of treatment. Most of the studies that have been conducted include few Hispanics, do not report on the language proficiency of the participants, are of short duration, and utilize open-label designs. For example, in an open label study of paroxetine vs. fluoxetine, 26 women (13 Hispanic and 13 non-Hispanic) were assessed weekly with the Hamilton Depression Scale and a 17-item somatic checklist. The ethnic groups were identical in type and number of somatic symptoms at baseline. At study completion, both groups demonstrated statistically significant clinical improvement. Hispanic subjects complained of fewer side effects, but twice as many Hispanic subjects terminated participation prior to study completion (Alonso, Val, & Rapaport, 1997).

The results of an eight-week, placebo-controlled trial of fluoxetine in 118 depressed HIV-positive patients (79 Caucasian, 22 African American, 17 Hispanic) were similar. There were no differences in rates of responders or final dosages among the different ethnic groups, but treatment attrition was greater among Latinos than either African or Caucasian Americans, even though Hispanics reported fewer side effects than the other two groups (Wagner, Maguen, & Rabkin, 1998). No differences in treatment response were found between ethnic groups in an eight-week, open trial of fluoxetine or sertraline in 30 (including 16 Hispanic) HIV-seropositive women (Ferrando, Rabkin, de Moore, & Rabkin, 1999) or in a six-week, open-label trial of flexible dose citalopram in depressed outpatients with HIV illness (14 Hispanic and 6 non-Hispanic). Five participants (17%) dropped out due to adverse effects but ethnic differences in drop out rates were not reported (Currier, Molina, & Kato, 2004).

The largest published efficacy study of one antidepressant in Hispanics was an eight-week, open-label study of flexible dose nefazodone. Fifty monolingual

Spanish-speaking Hispanics (64% female) received an endpoint mean dose of 379 mg/day. Sixty-three percent of the intent-to-treat (ITT) sample with at least one post-baseline visit were considered responders. Adverse effects reported by more than 5% of the sample were: dry mouth (8%), dizziness/lightheadedness (6%), nausea (6%), and restlessness/agitation (6%). Although no serious adverse events were reported, 42% of the sample dropped out before termination, usually because of side effects or due to family or work difficulties (Sanchez-Lacay et al., 2001).

Additional data come from a post-marketing study of escitalopram in thousands of patients with DSM-IV Major Depression including 143 Hispanics (unpublished data, Forest Laboratories). In this eight-week, open-label, flexible-dose trial, overall mean dose at endpoint was comparable between Hispanics and the general study population. However, discontinuations were higher among Hispanics versus the general population (38.5% vs. 23.9%), and the primary causes were adverse events (11.9% vs. 8.7%) and loss to follow-up (11.9% vs. 8.3%). These variances may help explain response rate differences on the Clinical Global Impressions-Improvement scale (Guy, 1976) between analyses of all patients (i.e., last observation carried forward, or LOCF) and those who completed the trial (i.e., observed cases, or OC). Response at week 8 in the LOCF analysis favored the general population over Hispanics (68.0% vs. 59.8%), a difference that disappeared in the OC comparison (73.3% vs. 73.1%). This suggests that Hispanics who undergo an adequate antidepressant trial of at least six to eight weeks (American Psychiatric Association, 2000) are as likely as the general population to respond to treatment.

Efficacy of Pharmacologic Versus Psychotherapy Treatment for Depressed Hispanics

In addition to studies of placebo-controlled or head-to-head studies of antidepressant medications, two clinical trials compared the efficacy of medications versus psychotherapeutic approaches. The first study used a four-cell design in which 101 depressed HIV-positive patients (58 Caucasian, 21 Hispanic, 18 African American, 4 Asian American) were randomly assigned to 16 weeks of treatment with interpersonal therapy, cognitive-behavioral therapy, supportive psychotherapy or imipramine plus supportive psychotherapy. Post hoc response analyses showed no significant differences between Hispanics and the other groups. Subsequent analyses revealed no group attrition differences by ethnicity or treatment (Markowitz, Spielman, Sullivan, & Fishman, 2000). The other study was a randomized controlled trial with African American (n = 117), Caucasian American (n = 16), and foreign-born Hispanic women (n = 134). Participants were randomly assigned to medication intervention (six months using paroxetine, switching to bupropion if lack of response), cognitive behavioral therapy (eight sessions, offering another eight if depression scores were still elevated), or referral

to community care. There was a significant decrease in depressive symptoms for the subjects assigned to the psychotherapy ($p = .006$) and medication ($p < .001$) conditions compared with referral to community health. There were no significant interactions in depression outcomes between the interventions and ethnicity. By six months, 44% of subjects assigned to the medication condition, 32% of psychotherapy subjects, and 28.1% of community referral patients had achieved a HAM-D score of 7 or less (Miranda, Chung et al., 2003).

In the largest study of depression among Hispanics to date, 46 primary care practices in 6 managed care organizations were randomized to provide different forms of treatment to patients who screened positive for depression. A total of 181 clinicians and 1,269 patients (398 Hispanic, 93 African American, 778 Caucasian) participated. The researchers compared outcomes of patients randomized to usual care or one of two interventions designed to increase the rate of effective depression treatment. One intervention was focused on medication management and the other intervention was focused on psychotherapy. Clinicians and patients could choose the type of treatment or no treatment. In both experimental conditions, a team of expert leaders (i.e., a primary care provider, a nursing supervisor, and a mental health specialist) was trained on the depression treatment model. The team developed academic activities with the treating clinicians and provided monthly feedback on treatment patterns using intervention staff records. The study also trained local staff nurses to serve as “depression specialists.” Materials and interventions were available in English and Spanish. At six months, patients in the experimental conditions were more likely than controls to receive counseling or use antidepressants at an appropriate dosage (50.9% vs. 39.7%) and less likely than controls to meet criteria for probable depressive disorder (39.9% vs. 49.9%). There was no significant interaction between intervention and ethnic group for the rate of appropriate care, but there was a significant interaction between intervention and ethnic group for probable depression at six months, with both ethnic minorities, but not the Caucasian group, showing a substantially lower rate of probable depression in the intervention group (Miranda, Duan et al., 2003).

Preference and Acceptability of Antidepressant Treatment Among Hispanics

A common finding from the clinical trial literature is that depressed Hispanic patients tend to discontinue antidepressant medications at a higher rate than their non-Hispanic counterparts even when they report similar levels of side effects. None of these studies, however, conducted an analysis controlling for socioeconomic status that, along with sex, has been shown to have a stronger association with depression risk than ethnicity (Jackson-Triche et al., 2000). Whether or not Hispanics are more likely to discontinue a prescribed course of treatment, the reasons they do so are worthy of attention.

One possible explanation for this outcome is their preference for nonpharmacological approaches to depression treatment. Support for this hypothesis includes a study of 1,187 people (57% Caucasian, 7% African-American, 30% Hispanic, and 6% Other) in which Hispanics had the highest acceptance for treatment (83.8% compared to 83.3% for African American, 81.2% for Caucasian, and 72.3% for other) with two thirds preferring counseling over medication (Dwight-Johnson, Sherbourne, Liao, & Wells, 2000). Using the same database, Miranda and Cooper (2004) found that although primary care providers recommended depression treatments for Hispanic patients as frequently as for Caucasian patients, Hispanic patients were less likely to take antidepressant medications (adjusted odds ratio (OR) .30).

A telephone survey of 829 primary care patients (659 Caucasian, 97 African American, 73 Hispanic) found differences in the acceptability of treatment for depression in primary care. African Americans and Hispanics were less likely than Caucasians to find antidepressant medication acceptable (adjusted OR .30 and .44 compared to Caucasian, respectively), but African Americans had lower and Hispanics higher odds of finding counseling acceptable than Caucasians (adjusted OR .63 and 3.26 respectively), suggesting that the effect for Hispanics was specific for medications rather than treatment in general (Cooper et al., 2003).

Exactly why Hispanics are less likely to accept antidepressant medications may in part be due to cultural differences in expectations about the effects of medications. For example, Hispanics and their caregivers are more likely to have a fatalistic attitude toward mental illness or harbor negative views about medications, such as “antidepressants are addictive” (Sleath, Rubin, & Wurst, 2003, p. 1741), or, as Sirey and colleagues discuss, they “may overtly or covertly communicate reluctance to take antidepressants due to stigma or other attitudinal barriers” (Sirey et al., 1999, p. 691).

The decreased acceptance of antidepressant medications by Hispanics may also result from biological factors—both endogenous and environmental. For example, ethnic variation in psychotropic drug response has been established. However, to a large extent, the majority of studies have involved all ethnic groups except Hispanics (Mendoza, Smith, Poland, Lin, & Strickland, 1991). Hispanics often are grouped into a social stratification system that ignores subethnic group diversity. Since the 1970s, the U.S. Census has grouped all Latinos (regardless of race or ethnicity) under the umbrella term “Hispanic” to identify those of Latin American and Spanish descent living in the United States today. While it is generally perceived that there are significant differences in many sociocultural domains for each Hispanic subgroup, what is more important when considering pharmacological responsiveness is that genetic variability between subgroups has been clearly demonstrated (Vargas-Alarcon et al., 1994). Several genetic mutations in the body’s drug metabolizing enzyme system have been identified that appear unique to certain ethnic and racial groups and, to a large extent, underlie the differential response to psychotropic medications.

Genetic variation between the Hispanic subgroups is in large part due to variation in the genetic contribution or admixture from other populations (Bertoni, Budowle, Sans, Barton, & Chakraborty, 2003). The settlement of the Americas plays a big role in the admixture estimates of the various Hispanic subgroups. Historically, Hispanics are believed to have descended from the Asians and Mongoloids that crossed over the Bering Straits and later populated North, Central, and South America. The Spanish conquest introduced Spaniards with their Caucasian and Moorish background as well as African slaves who were sent to islands in the Caribbean such as Puerto Rico and Cuba. Slaves also were sent to work on the coasts in Mexico, as well as countries in Central and South America. Of the Hispanic subgroups, Puerto Ricans and Cubans have the greatest amount of African genes, while Mexicans have the least (4%).

Understanding the significance of the genetic variability among Hispanic subgroups in relationship to the identified ethnic-specific isozymes of the drug metabolizing enzymes is important for clinicians. Further refinements can be made to the pharmacological management of Hispanic patients when clinicians strive to understand how the Hispanic culture exerts influences on pharmacological responsiveness. This is especially true for psychotropic medications metabolized by other drug metabolizing enzymes that are not thought to be under genetic control but that have been shown to be extremely sensitive to environmental factors.

Pharmacogenetics of Drug Metabolizing Enzymes

As noted in the previous section, multiple factors may be responsible for the inter-individual and cross-ethnic variation in response to drugs. For example, nonbiological factors such as culturally mediated variations in language, illness behavior, placebo, and compliance may affect the assessment, prescription, and response to treatment. Culturally influenced environmental factors such as diet, exposure to toxins, and prescribed and traditional medicine may be important. However, one of the most studied and probably the most important factor is the genetically determined polymorphisms of drug metabolizing enzymes. These play a crucial role in the metabolism of a large number of medications and often manifest significant ethnic differences in their genotypes and phenotypes. Ethnic differences in drug metabolism and responsiveness appear to be tied to polymorphic (i.e., different forms of the same enzyme) variations in the enzymes. The available data concerning some of the genetic polymorphisms of these drug-metabolizing enzymes in the Hispanic population are presented below.

Drug Metabolizing Enzymes

The cytochrome P450 family of enzymes appears to be the most important of the drug metabolizing enzymes. Although located primarily in the liver,

extrahepatic sites of potential clinical importance include the brain, lungs, and gastrointestinal tract. Four of the most important CYP enzymes are CYP1A2, CYP2D6, CYP2C19, and CYP3A4. These four enzymes are responsible for the metabolism of many commonly used medications such as antibiotics, cardiovascular agents, analgesics, and psychotropic medications. All four of these enzymes display some degree of polymorphic and ethnic variation in enzyme activity.

Evolutionary development of these polymorphic enzymes was in part due to genetic adaptation to xenobiotic exposure from diet and pollens. Individuals possessing polymorphic forms of these enzymes can be classified into four groups based on their metabolic capacity: poor metabolizers (PM), slow metabolizers (SM), extensive metabolizers (EM), and ultrarapid metabolizers (UM). Poor metabolizers appear to lack a functional form of the enzyme that often results in an inability to metabolize certain substrates and thereby leads to potentially toxic blood levels following the administration of standard doses.

CYP2D6

Substantial cross-ethnic differences exist in the frequency of CYP2D6 PMs, ranging from less than 3% in Asians and Middle Easterners to 3–10% in Caucasians in Europe and North America. In Spain, a 5–10% rate of PMs has been reported (Agundez, Ledesma, Ladero, & Benitez, 1995). The Cuna and the Ngawbe Guaymi Amerindians of Panama demonstrate a PM frequency of 0% and 5.2% (Arias, Inaba, Cooke, & Jorge, 1988), respectively, the former being similar to frequency observed in Asians and in contrast to the higher frequencies observed in Caucasians. Studies in Mexican-Americans in Texas and California noted a PM rate of 1.8–4.4%, similar to those reported for Asian and Middle Eastern populations (Mendoza et al., 2001). Overall, Mexican-Americans displayed the fastest metabolism compared to Asian, African American, and Caucasian samples.

CYP2C19

CYP2C19 displays interethnic differences in PM incidence. This enzyme, carried on an autosomal recessive gene, is involved in metabolizing benzodiazepines and antidepressants, as well as other drugs. Although CYP2C19 PMs are relatively rare among Caucasians, they are prevalent in Asian populations, with approximately 20% of Japanese and Chinese classified as PMs (Silver, Poland, & Lin, 1993). A recent study of African Americans reported a rate significantly higher than in Caucasians (Pollock et al., 1991). More germane to this discussion, Western Mexicans reveal a rate of 6% (Gonzalez et al., 2003), while a recent study by our group found that Mexican Americans had a PM rate of 14%, similar to that reported in Asians (Luo, Poland, Lin, & Wan, 2006). The 0% incidence of PMs in Cuna Indians is closer to the 2–5% observed among

Caucasians and Chinese living in Canada and much less than the ~20% observed in the Japanese and Chinese in their native land.

CYP1A2

This enzyme is involved in the metabolism of a large number of medications including many of the commonly used psychotropics such as fluvoxamine, haloperidol, olanzapine, and clozapine. CYP1A2 is responsible for the metabolism of some addictive substances, such as caffeine. CYP1A2 exhibits striking inter-individual variability in the metabolism rate of its substrates, which may be due to the inhibition and induction of these enzymes by an array of non-genetically determined factors.

CYP1A2 is highly inducible. Its inducers include indoles contained in cruciferous vegetables (e.g., broccoli, Brussels sprouts, and cabbage), heterocyclic amines produced by the charbroiling of meat (i.e., carne asada), constituents of tobacco, as well as high-protein diets. Although cigarette smoking has long been known to lower the steady-state concentrations of many antipsychotics by up to 50% because of its ability to induce CYP1A2, much less is known about antidepressants. For example, the recently approved antidepressant duloxetine (Cymbalta) has been shown to display a one-third lower concentration in smokers compared to nonsmokers (Physicians' Desk Reference, 2005). This may be clinically important when one considers that Hispanics are more likely to initiate smoking when they suffer from a depressed mood (Escobedo, Kirch, & Anda, 1996).

Although a specific polymorphism in intron 1 of the CYP1A2 gene (C734A) that markedly modulates the inducibility of the enzyme has been identified in Caucasians (Sachse, Brockmoller, Bauer, & Roots, 1999), it is unclear whether there is ethnic variation in this polymorphism. However, because this enzyme is highly inducible, it is reasonable to anticipate and predict its catalytic activity to vary substantially across ethnic/cultural demographic subgroups in association with divergent cultural and socioeconomic dietary habits. Concurrent smoking and consumption of CYP1A2 substrates (e.g., duloxetine, clozapine, haloperidol, olanzapine) may result in decreased effectiveness of these medications compared to that seen in non- or lower-smoking environments such as inpatient facilities or among nonsmokers. Similarly, abrupt changes in CYP1A2 inducing factors (e.g., smoking cessation or changing from a high-protein to a low-protein diet) may result in an increase in side effects because of increases in drug levels secondary to decreased drug metabolism. Such changes would require appropriate dose adjustment to insure effectiveness and avoid unnecessary side effects.

CYP3A4

Although not recognized as an enzyme with polymorphic variation, CYP3A4 has been associated with ethnic variation in catalytic activity. This enzyme is involved in the metabolism of a variety of medications, including cyclosporine,

erythromycin, several cardiac drugs (e.g., quinidine, verapamil, diltiazem, and nifedipine), antihistamines (terfenadine and astemizole), and cocaine. Benzodiazepines (e.g., alprazolam and triazolam) as well as certain antidepressants (i.e., imipramine, nefazadone, and sertraline) and antipsychotics (i.e., clozapine and quetiapine) are among the psychotropics metabolized by CYP3A4.

Several authors have reported ethnic variation in the metabolism of nifedipine, a CYP3A4 substrate. Both East Asians and Mexicans have been reported to metabolize nifedipine slower than Caucasians, resulting in higher AUCs (areas under the curve) and C_{max} (maximum capacity) (Castaneda-Hernandez, Hoyo-Vadillo, Palma-Aguirre, & Flores-Murrieta, 1993; Kinirons et al., 1996; Rashid et al., 1995). Several reports of a bimodal distribution of nifedipine metabolism suggest the existence of a genetic polymorphism similar to that observed with CYP2D6 and CYP2C19 (Hoyo-Vadillo et al., 1989). In addition to being the most abundant P450 in the human body, CYP3A4 appears to be one of the most sensitive to environmental influences such as concurrent medications and diet. For example, the administration of ketoconazole can inhibit the enzyme resulting in a prolongation of the half-life of triazolam by six- to seven-fold (Varhe, Olkkola, & Neuvonen, 1994).

