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Depression among Puerto Ricans in New York City: the Hispanic Health and Nutrition Examination Survey

Abstract This study was conducted to analyze determinants of depression among Puerto Ricans by replicating and expanding earlier studies of depression among Cuban Americans and Mexican Americans. Data from the Hispanic Health and Nutrition Examination Survey, 1982–1984, were employed to examine depression and associated characteristics among Puerto Ricans. We utilized descriptive and multivariate statistics to examine the Center for Epidemiologic Studies Depression Scale (CES-D)-assessed depressive symptomatology and the DSM-III/DIS specification of major depression. The findings indicated that CES-D-assessed depressive symptomatology among Puerto Ricans was associated with female gender, disrupted marital status, poor health, and lower socioeconomic status as indicated by low education, low household income, age, and unemployment. For both 6-month and 1-month DIS major depression, age, disrupted marital status, and income of less than $5,000 were significant risk factors. For 6-month DIS major depression, never-married persons had a higher risk for depression. For 1-month diagnoses, writing Spanish better than English was associated with lower risk. In general, our findings for Puerto Ricans were similar to studies of depression among other Hispanic groups. We remained unable to explain the relatively extreme levels of depression among Puerto Ricans in New York, though several probable explanations are elaborated. We emphasized the general need to expand the range of research designs and current risk models in epidemiology in an effort to capture the complexity of psychosocial and cultural processes relevant to psychological distress.

Introduction

The Puerto Rican community in New York City represents an important population for epidemiological research. As a group, they exist toward the bottom of the city’s socioeconomic system in inner-city neighborhoods, such as the south Bronx, that have come to symbolize urban poverty in the United States [1, 2]. Like other immigrant groups, first generation Puerto Ricans in New York experience dislocations in their supportive social networks. Their offspring, the second generation, also experience difficulty integrating into a culturally pluralistic and structurally differentiated urban society [3]. Both generations confront acculturative demands of learning a different language and acquiring a new system of values [4–6].

Depressive episodes in Puerto Rico have been shown to be similar to those among the general population in the United States [7]. However, little is known about the prevalence of mental health problems among Puerto Ricans in the New York area and the risk factors associated with such problems [8, 9]. The Hispanic Health and Nutrition Examination Survey, 1982–1984, (HHANES) addresses this neglect by attempting to measure depression among Mexican Americans in the Southwest, Cuban Americans in Dade County, Florida, and Puerto Ricans in the New York City area. The HHANES, conducted by the National Center for Health Statistics, is the most comprehensive study of the health of the Hispanic population in the United States. This article employs data from the HHANES to examine depression among Puerto Ricans and associated characteristics.

Preliminary analyses of the HHANES data by Mościcki et al. [10] have demonstrated that the prevalence of major depressive episodes among Puerto Ricans is substantially higher than the corresponding
prevalence among persons in the general population. Moreover, the HHANES data show that the prevalence of major depressive episodes and depressive symptomatology among Puerto Ricans is significantly higher than among Mexican Americans and Cuban Americans. Mościcki and her collaborators conclude by noting the need to conduct multivariate analyses using the HHANES data to determine whether risk factors identified in preliminary analyses indicate independent contributions to high risk. Extensive analyses have been conducted for Mexican Americans [11] and Cuban Americans [12], and one study has provided a basic assessment of depressive symptomatology among Puerto Ricans [13]. In the present study, we provide an extensive analysis of depression among Puerto Ricans using procedures generally consistent with those of the Mexican American [11] and Cuban American [12] portions of the HHANES, supplementing our analysis with proxy for acculturation and the HHANES physicians' subjective assessment of respondents' physical health.

Before discussing our methods and findings we wish to note some limitations of the HHANES [10, 12, 14]. The survey was cross-sectional, and therefore statistically significant risk factors cannot be assumed to be causally related to depression. Also, the use of the Diagnostic Interview Schedule (DIS) to specify major depression involves unresolved issues of psychometric validity [37]. Moreover, the survey's focus on depression only means that the true prevalence of other forms of psychological distress and associated risk factors among Puerto Rican respondents remains unknown.

