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Substance use disorder comorbidity with schizophrenia in families of Mexican and Central American Ancestry

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ABSTRACT

Objectives: The aims of this study were to estimate the frequency and course of substances use disorders in Latino patients with schizophrenia and to ascertain risk factors associated with substance use disorders in this population.
Method: We studied 518 subjects with schizophrenia recruited for a genetic study from the Southwest United States, Mexico, and Central America (Costa Rica and Guatemala). Subjects were assessed using structured interviews and a best estimate consensus process. Logistic regression, χ^2, *t* test, Fisher's exact test, and Yates' correction, as appropriate, were performed to assess the sociodemographic variables associated with dual diagnosis. We defined substance use disorder as either alcohol or substance abuse or dependence.
Results: Out of 518 patients with schizophrenia, 121 (23.4%) had substance use disorders. Comorbid substance use disorders were associated with male gender, residence in the United States, immigration of Mexican men to the United States, history of depressive syndrome or episode, and being unemployed. The most frequent substance use disorder was alcohol abuse/dependence, followed by marijuana abuse/dependence, and solvent abuse/dependence.
Conclusion: This study provides data suggesting that depressive episode or syndrome, unemployment, male gender, and immigration of Mexican men to the United States were factors associated with substance use disorder comorbidity in schizophrenia. Binary logistic regression showed that country of residence was associated with substance use disorder in schizophrenic patients. The percentage of subjects with comorbid substance use disorders was higher in the Latinos living in the United States compared with subjects living in Central America and Mexico.

Abbreviations: DD, dual diagnosis; SC, schizophrenia; SUDs, substance use disorders; US, United States; NIMH, National Institute of Mental Health; DIGS, Diagnostic Interview for Genetics Studies; FIGS, Family Interview for Genetics Studies; DSM-IV, The Diagnostic and Statistical Manual of Mental Disorders 4th Edition; PCP, phenylcyclohexylpiperidine; LSD, lysergic acid diethylamide.

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1. Introduction

There is little data on dual diagnosis (DD) of schizophrenia (SC) and substance use disorders (SUDs) in the Latino population. The aims of this paper were to estimate the frequency of comorbid alcohol and drug use disorders in Latinos with SC from Mexican and Central American ancestry, and to describe the risk factors associated with SC in this population.

Lifetime prevalence rates of SUD have ranged from 14.6% to 26.6% in the general United States (US) population (Baumeister and Härter, 2007; Kessler et al., 1994; Kessler et al., 2005a), and from 9.9% to 18.7% in Europe (Bijl et al., 1998; Jacobi et al., 2004). In studies from the US, lifetime prevalence of SUD in Latinos (11.2% to 16.1%) (Alegría et al., 2008; Breslau et al., 2006) is lower than in non-Latino whites (Alegria et al., 2006; Zhang and Snowden, 1999). In Latinos living outside of the US, lifetime prevalence of SUD is also lower than in the general US population (Andrade et al., 2000; Medina-Mora et al., 2007).

Persons with SC have substantially higher lifetime risk of having SUD than do persons from the general population (McCreadie, 2002; Kessler et al., 2005b; Regier et al., 1990; Ringen et al., 2008; Soyka et al., 2001; Swartz et al., 2006), ranging from 40% to 60% (Cantor-Graae et al., 2001). In the US, an epidemiologic study found lifetime history of comorbid SUD was 47% for persons with SC or schizophreniform disorder, a rate 4.6 times higher than for the general population (Kavanagh et al., 2004). In a recent nation-wide study of SC in the US, even higher rates of SUD were found: 60.3% of 1460 persons with SC reported a SUD (Rosenmanet et al., 2000). Similar high rates of SUD with SC have been found in studies from Europe (Dervaux et al., 2001; Fowler et al., 1998; Kavanagh et al., 2004; Menezes et al., 1996; Ringen et al., 2008; Rosenman et al., 2000; Verma et al., 2002).