Environmental Factors

Traditional and Alternative Healing Methods

The history of treating mental illness in the Americas is an ancient one. The Mayans worshiped many gods including a god of medicine and a god of suicide. The Aztecs combined religious healing rituals with the use of herbal medicines. Traditional herbal medicines continue to be extensively utilized often side-by-side with modern Western pharmaceutical agents. Contrary to the beliefs of most physicians, many of these herbal drugs are pharmacologically active and capable of significant pharmacokinetic and pharmacodynamic interactions with prescribed drugs. For example, several medicinal herbs, including St. John's wort, have been found to have potent stimulating effects on the cytochrome P-450 enzymes (Liu, 1991; Piscitelli, Burstein, H., Chaitt, Alfaro, & Falloon, 2000). In contrast, bitter orange (*Citrus aurantium*), black pepper (*Piper nigrum*), and valerian (*Valeriana officinalis*) substantially inhibit the activities of these enzymes (Bhardwaj et al., 2002; Fugh-Berman & Myers, 2004; Gurley et al., 2002; Lefebvre et al., 2004).

Pharmacodynamic interactions include the atropine toxicity and delirium that develops when the atropine in *Datura candida* interacts with low-potency antipsychotics. Similarly, these active pharmacological properties may be responsible for the reported effectiveness of some of these herbal preparations. For example, several of the herbs found in the traditional Hispanic herbal preparation for anxiety and depression known as "siete azarhes," have affinity for the GABA receptor.

The influence of concurrently prescribed medication is of concern because upwards of 80% of Hispanic patients living in towns near the U.S.-Mexico border obtain drugs without a prescription in Mexican pharmacies (Casner & Guerra, 1992). For example, the addition of the popular antidepressant fluoxetine to treatment with the tricyclic antidepressant desipramine has been reported to produce toxic levels of the tricyclic due to competitive inhibition of CYP2D6. This competitive inhibition may be responsible for the 46% rate of PMs observed among drug-treated patients, in contrast to a rate of 3–9% in drug-free normals (Llerena, Herraiz, Cobaleda, Johansson, & Dahl, 1993).

Dietary Effects

The importance of genetic influences notwithstanding, the activity of cytochrome P-450 enzymes can be influenced by exposure to different diets. For example, high-protein diets enhance drug metabolism through increased drug oxidation and conjugation. Due in large part to its combined hepatic-extrahepatic (small intestine) distribution, several dietary constituents can have a large impact on its catalytic activity. For example, a furanocoumarin found in grapefruit juice has the capability of inhibiting CYP3A4 located in the small intestine resulting in delayed metabolism and increased pharmacological effects of CYP3A4 substrates. In comparison to the substance found in grapefruit juice, a constituent of maize has been reported to have an 18-fold stronger inhibition effect (Palma-Aguirre et al., 1994). In a study with nifedipine, subjects on corn vs. corn-free diets displayed significant differences in pharmacokinetic effects (Palma-Aguirre et al., 1994).

These influences also might contribute to the observed ethnic differences in pharmacological response. For example, Branch, Salih, and Homeida (1978) compared the rate of metabolism of antipyrine (a probe drug used for testing mixed functional oxidase activity including CYP1A2 and CYP3A4) and found a significantly longer half-life of the drug among Sudanese living in their home villages compared to Sudanese residing in Britain or to White British subjects. The latter two groups metabolized the antipyrine at similar rates, suggesting that environmental factors such as diet were responsible for the pharmacokinetic differences. Similar findings were reported in subsequent studies involving Asian Indians living in India, Asian Indian immigrants residing in Britain, and White British subjects. A follow-up study found that among the immigrants, those who retained their dietary habits as lacto-vegetarians metabolized the drug similarly to those living in their home country, whereas the pharmacokinetic profiles of those who became meat eaters were indistinguishable from the British Whites. This may lend further support to the importance of environmental factors in drug metabolism in other groups, as well.

Placebo Effects

Evaluating the efficacy of any treatment method, especially those involving the use of biological interventions, must include a measure of placebo effect. This phenomenon accounts for 30–70% of the therapeutic responses observed with many treatment methods (Smith, Lin, & Mendoza, 1993). By definition, placebo effects are mediated through “symbolic” rather than “instrumental” mechanisms, and thus are largely influenced by culture. At present, there is very little specific information regarding how placebo responses might differ in different ethnic groups. In a previously mentioned study, Escobar and Tuason (1980) found that Colombian patients improved more than those in the United States not only with the antidepressants, but also when given placebo. Although the number of studies precludes any firm conclusions, available data appear to suggest that non-Caucasians may be somewhat more responsive to placebo treatment.

Compliance

Although compliance to medical treatment is essential for a good outcome, over 50% of patients do not adhere to the prescribed treatment (Sackett & Haynes, 1976). Several studies of the factors that are most important in predicting noncompliance have found that the patient-clinician relationship, including communication regarding drug actions and medication side effects are crucial in determining compliance (Lin, Poland, & Anderson, 1995). Communication difficulties and divergence between the patient and clinician’s explanatory models were found to be largely responsible for the significantly higher dropout rate among ethnic minority patients in psychiatric treatment.

A study performed by Kinzie, Leung, Boehnlein, and Fleck (1987) further illustrates the problem of medication compliance in ethnic populations. They found that 61% of their depressed medicated refugee patients showed no tricyclic antidepressants in their blood and another 24% revealed only very low serum levels although all patients were treated with adequate dosages. When questioned, these patients admitted to noncompliance for a variety of reasons. Education regarding the importance of long-term pharmacotherapy and the maintenance of therapeutic blood levels resulted in significantly improved treatment compliance.

The metaphor of compliance is unfortunate in many respects because it implies that the patient’s task is to conform, acquiesce or yield to the clinician’s directives. In contrast to this connotation of the metaphor of compliance, patients can be viewed as actively engaged in understanding their illness and seeking out forms of treatment that make sense to them and fit with salient cultural expectations and social constraints in their lives (Hunt, Jordan, Irwin, & Browner, 1989). Communication is not simply a matter of passing

along packets of information from one person to another but of using meaningful language and gestures to evoke or elicit from patients their own relevant models and metaphors. Hence, some awareness of patients' background knowledge is essential to make oneself understood.

The unequal power of doctor and patient tends to work to silence patients (Mishler, 1984). Although this silencing may suit both clinician and patient, as when the patient comes from a cultural background that values reticence and restraint or views competent clinicians as necessarily authoritarian, the inherent inequality of the treatment encounter suggests that it may be valuable to conceptualize the therapeutic relationship in terms other than compliance. For example, metaphors that emphasize negotiation, collaboration and a patient- or family-centered approach may be more productive. To do this, it is crucial to elicit patients' own understandings of symptoms and illness to appreciate their concerns and priorities. The clinician must clearly indicate his or her willingness to take the time to understand the patient's point of view. This willingness allows the clinician to understand specific symptoms and behavioral problems in sufficient detail to map them onto existing psychiatric nosology, but it also may point toward issues that, while not core symptoms of a recognized disorder, nevertheless rank high on the patient's own list of concerns that require attention and may play a key role in disability and outcome. In parallel with this effort, the clinician needs to explore the patient's attitudes toward medical authority and psychiatric treatment to identify potential barriers related to fear of labeling and stigmatization.

Coexisting Conditions

Coexisting conditions may complicate the treatment of depression among Hispanics. For example, depression frequently coexists with other chronic illnesses such as obesity, diabetes, and chronic obstructive pulmonary disease that are common in Hispanics and often are undertreated (Lloyd & Brown, 2002; van Manen et al., 2002). Depressive symptoms can begin in childhood for those with diabetes or asthma. For instance, one study found that 39% of Mexican children and adolescents with asthma had depressive symptoms (Hernandez et al., 2002).

Death rates in older Mexican Americans are substantially higher when a high level of depressive symptoms coexists with diabetes, cardiovascular disease, hypertension, stroke, or cancer (Black & Markides, 1999). Coexistence of depression and diabetes is common in older Mexican Americans (Black, Goodwin, & Markides, 1998). Depression was present in 31% of older Mexican Americans with diabetes—twice as high as the rate found in Hispanics without diabetes (Black, 1999). The health risks associated with the presence of both diseases may be greater than the effects of either single condition because depression has been associated with poor blood glucose control and inadequate

treatment adherence (Lustman, Griffith, Clouse, & Cryer, 1986). In fact, among older Mexican Americans with diabetes, the odds of dying in those with high levels of depressive symptoms were threefold that of those without depressive symptoms (Black & Markides, 1999). Recognition of diabetes in depressed individuals is essential for effective management of depression and better control of glucose level can improve mood and wellbeing (Van der Does et al., 1996).

Discussion and Recommendations

The evidence to date indicates that Hispanics respond to psychopharmacology for depression in ways that are not essentially different from the mainstream population. Why the chances of Hispanics who are diagnosed with depression in a health care system receiving treatment are lower than average is an unanswered question and the possible reasons many. One possibility is that lower rates of antidepressant medication may reflect a lack of recognition of major depression by either clinicians or patients. Clinicians may misattribute affective distress in these patients to real-world stress-inducing factors that they perceive to be unresponsive to antidepressant treatment. Although Hispanics may be more likely to have significant socioeconomic stressors that “explain” the depression, this is clearly not a reason to withhold pharmacologic treatment.

Another possibility is that Hispanics and their caregivers are probably more likely to have a fatalist attitude toward mental illness or harbor negative views about medications. Stigma, misconceptions, and negative views of mental illness in general, and depression in particular, need to be explored and corrected, and a realistic but positive appraisal of treatment goals offered. Negative preconceptions about medications should be addressed by emphasizing the efficacy, low toxicity, lack of addictive properties, and reversibility of side effects with the newer antidepressant medications.

A third possibility is that Hispanics are more sensitive to medication side effects and thus are more likely to drop out of treatment when these are experienced even though they are half as likely as Caucasians to express complaints about the medication (Sleath et al., 2003). This perspective has led to the view that when treating Hispanics, clinicians should “start low and go slow.” However, there is no genetic or pharmacokinetic evidence supporting the contention that Hispanics require lower doses of antidepressant medications. Consequently, we advocate an aggressive approach to the treatment of depression among Hispanics because the time window is shorter than for Caucasian patients; that is, clinicians often will have fewer visits to achieve clinical efficacy before treatment drop out is likely to occur. In general, we consider that the usual antidepressant titration according to response and side effects is a reasonable approach.

A fourth possibility is that compliance problems in Hispanics arise more from their social and economic situation than their ethnicity and can be solved

with non-ethnic specific measures. For instance, clinicians treating Hispanic patients must explore the beliefs held by them regarding illness causality and treatment expectations. Moreover, because Hispanic patients are more likely to live with their families and wish to include them in decisions about treatment (Guarnaccia & Parra, 1996), involving family members in the treatment of depressed Hispanics and educating them about the benefits of antidepressant medications can improve medication adherence by preventing the negative feedback they might otherwise give the patient regarding illness and treatment because of previously held stigmatized views of mental illness.

In the United States, Hispanics are a large enough group that they can fairly expect to receive treatment from clinicians who share their cultural and linguistic background. It is worth noting, however, that the mere fact that a clinician and patient share some background may not guarantee culturally appropriate care. Important individual, family, subcultural, and social class differences and because in the course of professional training some clinicians may distance themselves from or devalue the tacit cultural knowledge they once had, can both play a role in this instance. Clinicians need to be aware of personal bias and counter-transference and keep in mind that a Hispanic patient is first and foremost an individual. Although cultural competence is critical to the successful treatment of Hispanic patients with depression, it is equally important to not let culturally specific information obscure the individual patient, a situation that can occur if the healthcare provider treats the information stereotypically and acts as if all members of an ethnic group must behave and believe the same way.

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Chapter 11

Community-Based Interventions for Depression

Jeanne Miranda

Personal Journey: Jeanne Miranda

I began my research career in 1988 at San Francisco General Hospital as an assistant clinical professor at the University of California, San Francisco. Having been raised in an impoverished Latino family, I focused my work on low-income and minority populations. Mentored by Drs. Ricardo Munoz and Jacqueline Persons, I developed a research and treatment program for treating depression in low-income and minority patients. My subsequent work has focused on improving depression care for low-income and minority persons.

Introduction

The report of the Surgeon General on mental health documented significant disparities in access to and the quality of mental health care received by members of racial and ethnic minority groups in the United States, including Latinos (USDHHS, 2001). The report notes that Latinos often lack access to mental health care because they are more likely to be uninsured and underinsured than are White Americans. In addition, White service providers are proportionately more available than are Latino providers. This hinders monolingual Spanish-speakers from seeking care. As a result, Latinos with depression are much less likely to obtain treatment than are their Caucasian counterparts.

Not only do Latinos frequently fail to receive care, but they are less likely to get the most beneficial care when they do seek treatment. Among Latinos who do receive care for depression, two studies with nationally representative samples found that ethnic minorities are less likely to receive quality care than are White Americans (Young, Klap, Sherbourne, & Wells, 2001). Even among an insured

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population of federal employees, White Americans are 1.7 times as likely to visit an outpatient mental health provider, and make 2.64 more mental health visits, per year, compared to both African Americans and Hispanic Americans (Padgett, Patrick, Burns, & Schlesinger, 1994). Overall, Latinos are much less likely than White Americans to receive appropriate care for depression.

In this chapter, the importance of community-based interventions for improving access to and quality of care for Latinos is reviewed. The importance of detection and treatment of depression in primary health care settings are examined, as well as new efforts for community partnerships in building appropriate care for depressed Latinos.

Treatment of Depression in Latinos

Until recently, little was known about the impact of evidence-based depression care on Latinos. In a special analysis conducted for the Surgeon General's Report (USDHHS, 2001), the randomized trials of the treatment for depression used to formulate treatment guidelines included 3,860 participants, none of whom were identified as Latino. A few small studies have examined care among Latinos. One small, randomized trial of psychotherapy for depression in Latinos was published two decades ago. Comas-Diaz (1981) examined outcomes of cognitive group therapy compared with behavioral group therapy for a small sample ($n = 26$) of unmarried Puerto Rican mothers. Both conditions improved more than the control condition, and outcomes were generally similar to findings with non-Latino populations. Latinos were included in one nonrandomized study of cognitive behavioral therapy (CBT). In this naturalistic study of treatment of depression in 175 low-income and minority medical patients, Organista, Muñoz, and Gonzalez (1994) found modest improvements in depression outcomes for individual and group psychotherapy. In this study, 44% of the patients were Latino and, although ethnicity did not predict outcome for treatment completers, minority patients were more likely to drop out of treatment.

Treatment of ante-partum major depression was studied in a sample of 50 outpatient women in New York City (Spinelli & Endicott, 2003). Of those randomly assigned to care, only 38 remained in the study (13 Latina, 6 White, and 2 African American women). The women received either interpersonal psychotherapy or parent education. At termination, 60% of those in the interpersonal therapy group were recovered, whereas, only 15% of those who received parent education were recovered following care.

Lara, Navarro, Rubi, and Mondragon (2003) examined outcomes of depression care in poor Latina women in Mexico. In this study, women were treated with a six-week educational group approach tailored to problems and issues of women in Mexico (Lara, Leader, & Klein, 1997) compared with a 20-minute individual psychoeducational meeting. Participants were not randomly assigned, but the groups appeared similar on demographic characteristics. No

significant differences in depression were found between the two groups following the interventions.

Miranda, Azocar, Organista, Dwyer, and Arean (2003) examined whether supplementing CBT with clinical case management would improve outcomes of care for low-income medical patients. In this randomized trial, supplemental case management was associated with greater retention in care for all participants. Response to group CBT did not differ by language or ethnicity. Furthermore, the supplemental case management resulted in greater improvement in symptoms and functioning than CBT alone for Spanish-speaking patients ($n = 77$), but was less effective for English-speaking patients.

Another study (WE Care; Miranda, Chung, et al., 2003) examined the impact of cognitive behavioral psychotherapy and paroxetine (switched to bupropion if clinically necessary) on Latina and African American women. The women who participated in this study were largely working poor, with 60% below federal poverty guidelines and another 34.2% near poor. In this study, 117 participants were U.S.-born African American, 16 were White, and 134 were Latina women immigrants to the United States. In total, 66 of 88 women assigned to medication received guideline care, 32 of 90 women assigned to CBT received six or more sessions, and 15 of 89 referred to community care attended at least one mental health visit. The interventions were modified to be sensitive to low-income women, and separate modest cultural adaptations were made for Latina and African American women. Culturally sensitive methods were used to encourage women to enter care, and babysitting and transportation were provided to enable those who needed those services to attend care regularly. Guideline care was effective over and above community care for decreasing depressive symptoms and improving functioning of these women. Whether or not they received guideline care, the women randomly assigned to medications were twice as likely to be asymptomatic by month 6 as those referred to community care. By six months, 44% of medication, 32% of psychotherapy, and 28% of referred patients were asymptomatic. All ethnic groups responded to treatment equally, and there were no interactions of treatment with ethnicity on outcomes in this study.

One-year follow-up of the WE Care sample (Miranda et al., 2006) compared the impact of the antidepressant medication and CBT interventions with community referral in the predominantly low-income young minority women described above. Both medication and CBT interventions were superior to community referral in lowering depressive symptoms across the one-year follow-up. At one year, 50.9% of those assigned to antidepressants, 56.9% of those assigned to CBT, and 37.1% of those assigned to community referral had recovered. These findings suggest that both antidepressant medications and CBT result in clinically significant decreases in depression for low-income and minority women for an extended one-year period of time.

Taken together, these studies suggest that evidence-based treatments for depression are effective for Latinos, even those who live in or near poverty.

The evidence also suggests that Latinos are much less likely to seek traditional mental health care than are White Americans.

Treatment of Depression in Medical Settings

Most Latinos with depression fail to seek psychiatric care but are seen in primary health care settings. Miranda, Duan, et al. (2003) examined the impact of a quality improvement (QI) intervention on outcomes of depression care for Latino medical patients. This study included 181 clinicians in 46 primary care practices in 6 U.S. managed care organizations. Matched practices were randomized to usual care or one of QI improvement programs. QI Meds focused on improving medication management to meet guideline standards for depressed patients. QI Therapy focused on delivering evidence-based treatment, CBT, to these patients. For both interventions, the study trained local experts to educate clinicians regarding depression care. Furthermore, nurses were taught to educate, assess, and follow-up with patients. In the QI Therapy arm, psychotherapists were taught to conduct CBT. The sample of patients consisted of 398 Latinos, 93 African Americans, and 778 White patients with probable depressive disorder. The intervention significantly improved rates of care for each ethnic group, with no significant difference in response by ethnic group. The interventions significantly decreased the likelihood that Latinos and African Americans would report probable depression at months 6 and 12; the White intervention sample did not differ from controls in reported probable depression at either follow-up. Five years after implementation, the participants in the intervention arms of this study had improved outcomes relative to those in usual care (Wells et al., 2004). Furthermore, disparities in outcomes were reduced through markedly improving health outcomes and lowering unmet need for appropriate care among Latinos and African Americans relative to Whites.