Methods

An array of sociomedical data collection techniques were used in the HHANES to study persons by employing a complex, multistage, stratified clustered sample drawn from geographical areas in the United States that have the largest concentrations of Mexican Americans, Cubans, and Puerto Ricans [14]. The area covered by the survey included about 76% of the population of Hispanic origin in the United States. For Mexican Americans in the study, the sample was drawn from five southwestern states; the Cuban American sample was drawn from Dade County, Florida. The Puerto Rican sample was drawn from the New York City metropolitan area including parts of New Jersey and Connecticut, and represented 59% of the Puerto Rican population in the United States.

There are several aspects of the HHANES that should be considered in the interpretation of the findings presented here [14]. Sampling error introduced by the complex sampling design used in the HHANES was corrected through use of SUDAAN statistical software [36]. Additionally, nonresponse was a potential problem in generalization. Of the 3,786 Puerto Ricans sampled, 89% were interviewed by trained interviewers and 75% were examined by physicians. No information is available on differences between respondents and refusers. Depression items were administered to examined respondents who were older than 19 years of age. Among those 1,353 adults who were eligible for completing depression items, only 11 respondents did not. After dropping respondents who had missing values for key variables, our sample consisted of 1,140 interviewed and examined New York area Puerto Ricans. Other details about the HHANES' history, design, target population, sampling procedures, data collection, and limitations have been reported elsewhere [10, 12–15].

Depression measures

We used descriptive statistics and multivariate analyses to examine four measures of depression that are derived from the two depression scales contained in the HHANES: the Center for Epidemiologic Studies Depression Scale (CES-D) [16] and the DIS section for major depression [17, 18]. We employed four measures in an effort to be thorough and to be consistent with previous analyses of Mexican and Cuban American segments of the HHANES.

For measurement of levels of current depressive symptomatology, we use the CES-D [16]. This widely used scale, which has undergone considerable psychometric development [16, 19–21], consists of 20 summed items designed to measure the presence and severity of clinical symptoms experienced by a respondent during the week preceding the interview. It has 16 items phrased in negative terms (e.g., feeling sad or fearful) and four in positive terms (e.g., feeling happy). Total CES-D scores may range from 0 to 60. While the CES-D does not define a clinical diagnosis of depression, by convention, a score of 16 or above is considered to indicate case- ness or high symptom level [11, 22]. Thus, we employed both the continuous score of the CES-D and a dichotomous measure of CES-D caseness as two of the four dependent variables.

The CES-D and other measures of nonspecific distress include both trait and state components; they measure both stable characteristics and fluctuations in mood. While use of the CES-D does not permit assessment of the state-trait distinction, some authors tend to treat the CES-D as if it were an indicator of trait [23–28], even though several others have noted that the CES-D lacks sensitivity in the diagnosis of depression [29–33].

To identify episodes of major depression among persons in the sample, we examined measurements that employed the DIS section for major depression [17, 18]. The DIS operationalizes selected DSM-III categories and is designed to be administered by trained laypersons. For major depression, the DIS requires that two principal criteria be met [10]. The first criterion is identification of a dysphoric mood or a loss of interest in usual activities. The second is that four of eight symptoms must be present for at least 2 weeks during an episode. These symptoms include: appetite or weight change, insomnia or hypersomnia, agitation or retardation, loss of interest in sex, loss of energy or fatigue, feelings of worthlessness or guilt, trouble thinking, and thoughts of death or suicide. Sixteen questions are used to assess the symptoms in order to determine three possible diagnoses: no major depression, major depressive episode, and bereavement (major depression associated with grief). Given the difficulty of distinguishing between first episodes of disorder and relapses, findings of associations with DIS diagnoses must be interpreted accordingly. Essentially we are unable to distinguish whether associated characteristics are functions of etiology, course, or both. Our analysis of DIS major depression diagnosis focused on two measures: episodes of depression diagnosed during the preceding 6-month period and episodes diagnosed during the preceding 1-month period.

Data analysis

The four measures of depression discussed above served as dependent variables. Depressive symptomatology (CES-D) was used as both a continuous variable (ranging from 0 to 60) and as an indicator variable dichotomized for caseness (a score of 16 and greater equaled 1). Six-month and 1-month major depressive episodes (DIS) also served as dependent variables. Both of these were indicator variables dichotomized for diagnosis of major depressive disorder. Bereavement was not classified as a depressive episode in construction of these variables.