Despite recent interest in how rates of psychiatric disorders vary in Latinos (Breslau et al., 2006; Grant et al., 2004; Vega and Sribney, 2003) there are only a couple of studies, which have looked specifically at comorbidity of SUD in SC as a function of ethnicity. Montross et al. (2005) found the prevalence of DD was lower in Latino Americans than in European and African Americans in San Diego County (US). An epidemiologic study conducted in Mexican Americans found the lifetime prevalence of SUD in those subjects with comorbid psychotic symptoms was 20% for immigrants and 49% for those born in the US (Vega et al., 2006). Outside of these two studies there are no published reports of SC and SUD comorbidity rates in samples of Latino subjects and no epidemiologic studies that have investigated these comorbidities in an international sample.

The present analyses utilized the largest known sample of systematically assessed subjects with SC from the Latino population, drawn from the NIMH Genetics of Schizophrenia in Latino Populations study, to estimate the frequency of DD in the subjects in this study. In addition, the present study describes the clinical characteristics of subjects with comorbid SUD in these Latino subjects and compares rates of DD across three geographic regions (the Southwest United States, Mexico, and Central America). We also tested several hypotheses regarding SUD comorbidity in SC subjects within this sample. These hypotheses included that SUD comorbidity would be higher in the US subjects compared to those from Mexico and Central America and that rates of comorbidity would be, in general, less than previous studies of SC in non-Latino populations. Based on studies conducted in other samples (Bartels et al., 1993; Menezes et al., 1996; Soyka et al., 2001; Swartz et al., 2006; Weaver et al., 1999), we also hypothesized that gender, marital status, employment status, and immigration to the US from Mexico would be associated with comorbidity in this sample. We hypothesized that increased lifetime history of depression and level of deterioration would be associated with comorbid SUD in SC subjects from the current study. Finally, we investigated the ages of onset of SUD and SC in comorbid cases, to better understand how these comorbidities develop in Latino/a men and women.

2. Methods

2.1. Subjects

All participants were recruited in accordance with the principles of the Declaration of Helsinki and with approval from the Institutional Review Boards of each participating site, as part of a family based linkage study of SC and schizoaffective disorder. Recruitment teams were located in San Antonio (Texas, US), Los Angeles and San Diego (California, US), Monterrey and Mexico City (Mexico), Guatemala City (Guatemala), and San José (Costa Rica). All sites participated in group training sessions to standardize assessments using the Diagnostic Interview for Genetic Studies (DIGS) (Nurnberger et al., 1994), the Family Interview for Genetic Studies (FIGS) (Maxwell, 1992), and a review of psychiatric records. Families were eligible for study if they had at least two siblings with hospital or clinical diagnoses of SC or schizoaffective disorder. Subjects included in the study were all over 18 years of age, willing to contribute a blood sample, and complete a diagnosis interview. Subjects were recruited if their parents had ancestry from Central America or Mexico. Subjects were also asked to describe their parents' ethnicity, as part of the DIGS interview (see description in Results). After complete description of the study to the subjects, written informed consent was obtained.

2.2. Diagnosis

Subjects were diagnosed according to the DSM-IV by a best estimate consensus process, using a DIGS, a FIGS and review of all available medical records, this best estimate procedure has been described in detail (Escamilla et al., 2007). Each best estimator was a bilingual, bicultural clinician (psychiatrist or psychologist) and cases were diagnosed independently, followed by a discussion of any differences in diagnosis, and a final consensus was completed for specific disorders, syndromes, and ages of onset. After completion of the best estimate consensus process, 518 subjects (from 284 separate families) met DSM-IV criteria for SC. Tables shown in this article are for the entire sample of affected participants. SUD was defined as either alcohol or substance abuse or dependence by best estimate consensus. Best estimators also determined age of onset of each SUD, as well as the age when each subject first met full DSM-IV criteria for SC, and whether or not each subject had ever met criteria for a full depressive