Miranda, Schoenbaum, Sherbourne, Duan, and Wells (2004) used data from this trial of improving care for depression in primary health care settings to determine whether appropriate care results in similar outcomes for minority and nonminority medical patients. They used an instrumental variables approach (using the random assignment of the quality improvement interventions as the instrument) to examine whether outcomes of appropriate care (either medications or psychotherapy) result in similar outcomes for minorities and nonminorities, while using the instrumental variables technique to control for factors, such as level of illness, that predict entry into care. Results of this analysis found that minorities responded similarly to care as did nonminorities. Although sample sizes were small, analyses suggest that this similar response was true for Latinos.

A study by Araya et al. (2003) investigated stepped care for depression in primary-care clinics in 240 low-income women in Santiago, Chile. Stepped care

was a three-month, multicomponent intervention led by a nonmedical health worker, which included a psychoeducation group intervention, structured and systematic follow-up, and drug treatment for patients with severe depression. At six months' follow-up, 70% of the stepped-care compared with 30% of the usual-care group were no longer symptomatic.

Community-Based Interventions to Improve Access to Appropriate Care

At the current time, few Latinos seek mental health care when they need it. Communities and social networks may influence whether or not poor women and their children access mental health care when needed (Pescosolido, Wright, Alegria, & Vera, 1998). Interventions may need to be targeted to communities to improve access to care for Latinos.

The concept of community has diverse meanings. It can refer to a geographic area, a community-based agency, or related values and norms. An evaluation of diverse stakeholders (MacQueen et al., 2001) found that a common definition of community emerged as a "group of people with diverse characteristics who are linked by social ties, share common perspectives, and engage in joint action in geographical locations or settings" (p.1932). Places that serve as communities for poor young women and their children include schools, churches, health care settings, and workplaces (Cattell, 2001). Community-based interventions are strategies that are targeted to these communities, provided through community-based agencies, or are targeted toward changing community values, such as promoting breast cancer screening (Navarro et al., 1998).

This Network-Episode Model of care use explains the importance of community factors on influencing care utilization (Pescosolido, 1996; Pescosolido, Boyer, & Lubell, 1999). This model draws upon social network theories to understand use of mental health care services over time. It posits that the social structure that systematically influences individuals' health behavior and outcomes is the influence of personal, organizational, and community network ties. This model brings a network approach to understanding treatment entry and outcome at the individual, organizational, and system levels. The social networks within systems of care have been important to understanding mental health care utilization of the seriously mentally ill (Morrissey, 1998). Specifically, this model suggests that combining information from clients, their families and support networks, treatment providers, and bureaucratic officers are necessary to understand client episodes of treatment and outcomes of care.

This model suggests that several factors influence use of mental health care. It posits that the structure of personal networks (e.g., size, density, multiplexity) interacts with cultural context to influence use of care, delay in seeking care, and acceptance of treatment. Factors that impact the social networks of individuals affect their use of mental health services. This model was used to

predict patterns of mental health care use among poor Latinos in Puerto Rico (Pescosolido et al., 1998). Results show social patterns predicting unique patterns of service use. In this population, larger size and greater perceived support of social networks was related to decreased likelihood of use of formal mental health services. Earlier work with upper-class individuals (Kadushin, 1966) found the opposite pattern. Because poorer populations are likely to hold more negative views of professional mental health care than upper-class individuals, support networks exert opposite effects. These findings would suggest that community-based interventions, where the intervention is supported through social networks, may be necessary to increase appropriate mental health utilization by Latinos.

Few studies have evaluated community-based approaches to improve access to appropriate mental health care for common mental disorders. The NIMH D/ART program was a national campaign to increase awareness and treatment of depression (Regier et al., 1988). It included public education and training of providers, employers, and community agencies over more than a decade. This program was never formally evaluated. A result of this effort was the creation of the National Depression Screening Day in 1991. The program shows the feasibility of implementing the screening/identification component of appropriate care for depression through communities. Although national-level interventions, and those that use media communications, may improve uptake of mental health care for the white, middle-class population, these interventions are less likely to be effective for improving rates of care for low-income and minority populations. For example, national-level campaigns targeting smoking cessation resulted in decreases in smoking in more affluent communities, with less impact among low-income populations. Cigarette smoking was about twice as high among the poor as among more affluent persons in 1995 (NCHS, 1998). Clearly, community-based approaches for ethnic minority and poor communities need to move beyond national-level media campaigns.

Community-based health intervention trials have increased successful health care utilization, such as improved cancer screening, in poor and ethnic minority populations. These interventions have been fielded in community agencies, such as churches and schools (Ellickson & Bell, 1990; Fox, Pitkin, Paul, Carson, & Duan, 1998). For example, African Americans and Hispanic women have low mammography rates, and church-based interventions using opinion leaders to influence social networks increased those rates (Altpeter, Earp, & Schopler, 1998; Bastani, Marcus, Maxwell, Das, & Yan, 1994; Bird et al., 1998; Danigelis et al., 1995; Davis et al., 1998; Duan, Fox, Derosé, & Carson, 2000; Englisbe, Jimpson, Harper, & Cohen 1995; Erwin, Spatz, & Turturro, 1992; Fox et al., 1998). These interventions often use a social network and opinion leader (often lay health advisors) approach to improving use of appropriate health services (Earp et al., 1997; McAlister et al., 1995; Navarro et al., 1998; Ramirez & McAlister, 1988; Ramirez, McAlister, Gallion, & Villarreal, 1995). A relevant example (Sikkema et al., 2000) is an HIV prevention study of impoverished women in inner-city neighborhoods. In this study,

investigators identified opinion leaders among the women who lived in the housing developments. These opinion leaders were educated about HIV risks and were asked to engage in outreach in their housing developments. At one-year follow-up, risk behaviors had declined for those in the intervention housing projects but not for those in control housing projects.

As these interventions are developed, two issues important to mental health will be considered. First, the Surgeon General's Report on Mental Health (USDHHS, 1999) called attention to the prominence of stigma accounting for the under utilization of mental health care services by those in need of care. In addition, the issue of trust may be particularly important for mental health issues that are stigmatizing (Mechanic & Meyer, 2000). Because of these issues, the community should be involved in developing interventions so that they are sensitive to overcoming stigma and building trust from the perspective of the targeted community.

Community-participatory public health interventions have been fielded since the 1970s. Throughout the 1970s and 1980s, these interventions used community-organizing approaches to implement programs. These studies were designed to determine whether community-wide risk reduction could be achieved through community interventions such as mass education campaigns, clinical service provision, and worksite health promotion (see Blackburn, 1983; Elder et al., 1986; McAlister, Puska, Salonen, Tuomilehto, & Koskela, 1982; Mittelmarmark, Hunt, Heath, & Schmid, 1993; Puska et al., 1985; Shea & Basch, 1990). Reviews of these studies (Mittelmarmark et al., 1993; Schooler, Farquhar, Fortmann, & Flora, 1997) confirmed the need for more community involvement and participation in the design and implementation of these interventions. A new generation of community-based trials in the late 1980s and 1990s included strong components of collaborative partnerships with the community. In these studies, communities were engaged as collaborators in designing and implementing the research. A review of 34 studies of community partnerships to promote health (Roussos & Fawcett, 2000) finds evidence that these collaborations can improve health outcomes; however, most of these studies were case studies with pre- and post-intervention evaluations. In one study with a control community comparison, differences between intervention and comparison communities were found in alcohol-involved car accidents (Voas, Holder & Gruenewald, 1997).

These collaborative community interventions trace their theoretical roots to Brazilian educator Paulo Freire (Shor & Freire, 1987), who advocates a participatory education process in which people are not objects or recipients of educational projects (such as health education), but rather through a process of learning to name their problems and their solutions transform themselves. This transformation involves community empowerment where communities and individuals change themselves as they work to change their environment (Minkler & Wallerstein, 1999; Wallerstein & Bernstein, 1994). Strict definitions of community participatory interventions require that the needs or problems around which community groups are organized be identified by the community itself, not by an outside organization or change agent. However, health education professionals have borrowed some principles and methods from

participatory community organizing to improve health outcomes, such as AIDS prevention efforts. These types of activities, that include collaborative partnerships in developing health interventions, have been associated with positive health behavioral changes (Brownson et al., 1996; COMMIT Research Group, 1991; Fawcett et al., 1997; Furlong, Casas, Corral, & Gordon, 1997; Goodman, Wheeler & Lee, 1995; Lewis et al., 1996; Paine-Andrews et al., 1997; Pentz et al., 1989; Rohrbach, Johnson, Mansergh, Fishkin, & Neumann, 1997; Shaw, Rosati, Salzman, Coles, & McGeary, 1997; Yin, Kaftarian, Yu, & Jansen, 1997). These findings suggest that community participation could be an important component in developing interventions for improving health outcomes, such as encouraging appropriate use of mental health care. In particular, strategies that involve empowerment and activation of the community may be especially important to developing sustainable and appropriate community interventions (Wallerstein & Bernstein, 1988).

Vision of the Future and Recommendations

Latinos with depression often fail to get care. When they do receive it, the care is less likely to meet quality standards than the care of White Americans. Despite this, evidence suggests that Latinos who do get evidence-based care respond equally well, if not better, than do White Americans.

This review of the literature suggests that providing quality care for Latinos in primary health care settings is one strategy for improving the likelihood that depressed Latinos will receive appropriate care. This strategy would reach Latinos who are unlikely to seek traditional mental health care. Primary care doctors can provide pharmacotherapy for depression. Furthermore, some medical settings are integrating mental health workers within the setting, making care more accessible to populations.

This review of the literature would also suggest that there is promise for Latinos in community-based mental health interventions. For example, churches may be appropriate settings for bringing mental health care to Latinos. Parish nurses may help to identify needs for depression care and help those in need to find appropriate care. Similarly, school programs may help to educate parents about depression care and offer settings to facilitate referrals. These settings offer the rich cultural and language capacities that could potentially enable diverse Latinos to feel comfortable seeking and engaging in care.

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Part IV
Gender and Life-Cycle Issues

Chapter 12

Women and Depression: The Influence of Gender in Major Depressive Disorder

María Asunción Lara

Personal Journey: María Asunción Lara

Awareness of the suffering and burden that depression imposed on women and the limitations in available mental health services, mainly for poor women, as well as the need to build bridges between clinical practice, research, and public mental health led me to research in this area.

Undertaking research with economically disadvantaged women with clinical depression at the Ramón de la Fuente National Institute of Psychiatry, in Mexico City, sensitized me to their everyday difficulties and emotional distress, and their need for information to cope with their problems. With the goal of developing educational material that would meet the need of these women, I gathered information from various sources including my own experience as a clinical psychologist. With the help of colleagues, we printed this material as a comic book. Piloting this book with focus groups, we realized the potential for it working with groups. We are now disseminating this intervention through training courses for mental health workers in Mexico and the United States. Colleagues, led by Eva M. Moya in the United States, have translated the materials into English and adapted the intervention for use with pregnant women and new mothers. In this new venture we have worked with Dr. Huynh-Nhu Le from George Washington University in Washington, DC.

Gender Differences in Depression

“They [men] do not feel like crying, whereas women cry all the time. They just get very angry” (Lara, Acevedo, & Berenzon, 2004).

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The World Health Organization's Global Burden of Disease Study estimates that major depression is the leading cause of disability among women in the world today (Murray & López, 1996). Depressive disorders account for nearly 30% of the psychiatric disability in women, but only about 12.6% in men (Desjarlais, Eisenberg, Good, & Kleinman, 1995). A consistent female-male depression prevalence ratio of 2 to 1 across cultures is a common finding in psychiatric epidemiology (Kessler et al., 2003).

Retrospective age-of-onset reports show that gender differences in depression emerge in adolescence, with females more likely than males to develop clinical depression (Kessler et al., 1994). This difference continues until approximately the age of 55 for women, declining thereafter as male rates increase (Piccinelli & Gomez Homen, 1997). Recent findings suggest that the rise in female depression during childhood is accompanied by higher rates of depression among women before and after the age period associated with menopause (Cairney & Wade, 2002), as well as a slight secondary peak after age 60 (Wu & Anthony, 2000).

Although the majority of studies point to a female preponderance in the prevalence of depression, some with more homogeneous samples or in traditional societies find this difference to be smaller or even absent (Angst et al., 2002). Still, there is agreement that while the course and severity of depression are similar in both sexes, the major gender difference is that women have a higher risk than men of experiencing a first depressive episode (Kessler, 2003). Women also tend to report a greater number of symptoms compared with men and a greater degree of distress associated with these symptoms (Kornstein et al., 2000). Women are more likely to attempt suicide, although the rate of successful suicide is higher in men (Kornstein, 1997). Higher rates of comorbidity with anxiety and eating disorders are found in women, while major depression in men is associated with alcohol and substance abuse (Kornstein, 1997).

Angst and his colleagues (2002) find gender differences in symptoms, causal attribution, help-seeking, coping, and consequences of depression. They claim that more women report a lack of energy, less sleep, appetite changes, heart palpitations and being emotional and tearful, whereas men experience a greater need to consume alcohol during these periods. Women feel the effects of depression in the quality of their sleep and general health, and men in their impaired ability to work. Women attribute their depression to relationships, illness, or deaths in the family, whereas males ascribe it to problems at work or unemployment. Women cope through emotional release and religion, while men cope by increasing their sports activity and alcohol consumption. Gender differences have been reported in the relapse or recurrence of the disorder (Kuehner, 1999), but other studies do not support this finding (Zlotnick, Shea, Pilkonis, Elkin & Ryan, 1996).

Experience of Depression in Latinas

"I get very depressed and get into a bad mood and feel nervous. Sometimes I think my head is about to burst" (Lara et al., 2004)

Somatic symptoms are frequently reported in depression in disadvantaged populations, certainly among Latinos (American Psychiatric Association, 1994), and often among women (Salgado de Snyder & Maldonado, 1994). According to Koss-Chioino (1999), somatic complaints are more central to the depressive experience of Latin American women. With a sample of Puerto Rican women, this author describes cultural variations in symptom presentation including feelings of distress, unworthiness, and problems in sexuality and reproductive functioning. He identifies four primary depressive syndrome complaints: nervousness or intranquility, sleep disturbances and hallucinations, crying spells, and headaches and other pains.

Salgado de Snyder and Maldonado (1994) describe the depressive symptoms of Mexican women from rural areas as a lack of positive affect, hopelessness, and somatic symptoms. Studies from other South American countries also report lack of appetite, less sleep, sadness, crying spells, and lack of interest in depressed women (Baéz et al., 1990).

Explaining Gender Differences in Depression Rates

“I feel very irritated and pressured all day, my body aches and I feel that things are not going at all well in my life. When I get up in the morning, my back always hurts and the worst part of it all is that I feel I take it out on my children. I stopped going to parties, I stopped seeing friends, I stopped playing, I left my family, I gave up my work and I spend the whole day shut up in the house” (Lara, 2002).

Authors agree that although gender differences constitute one of the most solid findings from psychiatric epidemiology, there is a lack of satisfactory explanations for the causes of this difference (e.g., Bebbington, 1996; Dennerstein, Astury & Morse, 1993; Nolen-Hoeksema, 2002; Piccinelli & Wilkinson, 2000). Explanations include biological, psychological, and psychosocial factors.

Biological Explanations

Genetic Factors

The etiology of depression cannot be explained by a simple genetic theory but rather that it involves a complex interaction between genes and the environment (Kendler, Gardner, & Prescott, 2002). In a study of twins, Kendler and Prescott (1999) initially concluded that major depression was equally inheritable in men and women and that most genetic risk factors behaved similarly in the two sexes. However, in a more recent study using a broader definition of the illness, they reported that genetic factors played a larger role in the etiology of major depression in women than in men (Kendler, Gardner, Neale & Prescott, 2001). Brown (1996a) suggests treating the findings from

twin studies on the genetic etiology of depression with caution, since it is irrelevant for certain depressive disorders (e.g., for neurotic depression).

Reproductive Hormones

Since the greatest risk of depression in women coincides with the onset of puberty, there has been speculation that physiological changes during puberty could be involved. Findings are inconsistent, as there is evidence to show that hormone levels in girls do not correlate with mood, nor does gender increase the risk of depression in teenagers when variables related to psychosocial and life events are controlled (Lewinsohn, Robert, Seeley, & Rohde, 1994). Some studies have found variables such as negative body image (Allgood-Merten, Lewinsohn, & Hops, 1990) and the co-occurrence of the peak of pubertal growth and school changes (Petersen, Sarigiani, & Kennedy, 1991) are associated with depression levels in girls.

Since feeling of sadness may increase before and during the menstrual cycle, menstruation is thought to be a factor in depression. Still, the data are inconsistent, and research has yet to solve major methodological problems in this area (e.g., Dennerstein et al., 1993; McGrath, Keita, Strickland, & Russo, 1990; Piccinelli & Gomez Homen, 1997). For example, Piccinelli and Gomez Homen (1997) report that once the first bout of depression occurs, lifetime risk is the same for both sexes suggesting that the menstrual cycle does not increase vulnerability for depression.

Depression in the postpartum period has been a candidate for explaining the greater incidence of depression in women. The changes produced by the birth of a child make it difficult to determine the exact role of psychosocial factors and hormones in those with postnatal depression. Present findings do not support the theory that hormonal changes are solely responsible for mood changes that often occur during this period, and although some data show that feelings of sadness may be due to a decrease in estrogen and progesterone, administering these hormones fail to alleviate symptoms (Kaplan & Sadock, 1991). Finally, the symptoms of dysphoria, sleep disorders, and somatic complaints that increase during peri-menopause are used to explain depression in women. However, studies do not support the position that menopause is a time of increased vulnerability to depression for women (Matthews, 1992).

Pregnancy and the Postpartum Period

“There came a time when I was so depressed I said: ‘What’s the point of having this baby? What’s the point of bringing him into the world? What’s the point of my being like this?’ Instead of improving because of my pregnancy, I was getting worse and above all, worried about my baby, especially because of my financial situation. I’m all on my own and have to raise my children alone” (Lara, unpublished material).

Depression is a common occurrence in pregnancy, at least as frequent as among nonpregnant women (Gaynes et al., 2005). Among pregnant Latinas, risk factors for depression are: negative life events and lack of social support (Zayas, Cunningham, McKee, & Jankowski, 2002), acculturation stress (Yonkers et al., 2001), unwanted pregnancy (Rich-Edwards et al., 2006) and having left children in their home country (Miranda, Siddique, Der-Martirosian, & Belin, 2005). Living in the United States during childhood, a poor sense of mastery, and dissatisfaction with life were found to be more related to depressive symptoms than childbearing status (pregnancy and postpartum) or demographic variables such as age, income or education (Heilemann, Frutus, Lee, & Kury, 2004).

Studies of Latinas show high rates of postpartum depressive symptoms. Having a history of affective disorders is a predictor of postpartum depression for Latinas and others (Rich-Edwards et al., 2006). Additional risk factors for Latinas include weak English-speaking skills, low satisfaction with social supports, living in the United States during childhood (Heilemann et al., 2004), financial hardship, and an unwanted pregnancy (Rich-Edwards et al., 2006). Apart from the perceived level of social support, other studies find that lack of health insurance coverage but not acculturation or immigration status to be a risk factor for Hispanics (Kuo et al., 2004). As for the social support Latinas receive, it is reported that more pre- and postnatal support comes from relatives—*comadres*—than from their husbands/partners. Almost half of the women are dissatisfied with their husband/partner's *machismo-like* behavior and feel that it negatively affects their relationship and family life (Martinez-Schallmoser, Telleen, & MacMullen, 2003).

Prevention interventions for PPD have been tried and evaluated for groups (Elliot et al., 2000; O'Hara, Stuart, Gorman, & Wenzel, 2000; Zlotnick, Miller, Pearlstein, Howard, & Sweeney, 2006) including Hispanic pregnant women (Muñoz et al., 2007; Zayas, McKee, & Jankowski, 2004). If not prevented, PPD needs to be treated for the benefit of both mother and baby (Moses-Kolko & Roth, 2004). Psychological treatments have been widely used for postpartum depression to improve mood with it reported that women favored counseling over pharmacological treatments (Cooper, Murray, Wilson, & Romaniuk, 2003; Klier, Muzik, Roseblum, & Lenz, 2001; Misri, Kostaras, Fox, & Kostaras, 2000; O'Hara et al., 2000; Sleath et al., 2005).

Psychosocial Explanations

Attempts have been made to explain the difference in depression between the sexes on psychological dimensions such as attitude, temperament, personality, and coping styles. Studies reported that coping and attributional styles did not increase the risk of depression in women, although women displayed more neurotic symptoms, used fewer problem-solving strategies, tended to ruminate

about their problems and perceived a higher degree of failure in controlling results than men (Bebbington, 1996).

Differences in the socialization and life conditions of boys and girls could explain gender differences in depression. Several studies reported that women experienced more stressful situations in the process of maturing, while others have found less resilience and the use of less effective, more dysfunctional coping skills in girls compared to boys (Aro, 1994). Differences in adult gender roles have been hypothesized to account for these differences. The roles typically performed by women give rise to greater stress and fewer coping resources. This is particularly true for married women, where differences in depression rates are greatest (Gove & Tudor, 1973). Women also are more likely to be committed to a single role (like mother), increasing their risk for depression when there is a disturbing life event that “matches” this area of high commitment (Brown, Bifulco, & Harris, 1987).

Research suggests that sexual abuse may be one of the factors explaining gender differences in depression during adulthood (Cutler & Nolen-Hoeksema, 1991; Nolen-Hoeksema 2002). Sexual abuse increases the probability of depression and lower self-esteem, anxiety disorders, feelings of sadness (Harkness & Wildes, 2002), self-destructive behavior, and personality disorders (Gladstone, Parker, Wilhelm, Mitchell, & Austin, 1999).

Finally, poverty is more common among women than men and is considered a possible explanation for the gender gap in depression (Belle, Longfellow, & Makosky, 1982).

Risk Factors for Depression in Women

Depression is a multifactorial disorder where biological, psychological, social, and gender factors intertwine. No one factor initiates a depressive episode. Rather several combine to trigger the onset of depression.

Childhood and Adverse Conditions

“I did not know what the root of my problem was but looking at everything together, I realize that at the time I was sexually abused by an uncle, which is something that has affected me ever since, that I have always inside of me, and has caused me problems with my partner” (Lara, 2002).

Exposure to physical and/or sexual abuse during childhood increased the risk for depression in women later in life (Kendler, Gardner, & Prescott, 2002; Romero, Wyatt, Burn, Vargas Carmona, & Solis, 1999). In community (Bifulco, Brown, & Adler, 1991) and clinical samples (Brown & Anderson, 1991) increased rates of depression and anxiety were reported for women with a history of child sexual abuse.

For example, there is evidence that a higher percentage of women with depression (25%) experienced sexual abuse during childhood when compared to a control group (6%) (Vize & Cooper, 1995), and rape in childhood or adulthood more than doubled a woman's risk for depression (Burnam et al., 1988).

Studies of negative childhood experiences in working-class women (Bifulco, Brown, & Harris, 1994; Bifulco, Brown, Ball, Moran, & Campbell, 1998) find that adversity in childhood nearly doubles the risk of clinical depression during adulthood. Parental rejection or lack of attention, violence by a household member, and severe abuse by a perpetrator living either inside or outside the home are particularly noxious. Losing one's mother before the age of 17, either through death or separation of one year or more, predisposes a woman to depression in adulthood (Harris, Brown, & Bifulco, 1986). Further, these early negative experiences have an impact for an increase in adult anxiety disorders (Brown & Harris, 1993) and substance abuse (Amaro, Nieves, Johannes, & Labault, 1999).

Life Events and Social Support

"I lost my land, and was very sick, I couldn't walk and so on, we lost everything, so I went back to my mother again, but it's very hard [to be back home]" (Lara et al., 2004).

Life events include loss (not only that of a person but that of a cherished idea), danger (the threat of future loss), humiliation (a sense of being put down or marked devaluation of self), and entrapment (a person's imprisonment in a punishing situation that has gone on for some time) (Brown, Harris, & Hepworth, 1995).

Between 75% and 90% of depressive episodes show at least one threatening life event occurring not long before the depressive episode (Brown & Harris, 1978). That said, there is consensus that other psychosocial or biological vulnerability factors are required to trigger depression in most people (Monroe & Depue, 1991). For example, in one study of female twins, difficulties and life events in the previous year predicted depression, together with genetic factors, early onset of anxiety, conduct disorder, marital problems over the past year, neuroticism and a history of depression (Kendler et al., 2002).

Life events can affect the length of a depressive episode. This is the case when at the onset of depression, there is a markedly unpleasant, ongoing difficulty involving a close personal relationship such as a romantic partner (Brown, 1997). On the basis of these findings, Brown claims that psychosocial factors play an important role in both the course and the onset of depression.

According to some authors, a close confidant can buffer the effects of stress (Cohen & Wills, 1985). Emotional support can offer protection from the onset of depression in the context of a severe event provided the event does not involve a woman being “let down” by a key figure such as partner from whom she would have expected this support (Brown, 1996b). For example, in a study of Puerto Rican women emotional support by others was not able to meet the unfilled emotional needs left by the romantic partner; thus causing pressure on these women to have a permanent partner to head their household (Burgos, Lennon, Bravo, & Guzman, 1995).

Domestic Violence

“I have told my partner that being with him means I get beaten and insulted. I don’t want to live like tha, because he always has to have the last word” (Lara et al., 2004).

There is ample evidence to connect intimate partner violence and depression from community studies (Hicks & Li, 2003; Natera, Tiburcio, & Villatoro, 1997), general practice and primary care (Hegarty, Gunn, Chondros, & Small, 2004; Thompson et al., 2000), emergency departments (Kramer, Lorenzon, & Mueller, 2004), medical managed care (Petersen, Gazmararian, & Anderson Clark, 2001) and domestic violence agencies (Clements & Sawhney, 2000). Domestic violence victims experience despair, disability, low self-esteem, restricted range of affect, high levels of self-criticism, and difficulties in intimate relationships, as well as high rates of depression (Dennerstein et al., 1993; McGrath et al., 1990).

The risk of depression was eight times higher when violence occurred during pregnancy and four times higher otherwise compared with women that did not experience violence (Medina-Mora, Berenzon, & Natera, 1999). Male alcohol dependence increased 3.3-fold the risk of violence when the male partner was inebriated. While Goldberg Edelson, Hokoda, and Ramos-Lira (2007) reported no significant differences between Latinas and non-Latinas on the nature and severity of domestic violence, their results indicated that Latinas had significantly greater trauma-related symptoms, depression, and lower social and personal self-esteem than non-Latinas. Comparing women by generations in the United States, including Mexican-born women who immigrated as adults, Heilemann, Kury, and Lee (2005) found that U.S.-born women reported significantly more trauma than women who immigrated either as adults or teens, and more post-traumatic stress disorder symptoms than women who immigrated as adults. In a review of domestic violence among migrant farm worker women, the author concludes that despite advances in research, there remains much to learn. She reports a 20-30% prevalence of physical violence with enormous mental health consequences such as suicide attempts, symptoms of anxiety and depression, and post-traumatic stress disorder among migrant farm worker women (Rodriguez, 2001).

Women's Status in Societies and Gender Roles

“Most women agreed that they are taught “to be submissive,” “not to shout, get angry or fight” and “not to value themselves”. They are “given responsibilities from a very early age” and taught that “if she gets married, it is to keep house, look after the children and take care of her husband” and that “she is the one that has to assume all the responsibility, all the pressure” (Lara et al., 2004).

Significant risk factors for depression in women relate to their devalued status in virtually all cultures (Padgett, 1997). Their social status is characterized by subordination and gender inequity, the traditional female role, poverty, financial dependence, excess workload, and violence. In poor countries, malnutrition, stress, war, and migration are equally important issues (Desjarlais et al., 1995). These conditions have a negative effect on women's health as noted in the World Health Report (World Health Organization, 1998, p. 6): “Women's Health is inextricably linked to their status in society. It benefits from equality and suffers from discrimination. Today, the status and wellbeing of countless millions of women worldwide remain tragically low.” In this respect, female gender is synonymous with having a lower rank. Inequality and subordination impose great constraints and lack of opportunities on women, which leads to feelings of failure, a discussion highly relevant to the study of depression in Hispanic women in the United States since they suffer from inequality and discrimination (Diaz, 2002).

Depression in women has been studied within the context of gender stereotypes. More depressive symptoms are reported in women who adopt the traditional, passive-submissive dependent role traits (Allan & Gilbert, 1997). In this respect, *Marianismo* among Mexican Americans was found to be a significant predictor of depression (Cano, 2004). Women with high levels of depressive symptoms and low self-esteem were found to view their roles as having little value to themselves or their families and to perceive life with few choices (Lara, Fernández, Acevedo, & López, 1996). The construction of the female identity as passive and dependent contributes to poor coping responses, feelings of despair, and a critical negative attitude toward themselves that becomes a precursor for depression (McGrath et al., 1990; Piccinelli & Gomez Homen, 1997;).

Marital Status and Childcare

“The experiences with my partner made me feel worthless . . . but during the fourteen years I spent with that person, I wasn't physically harmed, but I did suffer mental cruelty. He used to say, ‘You're no good in bed, you're unattractive as a woman’ and above all, it made me unsure about making decisions” (Lara, 2002).

Interestingly, marriage is a protective factor for men but has a negative influence for women, since they experience depression more often than do

married men (Weissman & Klerman, 1977). One explanation of marriage's detrimental effect on females is the demands associated with caring for young children and the resulting limited number of other roles available to them (Bebbington, 1996). The risk of depression in married women compared to men increases when they have children, although this difference is reduced when women have higher educational attainment (Lucht et al., 2003). Marital difficulties increase the risk of depression in women. The lack of a supportive, trustworthy partner is a risk factor for female depression (Meagher & Murray, 1997) as is the break-up of a marriage (Bebbington, 1996). According to these authors, vulnerability may arise from the greater importance women place on intimate relationships as part of their affiliative orientation and the lack of alternatives for achievement and fulfillment available to them in many societies.

Being separated, divorced, or widowed increases the risk of depression in both females and males (Lucht et al., 2003). Single mothers living in poverty have twice the risk of experiencing the onset of depression as married women (Brown, 1997) and experience twice the rate of chronic depression due to financial hardship often accompanying their status.

Studies on the influence of parity and child rearing for working-class women show that women with three or more children under the age of 14 have an increased risk of depression (Brown, Ní Bhrolcháin, & Harris, 1975). Similarly, in one study, 40% of Latina mothers with young children experienced depression (Arehart-Treichel, 1991). In this report, over half were single mothers and nearly 80% were unemployed. Other studies of low-income, immigrant Hispanic mothers of infants and toddlers on Medicaid reported high levels of depressive symptoms (between 13% and 23%) and that only half the women experiencing these symptoms identified themselves as depressed or needing help with depression (Chaudron et al., 2005). McNaughton, Cowell, Gross, Fogg, and Ailey (2004) reported a similar prevalence of depression in Mexican immigrant mothers.

The Cost of Caring for Others

Traditional gender roles assign women the primary responsibility for affective relationships within the family and as the principal caretaker in the event of physical or mental illness. Fulfilling these assignments can bring women satisfaction within their marriage, motherhood, friendships, and professional life despite the conflicts, demands, and obligations these roles place on her, and the lack of support from other family members they may experience. When this burden exceeds the women's resources and abilities, it may be expressed in the form of depression (Burin, Moncarz & Velázquez, 1990; McGrath et al., 1990).

Paid Work

“I think it [working] is an enormous effort, because for women it is a double strain, because you can’t just say, I’ll go off and work like them [men] and then come in and have them serve you, and look after you or [you cannot] say I’ve had my dinner, make your own supper because I’m tired. Women that work get certain things because they have a certain amount of independence and self-fulfillment but at the same time, they put in twice the effort and get twice as exhausted” (Lara et al., 2004).

Employment outside the home for women discourages depression compared to women working at home as housewives (Gore & Mangione, 1983; Repetti, Matthews, & Waldron, 1989; Trovato & Vos, 1992). Even in less-developed countries, where typical female jobs are characterized by low salaries, temporary contracts, unhealthy workplaces, and a lack of benefits and social security, studies report better mental and physical health among female workers (Lara, Acevedo, López, & Fernández, 1993; Uribe, Ramírez, Romero, & Gutiérrez de la Torre, 1991). Hypotheses explaining these findings suggest that playing various roles may mitigate the adverse effects of other roles (Kandel, Davies, & Raveis, 1985), and that employed women increase their sources of social support (Repetti et al., 1989), whereas being a housewife encourages social isolation (Gove & Geerken, 1977) and reduces instrumental social support (Lara et al., 1993). It has been suggested that the beneficial effects of employment are reduced in women with preschool children, but not in those whose children are of school age (Haw, 1995), in those with demanding roles at home (Aneshensel, Frerichs, & Clark, 1981), in women in the lowest or middle employment grades who report low control at work and at home (Griffin, Fuhrer, Stansfeld, & Marmot, 2002) or when there is great conflict between home and work roles (Krause & Geyer-Pestello, 1985). No beneficial effects are observed among poor single mothers employed full-time (Brown & Moran, 1997).

Poverty

“... since my father drank, my mother spent the whole time trying to scrape together enough to feed us. My mother looked after us because my father drank so much. It was horrible. We went without a lot of things. Then my mother started drinking and so did my brothers” (Lara, 2002).

More women than men are found among the poor (Padgett, 1997). Poverty diminishes women’s and other household members’ coping and sense of control, increases the negative experience of childhood abuse and neglect, and doubles the risk of major depression (Brown, 1997). There is evidence that it is increased by domestic violence, addiction in a family member, and the presence of elderly or chronically ill relatives. Poverty correlates with illness and menial labor, fewer social supports and less access to health services (Belle, 1990; Desjarlais et al., 1995; Jáuregui, 1996).

Migration and Nativity

“What is most stressful is when we don’t have anywhere to live. If they don’t let us live in the camp, then we have to find a place to live or a place to rent” (Magaña & Hovey, 2003; p. 82).

Immigration is a highly stressful experience and under certain circumstances can be a risk factor for depression (Fox, Burns, & Popovich, 2001; Grzywacz, Quandt, Arcury, & Marin, 2005; Salgado de Snyder, 1994; Vega, Kolody, Aguilar-Gaxiola, & Catalano, 1999). In a review of the literature on the effects of migration on Mexican women, Salgado de Snyder (1994) notes that stressful events include: difficulties with situations related to the U.S. way of life, trouble understanding U.S. values and culture, and feeling ethnic discrimination. Other stressful situations involve: the adoption of new cultural values perceived by some household members as a threat to the family, loneliness caused by separation from extended family members, friends, and culturally meaningful surroundings, dependency on husbands, friends, and relatives because of language limitations and unfamiliarity with the geographical area, health concerns, and involuntary immigration due to civil or economic uncertainty.

Hovey and Magaña (Hovey, 2000; Hovey & Magaña, 2003) report that family dysfunction; ineffective social support; negative future life expectations; low levels of religiosity, education, and income; disagreement over the decision to migrate; low self-esteem; hopelessness; and high acculturative stress are significantly associated with high levels of depression and suicidal ideation in Mexican migrant farm worker women. Other factors reported as being linked to feelings of depression in this population include life event stress, long-term problematic life conditions, and feelings of external locus of control (Fox, 1991). De Leon Siantz and Coronado (2002) report that migrant farm worker mothers who perceive themselves as externally controlled and experience low self-esteem, family stress, and chronic problematic life conditions are more likely to be depressed.

Vega, Kolody, and Valle (1987a) find that, in addition to education and income, in Mexican immigrant women there is an association between perceived economic opportunities, perceived distance between the two centers involved in migration and the loss of emotional support in the country and depressive symptoms. Very similar to other findings elsewhere on low income women (Brown, 1997; Brown & Moran, 1997), migrant women who are single heads of households, with poor health and no confidant support are more likely to be in a vulnerable position for depressive symptoms (Vega, Kolody, Valle, & Hough, 1986). These authors claim that their results reinforce the impression that satisfactory adjustment in migrants depends on resolving the interpersonal stressors associated with breaking up social networks in the sending nation and establishing new ties in the receiving country (Vega et al., 1987a).

Women of Mexican descent who have spent all their childhood years in Mexico before coming to the United States have lower levels of depressive symptoms and are more satisfied with life than women who have lived in the

United States since childhood (Heilemann, Lee, & Kury, 2002). Strengths that may have a protective function also were assessed in this study—having a sense of control over what goes on in one's life (an internal locus of control), satisfaction with life, and resilience related to lower levels of depressive symptoms in this sample. Diaz (2002) finds that Latino attitudes, poverty, unemployment, and low educational attainment usually account for adverse health in this population. At the same time, anti-immigrant sentiments and discrimination in health care and education increase the adversity of the immigrant experience, which is complicated by a lack of health insurance and access to quality care.

Assessment, Treatment and Prevention of Depression in Women

Assessment

A careful assessment of depression in women should go beyond the basics of establishing a diagnosis to determining the presence of risk factors such as sexual, physical, and verbal abuse and gender role beliefs and conflict with those beliefs (McGrath et al., 1990; Pajer, 1995). An evaluation should address symptoms that are often comorbid with depression such as anxiety and eating disorders. A detailed assessment provides women with an opportunity to share their experiences with a professional, perhaps for the first time, and enhance treatment adherence.

Treatment

When working with Latinos, the choice of treatment must be made in the context of cultural beliefs. In one study, Latinos were less likely to find antidepressant medication acceptable and more likely to find counseling acceptable when compared to whites (Cooper, Gonzales et al., 2003). Miranda and colleagues (2003) found positive results for Latina women compared with other ethnic groups in treating depression, using both antidepressant medication and psychotherapy. The greatest challenge in their study was helping women overcome barriers to care. Support included intensive outreach, childcare and transportation to care when needed, and encouragement to comply with treatment.

Preventing Depression

“For me, it was very important to attend [these meetings] for a number of reasons, the most important being that I have learnt to analyze myself. I am not saying that I have changed, but I am trying to change. One way I have changed is that I came here. That was a real challenge for me, because I used not to take the metro or buses or go anywhere on my own” (Lara, 2002).

Psycho-educational interventions are increasingly used as a cost reducing the incidence of depression. Examples of these interventions for Latino populations include Muñoz and Ying's (1993) program in public primary health care services, Vega and colleagues' intervention mobilizing protective factors for poor Mexican women in the United States (Vega, Valle, Kolody, & Hough, 1987b), and the effort of Lara, Navarro, Rubí, and Mondragón (2003a, 2003b) to improve self-esteem for low-income Mexican women in Mexico.

One of the lessons learned from these studies is that overcoming barriers to access care is a significant challenge, whether for treatment or prevention (Lara et al., 2003a; Miranda et al., 2003; Muñoz & Ying, 1993). Interestingly, some studies observed that for many women the reasons for attending the intervention was not depression but the search for solutions for their personal problems, problems with their children or other family members (Escobar, Cova, & Vicente, 2000; Lara et al., 2003b). These data suggest that clients can be motivated by being encouraged to address issues other than those aimed only at mood management. Intensive outreach, encouragement, childcare, transportation, proximity to the home, time of intervention, and language compatibility are factors that facilitate participation in interventions with depressed women (Mann & García, 2005; Miranda et al., 2003; Muñoz & Ying 1993;).

Educational groups and specific activities have been mentioned as appropriate strategies in community interventions for depression with Mexican-Americans (Mann & García, 2005). Willingness of women to participate depends on the sensitivity of the intervention to cultural values and social conditions. Examining Latino cultural values in the United States to promote increased participation, Simoni and Perez (1995) believe cordiality, dignity, power distance, trust, and a positive attitude toward families could increase client involvement.

To conclude this section, Le, Muñoz, Ippen and Stoddard's (2003) offer a compelling argument for making the prevention of depression in women a priority in the United States. Preventing depression would reduce unnecessary suffering, treatment costs, and the risk of recurrence after the first depressive episode. They suggest focusing efforts on adolescents, expectant mothers, and women at risk of smoking. Their rationale for these groups has to do with depression having an effect on engaging in risky sexual behavior as well as increasing tobacco use in women. Preventing depression in pregnant women would not only benefit the expectant mother but would reduce the risk of depression in her child.

Use of Mental Health Services by Latinas

While Mexican American women use mental health services more than Mexican men (Vega et al., 1999), as a group Latinos display lower use rates of mental health services than non-Latino Whites (Cabassa, Zayas, & Hansen, 2006). When compared to African American and White women, Latinas have a lower use of mental health services (Alvidrez, 1999; Padgett, Patrick, Burns, & Schlesinger,

1994). When Latinas used mental health services, it was because of substance use problems, having friends or family who made a mental health visit, or the belief that mental illness is caused by an imbalance in lifestyle and environment, such as exhaustion, weather, and diet. Interestingly, Western European explanations for depression, such as past trauma, childhood events, or genetic predisposition, were not motivating factors for using mental health services in this study. Other predictors for seeking help from mental health providers are higher means in CES-D (Center for Epidemiologic Studies Depression Scale) scores; however, about half of those who sought help from family, friends, and clergy met caseness criteria ($CES-D \geq 16$) (Heilemann & Copeland, 2005; Vega et al., 1986). Factors discouraging Latino service utilization are language, educational attainment, socioeconomic levels, and racial and ethnic discrimination (Ruiz, Roosa, & Gonzáles, 2002).

Alternative (traditional) healing treatments are used in many countries for mental disorders (Berenzon-Gorn, Ito-Sugiyama, & Vargas-Guadarrama, 2006; Vega et al., 1999). Mexican women are more likely to seek help from traditional medicine providers for problems in relationships and everyday living rather than simply because of feelings of sadness (Berenzon-Gorn et al., 2006). The reasons for seeking alternative treatments relate to the integration between mind and body and the greater freedom to seek help for disorders that are accepted in their cultural environment, such as remedies for ailments caused by witchcraft (Berenzon-Gorn et al., 2006). About 4% of women with depression use this type of service (Berenzon and Juárez, 2005). VandeCreek, Rogers, and Lester (1999) claim that, due to tremendous gaps in meeting women's medical needs in the United States, Latinas are seeking alternative health services to address their health care needs.

Recommendations

Following are recommendations for future research:

- A better understanding of violent behavior and sexual abuse toward Latina women is necessary. Particular attention needs to be focused on the life experiences of pregnant women and those living with alcohol abusing partners to develop interventions to address depression in these populations.
- Additional work to better understand the process of migration and acculturation in Latinas should be undertaken in relation to: (a) social support networks and intimate relations, (b) the greater vulnerability of women exposed to U.S. culture during childhood as opposed to those brought up in Mexico, (c) changes in gender roles and women's status as a result of migration, (d) resilience among women who, despite stress, remain emotionally healthy, and (e) coping strategies for dealing with new demands that may be constrained by the migration process and poverty. This information should assist in developing more sensitive intervention programs.

- Latina is an all-encompassing term for a heterogeneous group. In this respect, research needs to focus on understanding the differences and similarities in risk and protective factors among diverse Latina groups.
- Additionally, systematic evidence is needed on attitudes, preferences, needs, and expectations regarding treatment in this population.

Following are recommendations for clinical practice (clinical practice covers both physical and mental health care):

- Latinas would seem to benefit from treatments beyond the mere prescription of drugs to include psychosocial interventions to better cope with their status as immigrants and as a minority group. There is a need for creative interventions that include increasing partner's social support during critical periods, such as following childbirth, and we need to appreciate and better understand the value the Latina has for alternative medical treatments.

Following are recommendations for mental health policies:

- Mental health programs should be responsive to the needs of the Latina population. Gender issues, access to care, migrant status, and intra/inter-cultural conflict add to the burden depressed Latinas experience. This silent consumer should be given a voice in expressing their views on designing and defining appropriate mental health services to meet their needs.

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Chapter 13

Depression in Latino Children and Adolescents: Prevalence, Prevention, and Treatment

Guillermo Bernal and Jeannette Rosselló

Personal Journey: Guillermo Bernal and Jeannette Rosselló

Our journey began in 1990, when we became aware of the high number of depression cases, as well as the increasing rates of youth suicide, we were seeing at the University Center for Psychological Service and Research. At that time, we had no idea as to what the treatment of choice was for our children and adolescents, as there had been virtually no studies conducted on depression treatment in Latino youth. We decided to examine treatments that had demonstrated efficacy with mainstream youth and adults. Thus, we selected two promising treatments—cognitive behavior therapy (CBT) and interpersonal psychotherapy (IPT)—to explore its applicability, appropriateness, and effectiveness with Latino youth. To date, we have completed two randomized controlled clinical trials to test the efficacy of two different psychosocial treatments (CBT and IPT) with Puerto Rican adolescents. We are currently studying ways to enhance our most effective treatment with parent training. We now have a deeper understanding of depression in Latino youth and evidence of treatments that are likely to be efficacious. Despite this progress, however, the depression and suicide rates among our youth are still alarming and continue to increase. Thus, our journey must forge new ground: we must now turn toward the path of prevention intervention research. In this chapter, we review the current knowledge of the epidemiology, treatment, and prevention of Latino youth and offer our vision for future research.

Introduction and Epidemiology of Depression

It has been estimated that by the year 2020, 40% of the adolescent population in the United States will belong to ethnic minority groups (Hoberman, 1992). By 2050, the ethnic breakdown of the population is projected to be 53% White,

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25% Latino, 14% African American, 8% Asian or Pacific Islander, and 1% American Indian or Alaska Native (U.S. Census Bureau, 2002). According to the U.S. Census Bureau's Report for the year 2000, the largest minority group of youth in the United States was Latinos (11.06 million), comprising 16% of the population younger than 18 years.

Despite the evidence in the growth of the minority youth population, there has been no equivalent growth in research focusing on the health of this population (Amaro, Messinger, & Cervantes, 1996; Nguyen, Huang, Arganza, & Liao, 2007; U.S. Department of Health and Human Services, 2001). No national study addressing the mental health of Latino youth has ever been published. However, some studies have provided important indicators. One study revealed that Latino youth tend to have lower self-esteem and self-concept and higher levels of depression than do non-Latino youth (Amaro et al., 1996). The Surgeon General's Report (U.S. Department of Health and Human Services, 2001) concluded that Latino children and adolescents are a high-risk group for poor mental health outcomes. Studies reviewed in the Surgeon's General Report provided evidence that Latino youth are more likely to have difficulties finishing school, manifest more symptoms of depression and anxiety, and contemplate suicide more often than non-Latino youth. The National Comorbidity Survey (Blazer, Kessler, McGonagle, & Swartz, 1994) and the Hispanic Health and Nutrition Examination Survey (Potter, Rogler, & Moscicki, 1995) found higher rates of depression among Latinos. Potter and colleagues (1995) reported a six-month prevalence rate for major depression of 7.19% among Puerto Rican children in New York City. Using DSM-IV criteria, a more recent epidemiological study in Puerto Rico revealed a prevalence rate of 4.1% (3.4% when diagnosis specific impairment criterion is included) for major depression and dysthymia in children and adolescents (Canino et al., 2004). Upon examining different studies on mental health problems, the Surgeon General (U.S. Department of Health and Human Services, 2001) observed the following: "Latino youth experience a significant number of mental health cases, more problems than Whites (p.135)."

A study that compared a sample of Puerto Rican youth with a sample of White youth from three states revealed a significantly higher percent of cases in the clinical range for the total problem scores (Child Behavior Checklist) in the Puerto Rican sample (35%, as opposed to 20% of the White sample) (Achenbach et al., 1990). Canino, Gould, Prupis, & Shaffer (1986) reported that, compared to African Americans, significantly higher proportions of Latinos suffer from depression, phobias/fears, anxiety/panic attacks, school refusal, and disturbances of relationships with their peers. Also, higher levels of depressive symptoms were reported among Hispanic adolescents (Roberts, Chen, & Solovitz, 1995; Roberts, Roberts, & Chen, 1997;).

Several studies have reported an association between rates of psychiatric disorders and poverty (Bird et al., 1988; Brooks-Gunn & Duncan, 1997; Costello, Keeler, & Angold, 2001; Lempers, Clark-Lempers, & Simons, 1989). Only one study (Canino et al., 2004) failed to find such an association. Since

Latinos are overrepresented among those with low socioeconomic status, poverty is a variable that appears to mediate the rates of mental disorders and should be considered in the case of depression.

One of the strongest indicators of possible depression is suicidal behavior (ideation, attempts, or completion). Suicide is the fourth leading cause of death among Latino youth aged 10 to 14, and the third leading cause among those aged 15 to 19 (Centers for Disease Control and Prevention, 2000). In 2001, 215 Hispanic youth (10–19 years) in the United States committed suicide. That same year, 18% of Hispanic males and 35% of females between 9th and 12th grade had considered suicide, while 5% of Hispanic adolescent males and 2.07% of females reported at least one suicide attempt (Centers for Disease Control and Prevention, 2001a and 2001b).

A national survey of 16,262 high school students revealed that Latinas manifested more suicide ideation (23%) and attempts (10%) than White and African American female youth (Centers for Disease Control and Prevention, 2001b). Latina adolescents (19%) were significantly more likely than White (9%) and African American (8%) adolescent girls to have attempted suicide. One in five Latino girls attempted suicide (Substance Abuse and Mental Health Services Administration, 2003; Zayas, Lester, Cabassa, & Fortuna, 2005).

Data from most studies tend to highlight the need to address depression in Latino youth. Prevention and treatment efforts that have developed with this population are reviewed below.

Prevention of Depression

In a large meta-analytic study (Horowitz & Garber, 2006) only one prevention study that included Latino children was identified (Cardemil, Reivich, & Seligman, 2002). This prevention study adapted the Penn Resiliency Program (PRP) is a primary and secondary prevention effort. The authors hypothesized that PRP would reduce depressive symptoms in symptomatic children and would prevent an increase in symptoms in asymptomatic children. Latino children were included in the sample: 23 in the prevention group and 26 in the control group. The average age of the children in the prevention group was 11.5 years, and the group was 58% female. The average age of the children in the control group was 11.9 years, and the group was 67% male and 33% female. All children were in either fifth or sixth grade. The PRP consisted of 12 group sessions, which took place once a week for 90 minutes. This intervention included a cognitive-behavioral orientation focusing on four main areas: the relationship between thoughts and emotions; alternative explanations for a negative event; use of evidence to choose the most plausible explanations; and appropriate ways to handle conflict, set goals and resolve problems. The original PRP was adapted to consider cultural issues in working with minority youth. Results were promising: at post-intervention, prevention group children

revealed significantly fewer depressive symptoms than the control children; initially symptomatic children in the prevention group had significantly fewer depressive symptoms than the control children at the post-intervention assessment and at the six-month follow-up, and initially low symptomatic children in the PRP group identified fewer depression symptoms than the control group. Interestingly, Latino children appeared to benefit more from PRP than did African American children in this prevention study.

This study (Cardemil et al., 2002) shows that prevention efforts can have distinguishable positive long-term results with Latino children. It opens the possibility of replication studies with other Latino populations. The authors mention several limitations of their study, such as the lack of psychometric properties of their measures for Latino and other minority children. These limitations could be addressed in future studies. Measures from treatment studies that have been adapted for use with Latinos could be considered.

Treatment of Depression in Latino Youth

Of the 233 child treatment studies published until the early 1990s, only 1.8% addressed mood and depressive disorders (Kazdin, 1992). Most studies focused on externalizing conditions like conduct disorders, oppositional-defiant disorders, and attention deficit disorders. Kaslow and Thompson (1998) reviewed the literature and identified eight studies with depressed adolescents. Since then, more studies on the treatment of depression have been published. A recent meta-analytic study examined 35 studies on psychotherapy for depression in children and adolescents (Weisz, McCarthy, & Valeri, 2006). Of these, only 13 included detailed information on the ethnicity of their samples. In this review of psychotherapy studies of minorities, it was concluded that there were “probably efficacious” treatments for Latino youth with depression. Five studies either have focused on the treatment of Latinos or had a substantial percentage of Latinos in the sample (Mufson et al., 2004; Mufson, Weissman, Moreau, & Garfinkel, 1999; Rosselló & Bernal, 1999, 2007; TADS, 2004). No studies were identified that included treatment of depression in prepubertal Latino children.

Mufson and her colleagues undertook an open clinical trial and later a controlled clinical trial to test interpersonal psychotherapy for adolescents (IPT-A) (Mufson, 1993; Mufson et al., 1994; Mufson et al., 1999). The aims of the open clinical trial were: (1) to gain experience with the treatment administration and manual; (2) to evaluate the dosage response, and (3) to assess the feasibility of IPT-A with depressed adolescents ages 12 to 18 (79% of whom were Latinos). Adolescents underwent pre- and post-evaluations. They were given 12 sessions of IPT-A, the goals of which were to reduce depressive symptoms and address the interpersonal problems associated with the onset of depression. IPT-A is an adaptation for adolescents addressing developmental issues of the interpersonal psychotherapy (IPT) developed and tested for depressed adults

(Klerman, Weissman, Rounsaville, & Chevron, 1984). No adaptation was made for work with Latino culture or language. Results provided support for the use of IPT-A with depressed adolescents. There was significant improvement in depressive symptoms, psychological and physical distress, and functioning. At post-testing, none of the adolescents met DSM-III criteria for any depressive disorder (Mufson et al., 1994). In the controlled clinical trial (Mufson et al., 1999), IPT-A was compared to a control nonscheduled (clinical monitoring) treatment group. Adolescents with depression were assigned randomly to one of these two conditions. The adolescents in the sample ranged from 12 to 18 years old, and 71% of them were Latinos. Analysis of data revealed mixed results. Although self-reported depressive symptoms were not significantly different for the two groups, clinician ratings on the Hamilton Rating Scale for Children were significantly lower for the IPT-A group, and self-reported social adjustment and problem-solving skills were significantly higher.

More recently, Mufson and her colleagues (Mufson et al., 2004) conducted an effectiveness trial of IPT with depressed adolescents in school health clinics. Seventy-one percent of the sample was Hispanic, of low socioeconomic status, and within an age range of 12–18. Participants were assigned randomly to either IPT or to a treatment as usual (TAU) condition. The key outcome measures included the Hamilton Depression Scale, the BDI, Children's Global Assessment Scale, Clinical Global Impressions scale, and the Social Adjustment Scale-Self Report. The results showed that adolescents treated with IPT-A in comparison to the TAU showed a significant reduction of depression symptoms and improved functioning. This study showed that IPT-A can be effectively delivered in school health clinics working with minority adolescents.

Two randomized controlled clinical trials were completed to test the efficacy of CBT and IPT models with Puerto Rican adolescents suffering from depression (Rosselló & Bernal, 1999; Rosselló, Bernal, & Rivera, 2008). The treatment conditions in these two trials were adapted in an effort to develop culturally sensitive therapies (Rosselló & Bernal, 1996). Both studies followed culturally informed procedures to ensure ecological validity (Bernal, Bonilla, & Bellido, 1995).

The first controlled clinical trial adapted and tested the efficacy of the CBT and IPT models for Puerto Rican adolescents with depressive symptoms. Treatment manuals were prepared using a cultural sensitivity framework (Rosselló & Bernal, 1996). Adolescents were referred to the depression project from schools in the San Juan metropolitan area. Inclusion criteria were to have obtained a client score of 12 or higher on the Children's Depression Inventory (CDI) (Kovacs, 1983) and/or fulfilling DSM-III-R criteria for major depression or dysthymia (DISC-2, parent and/or adolescent version). Seventy-one adolescents between the ages of 13 and 17 (54% female and 46% male) were assigned randomly to one of the following three conditions: individual CBT, IPT, or a wait-list control group. Adolescents and their parents were evaluated through clinical interviews and tested at intake, post-treatment, and three-month follow-up using measures of depressive symptoms, self-esteem, social adjustment, behavior, family involvement, and criticism (Rosselló & Bernal, 1999).

The results revealed significant pre- to post-treatment changes in all outcome measures across treatment conditions. Participants in the CBT and IPT groups scored significantly lower on depression symptoms than those in the wait-list group. No significant differences were found between CBT and IPT on outcome measures of depressive symptoms. However, the IPT group showed a significant increase in self-esteem and social adjustment when compared to the wait-list control group. No differences were found in self-esteem between IPT and CBT groups or between CBT and wait-list groups. At post-treatment evaluation, 77% of the treated adolescents in IPT and 67% in CBT were better off than the adolescents in the wait-list group. At the three-month follow-up evaluation, no significant differences were identified between the CBT and IPT groups. However, the CBT group continued to show reduced symptoms of depression at follow-up.

A second randomized controlled clinical trial tested the relative efficacy of CBT and IPT for treating depression in Puerto Rican youth in group and individual formats. The CBT and IPT interventions used in the first trial were adapted to group formats, and manuals were developed. Basically, the same procedures, client inclusion criteria, evaluation instruments, and schedule were used. This time 112 adolescents from 12 to 18 years of age (55.4% female and 44.6% male) were assigned randomly to one of the following four treatment conditions: group IPT, individual IPT, group CBT, or individual CBT. Intent-to-treat analyses showed that treatment format (group vs. individual) did not seem to have a significant effect on the outcome variables. However, CBT produced a significantly greater decrease in depression symptoms as measured by the CDI, as well as significant reductions in internalizing and externalizing behaviors in comparison with IPT.

The effects of the treatment condition (CBT and IPT) and format (individual vs. group) turned out to be significant through a growth model analysis. An estimated mean reduction of 6.26 CDI units from baseline mean score (20.37) to follow-up was calculated for all subjects in treatment. For participants in the CBT condition there was an additional decrease of 3.14 CDI units. If the participants received therapy in individual format there was an additional decrease of 2.94 CDI units. Participants receiving individual CBT were estimated to decrease 12.30 from baseline to termination on depressive symptoms (CDI). The greatest degree of change occurred from baseline to the fourth session and from the fourth session to the eighth session. Analyses of clinical significance revealed that 62% of the participants in CBT and 57% of those in IPT were functioning in the nonclinical range of depression at post-treatment.

The findings of both clinical trials support the relative efficacy of both CBT and IPT for depressed adolescents in Puerto Rico. Also, clinical studies on IPT (Mufson et al., 1994, 1999, 2004) provide further evidence that IPT is an effective intervention for the treatment of adolescent depression (mostly Latinos) in New York City.

The differences in results of the Rosselló and Bernal (1999) and Rosselló, Bernal, and Rivera (2008) studies compared with those conducted by Mufson and

colleagues might be accounted for by the lack of cultural adaptation of the IPT for the Latino participants in the latter. Positive outcomes are reported, supporting the notion that Latino adolescents can respond to quality treatment services.

When culturally informed procedures are used to ensure ecological validity (Bernal, Bonilla, & Bellido, 1995; Bernal & Scharron-del-Río, 2001), the adaptation of treatments for Latinos can result in efficacious treatments. These culturally centered dimensions must be applied to all of the phases of research such as the formulation of the research question, translation, adaptation and testing of instruments, adaptation of treatment manuals, and training of therapists. This enables assessment of the effects of psychosocial treatment beyond mainstream populations.

Pharmacotherapy is a widely used treatment for depression. Recently the first set of results from a large clinical trial on the Treatment of Adolescents with Depression Study (TADS, 2004) was published. This was a multicenter clinical trial that randomized 429 adolescents (ages 12 to 17) with a primary diagnosis of major depression to four 12-week treatments (fluoxetine alone, CBT alone, fluoxetine with CBT, and pill placebo with clinical monitoring). The mean age was 14.6, 73.8% of the participants were White, 12.5% were African American, and 8.9% were Latino. The study employed a range of outcomes to measure depression, suicidality, and clinical functioning. The results of intent-to-treat and other analyses suggest that CBT in combination with fluoxetine was superior to the other conditions. CBT also appeared to have a protective effect on suicide behavior whether alone or in combination with fluoxetine.

This landmark multicenter study suggests that pharmacotherapy in combination with CBT is effective. CBT alone did not fair well in this study. However, the available data only included post-treatment evaluations and CBT is known to have effects over pharmacotherapy at follow-up evaluations (TADS, 2004). Also, design and methodological issues such as the CBT version used may have lowered the response rate of patients in CBT.

In summary, the present review of the literature with Latinos as well as other reviews (Huey & Polo, 2008; Weisz, Sandler, Durlak, & Anton, 2005) suggest that there are probably effective evidence-based treatment and prevention protocols available for depression, specifically CBT and IPT. These need to be further studied by different teams of investigators. While the recent TADS study had only 8.9% of Latinos in its sample (and no separate analyses were reported for Latinos), it may be inferred that pharmacological treatment alone and in combination with CBT probably is effective for Latino youth. Progress is being made in identifying effective preventive and treatment interventions for Latino youth.

Vision for the Future and Recommendations

Conducting prevention studies with Latino youth is an important step in the direction toward a world free of depression (Muñoz, Penilla, & Urizar, 2002). There was only one prevention study focusing on Latino youth (Cardemil,

et al., 2002). This study revealed some important and relevant issues: (1) Latino children (symptomatic and asymptomatic of depression) can benefit from prevention programs such as PRP; (2) a school-based intervention seems ideal since it secures compliance with participation and solves the problem of mental health service underutilization in Latinos; and (3) depressogenic thoughts (especially where no symptoms are evident yet) should be of primary importance in depression prevention programs with Latino children. Preadolescence might be an ideal developmental stage to target prevention efforts, since depression tends to occur often during adolescence. Also, this seems to be a critical stage in which emotion regulation and interpersonal skills need to be strengthened in order to deal successfully with the many challenges of adolescence. Inadequate skills can lead to serious problems such as depression. As suggested by the literature, being a Latino child or adolescent constitutes a risk for developing depression and suicide ideation. It is quite clear that further studies should be developed, as the prevention of depression can decrease the suffering of Latino adolescents and their families and promote wellness and the full development of Latino youth potential.

Treatment studies with Latino youth provide evidence that (1) culturally sensitive treatment can be effective in decreasing depressive symptoms and in moving toward functional ranges; (2) CBT and IPT are interventions that can help Latino youth with depression; and (3) group and individual formats are both adequate means of delivering therapy to this population. However, there is still work to be done. There is a need to enhance existing therapies and perhaps develop new ones to address those cases that do not respond favorably. Our studies reveal that adolescents who do not improve after treatment have lower self-esteem and higher internalizing conduct than those who do improve (Rosselló, Rivera & Jiménez, 2007). Our clinical trials have demonstrated the importance of the family in the manifestation of depression in Puerto Rican adolescents. In the first clinical trial, 40% of the depressed adolescents identified their most frequent problem to be family-related (Rosselló, Padilla, & Dávila, 2002) and 70% said that their most frequent interpersonal problem was with one or both parents (Rosselló & Rivera, 1999). The second trial revealed a significant correlation between the primary caretaker/parent (BDI score) and the son/daughter with depression (CDI scores) at pretesting. At post-testing, parental depression measures also correlated with the treated adolescents' BDI. Unexpectedly, parents' depression symptoms decreased as their offsprings' symptoms decreased at post-testing.

Several studies have noted the importance of the family in Puerto Rican youth with depression. A strong relationship between depression in adolescents and family dysfunction has been revealed in our studies (Martínez & Rosselló, 1995; Sáez & Rosselló, 1997; Sáez & Rosselló, 2001). One such study (Velázquez, Sáez, & Rosselló, 1999) revealed that coping styles of adolescents without depression included strengthening family relationships through increasing communication, sharing activities, and following rules to keep harmony within the family. Two more recent studies (Sáez, 2003; Sáez & Rosselló, 2001) reported a

statistically significant correlation between adolescent depression with family criticism and parental rejection. In fact, the literature in general has suggested that parental and family variables are related to adolescent depression (Asarnow, Goldstein, Tompson, & Guthrie, 1993; Candwell, Antonucci, & Jackson, 1998; Harrington, 2002; Jenkins & Karno, 1992; Mash & Terdal, 1997; Robin & Foster, 1989).

Family variables may be moderators or mediators of treatment with adolescents. Therefore, a future direction of research could be a focus on parents in order to improve family functioning, particularly in Latinos, as the cultural value of *familismo* would seem to shed positive light on the participation of parents in their children's therapeutic process. Within the Puerto Rican and other Latino cultures, *familismo* is a value that has been shown to organize behavioral patterns (Comas-Díaz & Griffith, 1988; Sabogal, Marín, & Otero-Sabogal, 1987). Adjunct interventions that incorporate parents in the treatment of their children are likely to enhance the effects of treatment and strengthen the adolescents' commitment to a treatment program. Involving parents in the treatment of adolescents could help address treatment resistance, enhance the treatment effects for the adolescents, alleviate the stigma or burden of being the identified patient, and maintain therapeutic changes within a family that is more sensitive, supportive, and knowledgeable about healthy interactions. Several investigators already have identified the need for parental involvement when treating depression in youth (Harrington, 2002; Kazdin, 1990; Kendall, 1991; Kovacs & Bastiaens, 1995). In our view, inclusion of parents may be a measure of culturally centering individually oriented treatments such as CBT and IPT when working with Latino adolescents. We advocate an exploration of innovative ways in which parents can participate in the treatment of their depressed children.

While some advances have been made in the prevention and treatment of depression in Latino youth, many questions remain unanswered. The long-term and functional outcomes of these interventions are unknown. Longitudinal studies are needed to evaluate the long-term effects and benefits of these interventions. Questions regarding efficacy versus effectiveness must be addressed. The interventions that have been tested are designed and evaluated in the context of ideal conditions. It is unknown whether the same results would be obtained when the interventions are applied in a field setting, where conditions are less than ideal.

We began our journey 14 years ago with serious concerns about the high incidence of depression among Latino youth and the lack of well-tested treatments for this population. Today, despite the fact that Latino children and adolescents are the largest ethnic minority group of youth in the United States, Latinos remain relatively under-represented in health research. This under-representation has been the case for research on depression, its prevention, and treatment. There are many urgent and unanswered questions that can only be addressed with studies that include large numbers of Latinos or are exclusively focused on specific Latino groups. Compared to when our journey began, there have been important advances. Today there are several studies that have

included or focused exclusively on Latino youth. In the past, most studies either did not include Latinos or when they did, failed to analyze their data by the pertinent ethnic or language subgroups. Certainly, more studies that evaluate culturally sensitive interventions (prevention and treatment) are needed. Culture, language, and socioeconomic status are important in providing depression care. Nonetheless, how these processes operate and interact is not altogether clear. Therefore we need studies that examine why these interventions work. In addition, mental health researchers and providers frequently lack cultural competency training, as well as competency in the provision of linguistically appropriate care. While substantial progress has been made, much work lies ahead. Today there are evidence-based treatments such as CBT and IPT, as well as cognitive based prevention protocols that consider culture, language, and context specifically for Latino youth.

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Chapter 14

Epidemiology, Assessment, and Treatment of Depression in Older Latinos

Ladson Hinton and Patricia A. Areán

Personal Journey: Ladson Hinton

My interests in the field of depression research and clinical geropsychiatry have origins in both my personal and professional life experiences. Growing up, I witnessed my grandmother's struggles with chronic depression and the suffering it caused both her and my family, in particular my mother, who was her primary caregiver. Despite the best efforts of our family, she was very resistant to mental health care and never received formal treatment. Toward the end of her life, she also experienced cognitive impairments from one or more strokes. The seminal professional experiences with depression are based in clinical and research work. While in the Department of Social Medicine at Harvard Medical School, I worked on a research team studying dementia care giving experiences among older Puerto Ricans, Dominicans, and groups such as African Americans and Chinese. While the focus of this research was on dementia, I was struck by the extent of depression in caregivers, many of whom did not receive formal treatment. More recently, my work at U.C. Davis has focused on the importance of the undertreatment of depression in older minority and nonminority men. On the clinical side, I have seen firsthand the remarkable change in people's lives as a result of effectively treating their depression, and the reverberating effects this has on their social networks of family and friends. Together these experiences have motivated me to conduct research that will help identify and overcome the social, cultural, and institutional barriers to care for this treatable condition in older adults.

Personal Journey: Pat Areán

I believe my journey toward a career in researching interventions for depressed older adults began as early as elementary school in Tampa, Florida, when our fifth grade class visited a nursing home on a "friendly visitor" mission. Although

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our teacher's intentions were admirable, many in the class, myself included, were stunned at the depressing conditions the residents of the home were living in. Although many residents were demented, a number were not, and were aware enough to know where they were living, that no one visited, and that a brief visit from a group of frightened fifth graders was the biggest highlight in their existence. I recall one resident saying to me, "Do everything you can to be healthy and well connected to your family and friends. If not, you'll end up like me, sick, alone and abandoned." I won't say that I decided to dedicate the rest of my life to making the lives of older people better at that moment, but I do believe that this early experience, and the old man's words, added to my desire to help older disabled adults. Twelve years later, when working as a psychology technician at Goldwater Memorial Hospital in New York City, I experienced my second formative exposure to geriatrics. As a psychology technician, I had two roles, one was to assist the physicians on a rehabilitation project for stroke patients and the other was as a "friendly visitor" to the skilled nursing unit. It was as a friendly visitor that I was determined to do more than comfort lonely and disabled elderly people, as was my fifth grade teacher's intention 12 years earlier. I decided then to help these patients regain some control and satisfaction in their lives. I started to learn all I could about depression in later life and about interventions that could be helpful to the elderly. At the time, Drs. Dolores Gallagher-Thompson and Larry Thompson had begun to publish seminal research demonstrating that older patients with depression could respond to structured treatments like cognitive behavioral therapy. With supervision, I used this model with the older patients I was assigned to visit. I realized this would be a challenge as many of the patients I saw were low income, very disabled, and most of them were ethnic minority, African American and Latino in particular—people not represented in the research at the time. I was pleased to find that the people I worked with in CBT made incredible improvements in mood and life satisfaction. One patient went from spending most of the day in her room to becoming her unit's patient advocate; another was able to leave the skilled unit and eventually returned home, as clearly his disability was driven as much by his depression as it was by his illness. It was these experiences that led me to pursue research in disabled and poverty level older adults with depression. My clinical and research activities have been of great benefit to the lives of underserved elderly with mental illness. I hope that what I have learned will be picked up by others who read our chapter and this book—that people who seem and feel hopeless are worth the effort and can have better lives.

Demography of Aging in Latinos

The elderly Latino population in the United States and in Latin America is in a phase of accelerated growth. In the United States, for example, the age 65 and older Latino population is projected to increase in size from 1.5 to 13.8 million between 2000 and 2050, a more than nine-fold increase that outpaces projected increases for

the non-Hispanic White populations (Himes, 2001). In terms of percentage, elderly Latinos constituted 5% of the U.S. elderly population in 2000 but are projected to increase to 16% of the U.S. elderly population by 2050 (Himes, 2001). The growth of the Latino elderly population also is projected to exceed that of other ethnic/racial groups in the first half of the 21st century (Angel & Hogan, 2004). In Latin America, the number of elderly is expected to increase from 27 million today to more than 136 million by 2050, a more than 400% increase (Brea, 2003). Within the Latino elderly population both in the United States and Latin America, the growth in the “oldest-old” (those 80 and older) is even more pronounced, as more people live into their 80s and beyond. While in the year 2000, there were 4 million people in Latin America aged 80 and over, this number is projected to increase to 34 million by 2050, a more than 800% increase (Brea, 2003).

Within the United States, it is important to state at the outset that the social category “older Latinos” or “older Hispanics” glosses over enormous internal heterogeneity based on social and demographic characteristics such as ethnic or racial identity, socioeconomic status, locale, acculturation, and nativity. Ethnic subgroups are one of the most important sources of diversity within Latinos/Hispanics. For example, Latinos who describe themselves as being of Cuban origin comprise only 4% of the general Hispanic population in the United States but more than 16% of the elderly Hispanic population (Wallace & Villa, 2003). Subgroup differences in the proportion of elderly reflect historical differences in the time frames and the changing context—political, economic, and social—that has shaped and continues to shape migration patterns for various Latino subgroups (Portes & Rumbaut, 1996). Within Latino subgroups, there are important differences in social and demographic characteristics that relate to depression, such as health status, insurance coverage, and socioeconomic status. Research also is highlighting important differences between Latina women and Latino men in both the prevalence and social patterning of depression.

In summary, dramatic increases in the size of the elderly Latino population projected for this century underscore the need to better understand the mental health needs of this population, and how they differ not only from other ethnic groups but also how they differ between elderly and nonelderly Latinos. While the epidemiology and treatment of depression in Latinos outside the United States is undeniably important, it is beyond the scope of this chapter, the remainder of which will focus exclusively on depression in older Latinos in the United States.

Epidemiology: Prevalence, Correlates, and Consequences

Prevalence of Depression in Community Settings

There have been a number of studies of depression in older Latinos, most using depression screening instruments, such as the Center for Epidemiological

Studies Depression Scale or CES-D (Radloff, 1977; Radloff & Teri, 1986). These community-based studies have reported that between 13% and 25% of older Latinos have elevated depressive symptoms, defined as a score of 16 or above on the CES-D (Black, Markides, & Miller, 1998b; Gonzalez, Haan, & Hinton, 2001; Swenson, Baxter, Shetterly, Scarbro, & Hamman, 2000). For example, in the Sacramento Area Latino Study on Aging, a community-based cohort study of more than 1,800 Latinos age 60 and older in California's central valley, 25% of those surveyed had CES-D scores above 16, the customary cut-off used to identify those at high risk for clinical depression (Gonzalez et al., 2001). A similar estimate of elevated depressive symptoms using the same instrument was found in a study of older Hispanics in Texas (Black et al., 1998b). In contrast, the San Luis Valley Health and Aging Study, conducted in Colorado, found that 13% of elderly Latinos had high depressive symptoms on the CES-D (Swenson et al., 2000). Using the Geriatric Depression Scale, a comparative study found that older Latinos had significantly higher scores than White non-Hispanics (Romero, Ortiz, Finley, Wayne, & Lindeman., 2005). A large-scale community-based study reported more than 26% of elderly Hispanics in the Los Angeles area met DSM III criteria for major depression or "dysphoria" (Kemp, Staples, & Lopez-Aqueres, 1987).

One of the few studies of elderly Latinos (primarily Puerto Ricans and Dominicans) outside the western half of the United States found that Latinos suffered from higher levels of depression symptoms compared with non-Hispanic Whites, although the percentage with elevated (i.e., 16 or above) scores on the CES-D was not reported (Falcon & Tucker, 2000). Other than this latter study, larger-scale community-based studies have been conducted in the western half of the United States where Latinos of Mexican descent are concentrated. There are significant gaps in our understanding of other important subgroups, such as Puerto Ricans, Dominican, and Cuban Americans. These studies have not focused on the elderly.

Prevalence of Depression in Primary-Care Settings

Studies conducted on older Latinos in primary-care settings using instruments such as the PRIME-MD or the CIDI have reported clinical depression rates from 12% to 24% (Aranda, Lee, & Wilson, 2001; Robison, Gruman, Gaztambide, & Blank, 2002). For example, the study by Robison and colleagues (2002), which included a sample of 300 Puerto Ricans aged 50 and older, found 34% of the sample scored 16 or greater in the CES-D, with 12% meeting CIDI criteria for major depression. While the relatively small number of studies makes comparison tenuous at best, these rates are roughly similar to rates of clinical depression among non-Hispanic Whites in primary care settings, which show a similar wide range.

Risk Factors Associated with Depression

There are a number of excellent reviews of the literature on the psychosocial and medical risk factors for depression in older adults. Several studies specifically document the relationship between these risk factors and the onset of depression (Blazer, 2003; Bruce, Wells, Miranda, Lewis, & Gonzalez, 2002). With regard to psychosocial risk factors, several variables have been associated with depression. The most important and best-studied risk factors for new-onset and recurrent depression in later life are bereavement, caregiver strain, social isolation, disability from medical illness, and need for rehabilitation (Bruce et al., 2002). Because so many older adults experience these life events, yet, in comparison, the onset of late-life depression is a relatively rare occurrence, there appear to be mediating factors that influence the degree to which these events add to the risk of developing late life depression. Recent research has found that the degree to which these negative life events become salient risk factors for late-life depression depends upon whether the older adult sees the event as undesirable, uncontrollable, or disruptive, and how long the person must endure the life event. In addition, psychological resiliency in the form of active coping skills and belief in one's ability to manage problems has been found to be a significant mediator of late-life depression (Denney, 1995; Wagnild, 2003). There has also been research that suggests that the number and duration of stressful life events may be related to new onset or maintenance of depression (Brilman & Ormel, 2001; Chen, Eaton, Gallo, & Nestadt, 2000;), but the findings are not consistent across studies (Bruce et al., 2002).

There has been recent research on the risk factors associated with depression in older Latinos, specifically older Mexican Americans and Puerto Ricans. These studies suggest that certain risk factors that have not been found to be prevalent in older White populations are particularly important in older Latino populations. For example, in a study investigating the risk factors for depression in older Puerto Ricans, Robison et al. (2003) reported that the most salient risk factors for depression were low income, recent migration, poor subjective health, caregiver burden, and personal or family legal problems. Interestingly, religiosity and religious participation, which has been found to be a mediator of depression risk in non-Latino older adults (Koenig, George, & Titus, 2004), was not found to have any association with depression risk in older Puerto Ricans. In three studies of older Mexican Americans, poverty was strongly associated with depression risk (Angel, Frisco, Angel, & Chiriboga, 2003; Aranda et al., 2001; Chiriboga, Black, Aranda, & Markides, 2002;). This risk factor was slightly compensated for by living in communities that were largely Mexican American—each 10% increase in Mexican American neighborhood population was associated with a 6% decrease in depression (Ostir, Eschbach, Markides, & Goodwin, 2003). Gonzalez and colleagues (2001) reported that the level of acculturation also contributed to depression risk, with the least acculturated older Mexican Americans more at risk for depression. Finally,

care giving appears to be a consistent depression risk factor for older Puerto Ricans and older Mexican Americans (Cox & Monk, 1993). In particular, depression risk associated with care giving appears to be related to having poor support networks as well as care recipient behavioral problems (Hinton, Haan, Geller, & Mungas, 2003).

Several studies indicate that older Latinos, primarily Mexican American immigrants (Gonzalez et al., 2001), who have lived in the United States less time (Black et al., 1998b), or those with lower levels of acculturation (Gonzalez et al., 2001), suffer higher levels of depressive symptoms. It should be noted that one study that included multiple Latino ethnic subgroups found little impact of acculturation on depression scores, except for Dominicans (Falcon & Tucker, 2000). While preliminary, these studies suggest that for older Mexican Americans, more recent migration to the United States is associated with increased acculturation stress and risk of depression (Cuellar, Bastida, & Braccio, 2004). Further study is needed to determine whether this holds true for other older Latino subgroups. Studies also suggest that the impact of acculturation or immigration may be different for men and women. For example, one study found low acculturation to be associated with increased depression among women but not men (Swenson et al., 2000). In another study, being an immigrant had an adverse effect on depression in women but not on men (Black et al., 1998b). The dynamics of acculturation and mental health among older Latinos appear to be telling a different story from that of middle-aged Latinos, for whom lower acculturation and being born outside the United States appear to be protective with respect to depression and other types of psychopathology (Alderete, Vega, Kolody, & Aguilar-Gaxiola, 1999; Moscicki, Locke, Rae, & Boyd 1989; Vega et al., 1998;).

Another risk factor that has not been studied extensively but may be relevant to older Latinos, particularly recent immigrants, is exposure to trauma. Even though crime rates in the United States are decreasing, older adults living in urban centers are still at great risk of exposure to crime. Although older adults as a group are less likely to be the victims of crime (U.S. Department of Justice, 1994), 67% of older people living in urban centers experienced a lifetime trauma, such as tragic death, sexual assault, or motor vehicle accident (Norris, 1992). The household crime rate for low-income elderly is 154 per thousand, whereas the rate for household crime in higher income elderly populations is 70 per thousand (Norris, 1992). Although exact exposure rate data are not available, older immigrant Latinos may have been victims of governmental trauma, such as imprisonment for political differences, watching a child go missing during regime changes, and being exposed to wartime violence. Older immigrant Latinos with previous exposure to political violence may be at increased risk for depression (Eisenman, Gelberg, Liu, & Shapiro, 2003). The research on Holocaust survivors and war time veterans suggests that the result of exposure to war time crime does not necessarily diminish over time, and may be a risk factor for future mental health problems. Again, psychological resiliency can be a factor mediating the onset of depression.

A number of sociodemographic factors have been associated with depression in older Latinos. Women suffer higher rates of depression compared with men (Black et al., 1998b; Gonzalez et al., 2001). Lower education and lower income are associated with increased risk of depression (Gonzalez et al., 2001). The association between poor self-rated health status and depression is important because Latinos report disproportionately poorer self-rated health status and experience higher rates of poverty compared with non-Hispanic Whites. According to recent figures, 25% of elderly Hispanic women and 18.1% of elderly Hispanic men live in poverty, compared with 10% of elderly non-Hispanic White women and 5.2% of elderly non-Hispanic White men (Angel & Hogan, 2004).

Latinos with lower self-reported health status or more chronic health problems have higher levels of depressive symptoms (Black, Goodwin, & Markides, 1998a; Kemp et al., 1987). Specific physical health problems associated with elevated depressive symptoms include stroke, arthritis, incontinence, ulcers, and diabetes (Black et al., 1998a). For example, in one community study the prevalence of high depression scores among elderly Hispanics suffering from diabetes was 31.1% (Black, 1999). This is particularly important in light of the fact that older Latinos suffer a higher burden of diabetes compared with the general population.

Depression has adverse consequences for older Latinos. Suicide is one of the most serious adverse consequences of depression. Recent studies report high levels of suicide among older Hispanic men (Centers for Disease Control and Prevention, 2004). In the general older adult population, depression has been shown to be associated with increased social disability, functional disability, more impaired cognition, increased services utilization, increased family burden, and worsening course of comorbid health problems such as recovery from myocardial infarction and chronic obstructive pulmonary disease (Blazer, 2003). Black et al (1998a) report that death rates from a number of chronic health conditions, including diabetes, cardiovascular disease, hypertension, and cancer were higher when these conditions were associated with high depressive symptoms. Higher levels of depression symptoms have been associated with cognitive decline in older Latinos (Rotkiewicz-Piorun, Al Snih, Raji, Kuo, & Markides, 2005). The negative impact of depression extends beyond the individual to encompass the family. There is a growing literature documenting the adverse impact of clinical depression on family caregivers, including some data on Latinos. For example, Hinton et al. (2003) found a strong correlation between neuropsychiatric disturbances, including depression, in cognitively impaired older Latinos and level of depressive symptoms in their family caregivers.

In summary, these data suggest that depression is at least as common in older Latinos compared with older non-Hispanic Whites. One particularly important finding is the high prevalence of depression among older Latinos with chronic health problems, and the possible negative impact of depression on the course of chronic illnesses, such as diabetes. From a research perspective, more

community studies are needed to determine the prevalence of clinical depression among older Latinos. Studies of “subsyndromal” depression are needed to better understand how this group differs from those meeting criteria for major depression. Studies of non-Hispanic White elderly have shown that they may have “minor depression,” which may increase the risk of adverse outcomes, such as disability and morbidity (Blazer, 2003; Rapaport et al., 2002). In addition, the most salient risk factors for late life depression in Latinos are acculturation and recent migration, caregiver burden, poverty and potentially previous violence exposure. These risk factors seem to be mediated by living in communities with many Latino neighbors, social support, and psychological resiliency. Therefore interventions that can utilize aspects of belonging to a Latino community and mobilizing social support around the psychosocial stressor are likely to be relevant.

LY is a 67-year-old Latino male who immigrated to the United States in the 1970s. He had made a career of boxing in Mexico, and after a moderately successful career, was sponsored by a former boxing rival to move to the United States to coach boxing for young men in the barrios of Los Angeles. LY enjoyed the opportunity to move to the United States and eventually was able to bring his family to the United States to live with him. Despite living in the United States for over 30 years, LY never acquired a strong command of English. He also often missed his homeland. His only source of support was his immediate family and his colleagues in the youth sport program in LA. In 2003, LY retired from youth coaching, after budget cuts in the California educational system eliminated his youth program. His retirement resulted in less access to his usual source of support. Retirement also meant that his role in society had changed, and he was no longer a contributing member. Shortly thereafter, LY began to feel less energetic, less interested in usual activities, and began complaining of headaches. Given his previous athletic career, family and physicians began to speculate that LY was suffering from a neurological condition secondary to repeated head injuries incurred while boxing. Neurological examination revealed nothing specific to suggest a degenerative condition, yet LY did not exhibit sufficient symptoms to warrant a diagnosis of depression. Nonetheless, LY's primary care provider felt that perhaps LY was suffering from minor depression and referred him to mental health care.

Patterns of Treatment for Depression

Consistent with what has been found in non-elderly Latinos (USDHHS, 1999), older Latinos are at increased risk for under-treatment of depression compared with non-Hispanic White elderly. For example, Unutzer et al. (2003) reported that among those referred for a depression study, older Latinos were one of several demographic groups at increased risk for undertreatment of depression. In this study, fewer than one in three older Latinos with clinical depression had

received potentially effective treatment. Using Medicare claims data, two independent studies have found that Hispanics were at increased risk for receiving substandard care for clinical depression compared with non-Hispanic Whites (Crystal, Sambamoorthi, Walkup, & Akincigil, 2003; Virnig et al., 2004). In a study of community-dwelling Latinos in California, Gonzalez, Hinton, Ortiz, and Haan (2006) found that fewer than 10% of those with elevated depression scores were taking an adequate amount of antidepressant at the time of the study. While many factors influence low rates of depression treatment in older Latinos, one study of primary care patients (all ages) found that Latinos were less likely than non-Hispanic Whites to find medications acceptable for depression treatment (Cooper et al., 2003). Primary care is likely to be a particularly important point of help-seeking for depression among older Latinos, as it is for older adults in general. Overlap with the symptoms of chronic medical illness may complicate recognition and treatment. Thus, available data suggest that older Latinos, like their younger counterparts, receive lower quality care compared with non-Hispanic Whites. The reasons for this are likely to be complex, and involve both patient/family and clinician factors.

Collaborative care models may be the answer for improving the quality of care in older Latinos who suffer from depression. Areán et al. (2005) completed an analysis of the Hartford Foundation IMPACT study, comparing the effectiveness of integrating depression treatment into primary care medicine with usual care in treating depression among older minorities. The authors found that this integration increased access to depression care for older Latinos substantially. In addition, integration yielded a significant use of antidepressant medication in this subgroup, which resulted in improved depression outcomes than older Latinos who received depression care as usual. While preliminary, this study is thus far the largest study of depression treatment in older Latinos (the Latino sample size was 139) to date, and suggests very positive outcomes for integrating mental health services into settings where older Latinos are most likely to receive help.

Although LY was referred for depression treatment, he initially was reluctant to access such care because of the stigma associated with a depression diagnosis, and the belief that he could “snap out of it.” This belief was further reinforced by a mental health system that did not support or facilitate access to care. Although LY was retired, he relied on his family to drive him to appointments. LY felt that the need to be seen on a weekly basis was too burdensome for his family and so he did not pursue treatment. Thus, his depression continued to go untreated.

Assessing Depression in Older Latinos

At this time depression assessment in older adults does not differ substantially from the methods by which a differential diagnosis is made in younger adults. It is important for clinicians to be aware that older adults, including older Latinos,

may present their depression through idioms other than feeling sad. For example, older Latinos may present with a chief complaint of irritability, stress, loneliness, social isolation, bereavement, vegetative symptoms (e.g., loss of energy or poor sleep), or preoccupation with health issues. Among Latinos, nerves is a particularly common cultural idiom of distress (Guarnaccia, Lewis-Fernandez, & Marano, 2003). In addition, older Latinos with clinical depression may not meet full DSM-IV criteria due to their having fewer than five symptoms or because they do not express feeling depressed most of the day, nearly every day. Clinicians should consider treatment of these “sub-threshold” cases, sometimes referred to as minor depression or dysthymia, particularly when there is significant distress or functional impairment. It is important in making a differential diagnosis in older adults to be sure to clarify the onset of symptoms and rule out medical explanations for the symptoms. This is especially true in diagnosing minor depression, where there are fewer symptoms needed to make this diagnosis. For example, older adults tend to suffer from an average of two chronic medical illnesses, the most common being hypertension, diabetes, and chronic obstructive pulmonary disease. When untreated, these disorders often mimic symptoms of depression. A recent medical history and conferring with primary care provider is an important part of the diagnostic process.

Based on research with younger Latinos in understanding the symptoms of depression the provider must be aware of the cultural context in which depression is expressed. For older Latinos who did not grow up in this country, the admission of depression is fraught with stigma. Therefore, an older Latino may be less likely to admit to feeling sad or blue, and more likely to express somatic symptoms, such as fatigue, trouble concentrating, and irritability. Older Latinas admit to the emotional aspects of depression, but may be tempted to down play their significance, blaming tearfulness and sadness on an “emotional nature.” As an example of how the cultural context can affect reports of emotionality in older Latinos, research on caregiver distress in older Latinas indicates that they are less likely to endorse feeling sad, angry or distressed by caregiving, even though they endorse other depressive symptoms (Gallagher-Thompson & Steffen, 1994). The lack of endorsement may be driven by guilt over admitting that they cannot care for the sick family member and that it is their duty to provide care.

Validity of MDD Criteria in Elderly

There has been a plethora of research investigating the assessment of depression in older adults (Gallo & Lebowitz, 1999). Considerable controversy existed over whether older people are more likely to be overidentified as being depressed because so many depression inventories relied on physical symptoms that were thought to overlap with the aging process, such as changes in sleep, energy and appetite. This line of thinking prompted investigators to create depression inventories that excluded somatic features of depression. Inventories such as

the Geriatric Depression Scale, the Zung Depression Scale and the Montgomery Ashberg Depression Rating Scale exclude the somatic symptoms of depression and instead rely on the emotional symptoms to uncover depression. Other researchers found that depression was under-recognized—or masked—in older people because of stigma issues. These researchers found that older adults are less likely to endorse the affective symptoms of depression, such as sadness and depression, and were not more or less likely to express somatic symptoms. Depression in the absence of depressed mood or sadness, or “nondysphoric” depression, may be as disabling in older adults as depression accompanied by sadness or depressed mood (Gallo, Rabins, Lyketsos, Tien, & Anthony, 1997). To date, no one agrees which is the best method for detecting depression, and the few existing studies comparing instruments and assessing symptom presentation do not yield consistent results.

The story is even less clear for Latinos. There have been a few smaller studies that have tested the reliability of scales such as the Center for Epidemiological Studies Depression Inventory and the Geriatric Depression Scale. One of the only studies to attempt to validate the CES-D against a diagnostic gold standard found that at customary cut-offs the CES-D had a sensitivity of 84% and a specificity of 64% (Robison et al., 2002). While preliminary, these data suggest that the positive predictive value of instruments such as the CES-D in elderly Latinos for major depression may be 50% or even less. One further caveat to the interpretation of these data is that we do not have any data on the clinical significance of elevated CES-D scores in those who do not meet criteria for major depression (i.e., “false positives”). However, a study found that the 10-item CES-D was among the best screening instruments for depression in older Puerto Ricans, better than the Geriatric Depression Scale (Yesavage, 1988) and the PRIME-MD. However, other studies on the utility of the CES-D in detecting depression in older Latinos have differing results and are further complicated by inconsistent translations of measures across studies. For instance, the University of California San Francisco Resource Center for Minority Aging Research funded by the National Institute on Aging has found that, while there have been more than 20 studies using the CES-D to detect depression in older Latinos, in 17 of these studies, the CES-D was retranslated (and not cross-validated). The Geriatric Depression Scale (GDS) was recently evaluated for its reliability for detecting depression in older Latinos (specific group was not given) over the telephone. In this study, the GDS was a highly reliable instrument with the advantage of telephone administration (Carrete et al., 2001).

The process of assessment also should pay attention to cultural dimensions of illness. The cultural formulation can be a useful framework for the assessment and treatment of older Latinos. Underlying this approach is an emphasis on eliciting and working with the patient and family’s attitudes, preferences, and beliefs about illness and treatment (see, for example, Cultural Formulation in Appendix of DSM-IV, Lewis-Fernandez, 1996; Hinton & Kleinman, 1993). As part of this approach, the clinician may want to elicit the family’s explanatory model of illness (Kleinman, 1988) and to identify the key idiom of distress (i.e., the patients’

articulation of distress through key symptoms such as “nerves”). This approach may assist the clinician in engaging the patient and building rapport.

After 6 months without treatment for depression, LY became significantly depressed. His symptoms now included lack of appetite, lack of sleep, irritability, anhedonia and feelings of worthlessness. However, because he never endorsed feeling “depressed” LY’s family and provider continued to explore physiological explanations for his symptoms. After exhaustive medical tests, LY’s provider consulted with the clinic’s newly hired mental health provider, who met with LY and determined that he now met the criteria for major depression.

Psychosocial Interventions

Psychotherapeutic approaches for preventing depression in older adults are relatively limited, although the research in this area has included Latino samples. The most relevant research has been to target two primary risk factors, coping with a chronic health problem (Lorig, Ritter & Gonzalez, 2003) and caregiver distress (Eisdorfer et al., 2003; Gallagher-Thompson et al., 2003; Gitlin et al., 2003). These studies consistently find that group interventions focused on teaching self-management and self-efficacy skills have significant and positive effects on older Latinos. The aim of teaching self-management is to impart to the patient psychological resiliency in the form of better coping with illness. Thus, these interventions prevent depression by providing the very skills found to mediate the occurrence of depression. For instance, in one study investigating a peer-led group intervention that provided psychoeducation about chronic illnesses and strategies for gaining control over them, Lorig et al. (2003) found that four months after the intervention terminated, participants in the peer program had improved health status, health behavior, and self-efficacy. While depression outcomes were not reported, this study is promising in that other risk factors for depression were reduced, and there was an increase in psychological resiliency, a mediator of depression.

In a project investigating different interventions for reducing care-giver burden in minority caregivers, Eisdorfer et al. (2003) found that for Cuban Americans, family therapy and Internet-supported intervention significantly decreased caregiver burden, thus reducing a significant depression risk factor. Improvements were maintained for 18 months after the intervention was concluded. The study by Gallagher-Thompson and colleagues (2003) was one of the few to actually report the effect of skill-building interventions for caregiver distress in older Mexican Americans. In this study, a skill-based anger management program was compared to a community support group intervention in reducing caregiver burden and symptoms of depression. The skill-building intervention resulted in an increase in adaptive coping (a mediator of late-life depression), and a significant reduction in depressive symptoms over an 18-month period.

In summary, psychosocial interventions aimed at reducing the risk factors associated with depression in older Latinos provide promising preliminary results. Research should continue to focus on prevention of late-life depression in older Latinos through psychosocial interventions targeting risk factors associated with depression. Future studies should look at interventions that support the complications associated with poverty, as this appears to be one of the more salient risk factors for depression in older Latinos.

To date there are no studies investigating the efficacy of psychotherapy in treating depression in older Latinos. However, based on the research in non-minority elderly, psychotherapies such as cognitive behavioral therapy (CBT) and interpersonal therapy (IPT) are promising interventions that could be used to treat depression in older Latinos (Areán & Cook, 2002). For instance, CBT is a 16-week intervention that focuses on teaching mood regulation skills to overcome the symptoms of depression and develop ways to actively solve current problems that contribute to them. In several studies by Gallagher-Thompson, this intervention significantly decreases depression symptoms compared to a supportive therapy approach and treatment gains are maintained for a year after remission (Gallagher-Thompson & Steffen, 1994). Similarly, IPT has particular effects in treating chronic recurrent depression in older adults. Treatment consists of 16 weeks of active treatment, 6 months of maintenance treatment, and then 1 year of relapse prevention. According to Reynolds et al. (1999), older adults tend to have the best treatment response with IPT when it is coupled with antidepressant medication. Problem solving therapy (PST) is another promising psychotherapy for late-life depression. Three studies have found strong results for treating major depression with PST in older adults (Areán et al., 1993; Alexopoulos, Raue, & Areán, 2003), while one study found that PST was not as successful for minor depression (Williams et al., 2000). PST is a six- to eight-week intervention that teaches patients a systematic approach for solving the problems that contribute to depression. PST is particularly promising for older Latinos because the emphasis is on actively working on problems, rather than exploring mental health concepts that may be foreign to their understanding of their illness. It is also a practical intervention, resulting in concrete solutions to actual problems with which patients struggle. Finally, the intervention is short and can easily be delivered in primary care settings (Areán et al., 2005).

Pharmacological Treatment Approaches

As noted earlier, several studies have found that older Latinos suffer from poorer quality of depression care when compared to their non-Hispanic white counterparts. Several large-scale intervention trials suggest models for improving care and reducing service gaps for older Latinos. For example, the IMPACT study found that a combination of psychotherapy (i.e., problem-solving therapy) and medication management had a positive impact on a range of outcomes,

including depressive symptoms, pain, and disability (Unutzer et al., 2002). This study has important public health implications because Latinos as a whole have less access to specialists and are more likely to receive their depression care in primary care settings (USDHHS, 1999; Vega et al., 1998). In a recent effectiveness trial, programs to improve the quality of depression care (medications and cognitive-behavioral therapy) were found effective for Latinos and other minorities (Miranda et al., 2003). While this study did not include elderly Latinos, it is likely that the approach would benefit older Latinos.

Significant advances have been made in the science of geriatric depression treatment, resulting in the development of evidence-based psychopharmacological treatment guidelines (Alexopoulos et al., 2001). Several antidepressants have been shown to be effective in the treatment of depression in older adults. For individual patients, the choice of antidepressant should be guided by existing evidence, history of prior positive treatment response, side-effect profile, and potential drug-drug interactions. The profile of comorbid medical and psychiatric conditions also may influence choice of medication. For example, nortriptyline might be used to treat both depression and chronic pain in an older Latino with both diabetes and depression as opposed to using a combination of medications. Finally, cost may be an essential consideration, as many older Latinos lack supplemental insurance to cover the cost of prescription medications. Adequate psychoeducation is very important in conjunction with prescribing medications in order to gain trust and to prepare patients both for the time course of response and the emergence of side effects. In particular, given the reluctance of some Latinos to take antidepressants (see Cooper et al., 2003), it is critical to elicit from patients and, when appropriate, their families, their perceptions and fears of medications (e.g., fear of addiction) and to address these in an up-front, nonjudgmental manner.

Once the antidepressant has been chosen, older adults may require lower starting doses and longer intervals between increases in medication because of age-related pharmacokinetic (e.g., long half-life due to increased volume of distribution) and pharmacodynamic changes (e.g., increased receptor sensitivity). Up to six to eight weeks may be required for the full response to an antidepressant, though many adults experience relief of symptoms much sooner, in two weeks or less. Among older adults with moderate to severe depression, antidepressant medication, often together with psychotherapy, is a critical component of treatment. In those older adults whose depression is complicated by psychotic symptoms, treatment with an antipsychotic, in addition to an antidepressant, is critical. Among those older adults who are unable to tolerate antidepressants, fail multiple trials of antidepressants, or who have a rapid deteriorating course, electroconvulsive therapy may need to be considered.

After depression treatment has been initiated, monitoring depressive symptoms and functioning over time is essential. A significant subgroup of patients may respond only partially or not at all, requiring further dosage adjustment or medication addition and/or change. In patients who fail to respond, it is

important to consider a range in possible reasons for nonresponse, including noncompliance, misdiagnosis (e.g., bipolar “mixed” state which can be aggravated by the addition of antidepressants), presence of an underlying medical cause (e.g., thyroid disease), ongoing and unaddressed psychosocial stressors (e.g., elder abuse), or depression responsive to another class of medications. It is essential that these be evaluated in a systematic way for nonresponders to avoid unnecessary morbidity and costs. Clinicians need to be persistent in treatment of depression, as many people may respond partially, and require further adjustment of medication, addition of other adjunctive pharmacological treatments, or addition of other modalities of treatment.

Given LY's diagnosis of major depression, it was important that he receive treatment as soon as possible. However, LY's mental health worker had a number of hurdles to overcome to get him into treatment. First, LY's mental health provider had to educate him about depression. Particular emphasis was spent on explaining that depression is a medical condition that is exacerbated by social stressors. The mental health provider emphasized that depression was treatable and that getting treatment for depression was no different than getting treatment for hypertension; it required a combination of medication and lifestyle changes to have a complete response. LY's mental health provider also pointed out the number of sports heroes and world leaders who also suffered from depression and successfully overcame it. This information made LY more receptive to treatment, and he was willing to return for a second visit.

The next hurdle was making treatment more accessible to him. Given his dependence on others for transportation and his reluctance to burden them, LY's mental health provider agreed to meet him in the medical clinic in which she worked, and agreed to a flexible schedule. Because LY was reluctant to try psychotherapy, he and his mental health provider decided to try medication management first. This resulted in his needing to be seen every other week, rather than weekly, and once he showed a response, only required monthly visits. LY was prescribed paroxetine and after several weeks began to feel significantly better, although he still complained about feeling worthless. To combat this symptom, which would likely result in a relapse if not addressed, LY agreed to try PST. To the mental health provider's surprise, LY found this strategy particularly helpful. Using PST he was able to find other ways to contribute to his community, and began his own boxing school for under-privileged kids. Their only payment was to stay in school and make good grades. After one year of treatment, LY made a full recovery and was symptom free.

Depression and Dementia

Recent studies have found that rates of dementia in older Latinos are as high or higher compared with the general population (Haan et al., 2003; Tang et al., 1998;). It is now appreciated that behavior problems and neuropsychiatric

symptoms, including depression, are quite common during the course of dementia. Several recent epidemiological studies of predominantly White, non-Hispanic elderly have found that more than 32% suffered from depressive symptom during the prior month (Lyketsos et al., 2002). Their preliminary data suggest that Latino elderly with dementia may suffer higher rates of depressive symptoms. For example, a research method similar to that of Lyketsos et al. (2002) and Hinton et al. (2003) reported that more than 60% of Latino elderly (predominantly Mexican) with dementia had depressive symptoms during the past month. A clinic-based sample of Cuban American elderly with Alzheimer's disease found that 39.6% showed significant depression (Harwood et al., 2000).

The assessment of depression in older Latinos with significant cognitive impairment offers special challenges for the clinician because the manifestations and course of depression may differ from those without dementia. Several standardized instruments for assessment of depression in dementia have been validated for older Latinos, including the Behavior Problem Checklist (Harwood et al., 2001), Neuropsychiatric Inventory (Cummings et al., 1994), and Cornell Scale (Ownby, Harwood, Acevedo, Barker, & Duara, 2001). In the process of clinical assessment, it is essential that clinicians gather information from collateral sources, such as family members or formal caregivers. The manifestation and course of depression in older adults with Alzheimer's disease, for example, may differ from noncognitively impaired older adults. This has led to the development of criteria for diagnosis of dementia in Alzheimer's disease that emphasize the importance of irritability and social withdrawal, in addition to the core symptoms of depressed mood and anhedonia.

Depression and the Family

Often families often are intimately involved in the lives of older Latinos who are depressed. As such, incorporating them into the assessment and treatment process is important. There are a number of reasons to do this. First, depression may adversely affect family caregivers, elevating their own risk of depression. Second, family members are valuable sources of information. Third, older Latinos, who are not familiar with the health care system, may rely quite heavily on adult children to seek help and to make health care decisions. Thus, excluding family members may risk alienating an important and influential decision-maker. Finally, family members may help to enhance compliance with treatment.

Depression and Substance Abuse

There has yet to be research undertaken to determine the prevalence of alcohol abuse comorbid with depression in older Latinos. However, recently there has been an increase in the information on depression and comorbid alcohol abuse in older

adults in general. According to Devanand (2002), 15-30% of older adults with depression have comorbid alcohol abuse. Comorbid alcohol abuse and depression is a significant risk factor for suicide in older adults (Osgood, 1991) and a deterrent in the treatment of depression (Oslin, Katz, Edell, & Ten Have, 2000). This co-occurrence in later life seems to be related to increased loneliness, lack of social support, negative life events, and chronic stress. Given the risk that older immigrants have for feeling socially isolated and needing to cope with health care and a social system that is foreign, older Latinos may be at risk for this co-morbidity.

Adherence and Access to Care

In general, methods for increasing access to and acceptance and use of mental health services by older adults is an area of significant interest to researchers in the field. In the treatment of depression, there have been three large-scale randomized trials investigating methods to re-organize the health care system to address access and utilization barriers. The reason for this increased attention is the fact that overall very few older adults are ever treated for depression and their typical point of access is in primary health care settings (Areán, Alvidrez, Barrera, Robinson, & Hicks, 2002). Methods to integrate depression treatment into nonmental health settings have been found to be helpful for older adults and older Latinos in particular (Areán et al., 2005). This integration addresses important barriers to care, such as stigma concerns and the convenience of offering care in a familiar system in collaboration with a trusted figure. In addition to integration into other systems of care, beginning research on the use of telehealth care (Hunkeler et al., 2000) and telephonic psychotherapy may make access to mental health services even more feasible in the future.

Cultural and Linguistic Considerations

A common perception in the field is the need to culturally adapt mental health services for Latino populations. In the geriatric literature, the one study to investigate depression treatment in older Latinos did so by using an intervention that did not undergo any specific adaptations, other than selecting providers who were sensitive to the patient's culture. Older Latinos used more services and had better treatment outcomes in this un-adapted intervention (Areán et al., 2005).

Depression and End-of-Life Care

The role of mental health providers in end-of-life care is an important but under-studied topic, particularly for Latinos and other minority elderly. Religion and family may play important roles in helping older Latinos adapt to

chronic medical conditions and frailty that often occur toward the end of life. This is also a time when older Latinos and their families are involved in decision-making about such issues as life-sustaining treatments and advance directives. Both coping and decision-making may be undermined by clinical depression, underscoring the importance of accurate identification and treatment of depression in older Latinos to enhance the quality of their years.

Summary

This chapter reviewed the current literature on the assessment and treatment of depression among older Latinos. While work remains to be done, there is a body of research that identifies effective treatments for this population. The challenge facing the service provider is establishing a service delivery system that welcomes and respects the older Latino and by so doing is able to provide the appropriate care necessary to treat their depression.

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Epilogue

The editors of this volume have lived with this book through several revisions and many months of work. As with other editing experiences, we have seen the chapters in this volume take on life as we treated Latinos for depression in our practices or partnered with Latino community organizations to address the underlying societal issues that significantly contribute to the distress of this population.

In one instance, the words of Renato Alarcón in Chapter 5 morphed into an elderly lady whose continual indigestion repeatedly brought her to a city hospital emergency room. Her episodic care there with an ever-changing group of providers offered temporary relief to her physical symptoms but left untouched the cause of her ailment. It would not be until a grandchild being treated in a school-based health clinic discussed her worries about her grandmother with the attending advanced practice nurse practitioner that the mental health staff of that clinic visited the home and addressed the source of grandmother's distress—depression.

On another occasion, working with a Latino community action agency we struggled with them to develop a legal approach to enable Latinos whose residency status would be questioned by the U.S. government to open banking accounts. By prohibiting the issuance of savings or banking accounts to these individuals, Latinos find themselves trusting other Latinos, perhaps honest perhaps not, to deposit their funds into accounts for which they have no legal claim. They find themselves paying outrageous fees to cash checks, and they find themselves carrying significant amounts of cash on their person, thus exposing him/herself to potential harm. At risk of exploitation at nearly every turn, worry, fear, anger, and cynicism mix to create the perfect environment for explosive anger turned outward or inward.

Yes, depression is the leading mental issue for Latin Americans.

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