Journal of Psychiatric Research 46 (2012) 31–37

Contents lists available at SciVerse ScienceDirect

Journal of Psychiatric Research

journal homepage: www.elsevier.com/locate/psychires

Change in binge eating and binge eating disorder associated with migration from Mexico to the US☆

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ARTICLE INFO

Article history:
Received 13 August 2011
Received in revised form
17 October 2011
Accepted 20 October 2011

Keywords:
Binge eating disorder
Migration
Eating disorder

ABSTRACT

Exposure to Western popular culture is hypothesized to increase risk for eating disorders. This study tests this hypothesis with respect to the proposed diagnosis of Binge Eating Disorder (BED) in an epidemiological sample of people of Mexican origin in Mexico and the US. Data come from the Mexico National Comorbidity Survey, National Comorbidity Survey Replication, and National Latino and Asian American Survey ($N = 2268$). Diagnoses were assessed with the WMH-CIDI. Six groups were compared: Mexicans with no migrant family members, Mexicans with at least one migrant family member, Mexican return-migrants, Mexican-born migrants in the US, and two successive generations of Mexican-Americans in the US. The lifetime prevalence of BED was 1.6% in Mexico and 2.2% among Mexican-Americans. Compared with Mexicans in families with migrants, risk for BED was higher in US-born Mexican-Americans with two US-born parents (aHR = 2.58, 95% CI 1.12–5.93). This effect was attenuated by 24% (aHR = 1.97, 95% CI 0.84–4.62) with adjustment for prior-onset depressive or anxiety disorder. Adjustment for prior-onset conduct disorder increased the magnitude of association (aHR = 2.75, 95% CI 1.22–6.20). A similar pattern was observed for binge eating. Among respondents reporting binge eating, onset in the US (vs. Mexico) was not associated with prevalence of further eating disorder symptoms. Migration from Mexico to the US is associated with an increased risk for BED that may be partially attributable to non-specific influences on internalizing disorders. Among respondents reporting binge eating in either country, similar levels of further symptoms were endorsed, suggesting some cross-cultural generalizability of criteria.

1. Introduction

Binge Eating Disorder (BED), a diagnosis described provisionally in the appendix to DSM-IV and proposed for inclusion in DSM-5, is characterized by recurrent episodes of binge eating, i.e. eating objectively large amounts of food with loss of control. To meet the diagnostic criteria, the episodes of binge eating must be accompanied by further symptoms, such as eating much more rapidly than usual and eating alone due to embarrassment, and marked psychological distress (American Psychiatric Association, 1994; American Psychiatric Association DSM-5 Task Force, 2010). Epidemiological studies have found BED to be associated with a broad range of comorbid psychiatric disorders, including mood, anxiety, impulse control and substance use disorders (Hudson et al., 2007; Preti et al., 2009; Swanson et al., 2011), role impairment (Hudson et al., 2007; Preti et al., 2009; Swanson et al., 2011), and suicidality (Swanson et al., 2011). There is some evidence that, as has been found for other eating disorder symptoms (Becker et al., 2002; Becker et al., 2011), binge eating episodes are associated with exposure to popular culture of the US and other Western countries in which thin bodies and strict weight management are strongly valued. Notably, among Latinos in the US, risk for binge eating is less common among immigrants to the US than among the US-born

☆ This paper was presented at the 17th annual Eating Disorder Research Society (EDRS) meeting in Edinburgh, Scotland in September, 2011.

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doi:10.1016/j.jpsychires.2011.10.008

(Alegria et al., 2007). This is of particular concern since there is also evidence that the prevalence of binge eating is higher among Latinos than among Non-Hispanic Whites (Marques et al., 2010). To date, however, binge eating and BED have not been examined in cross-national studies that would provide a clearer test of their hypothesized association with exposure to particular cultural influences.

This study examines the association of binge eating and BED with migration between Mexico and the US in a unique trans-national general population sample. We test the hypothesis that exposure to the US is associated with higher risk by comparing successive generations of Mexican-Americans in the US with the migrant source population in Mexico. In addition, we address two further issues. First, we examine whether the association between migration and risk for binge eating or BED is attributable to prior onset psychiatric disorders. Previous research has found a strong association between migration to Western countries and increased risk for a broad range of psychiatric disorders, including many types of internalizing and externalizing disorders (Alegría et al., 2008; Breslau et al., 2009; Cantor-Graae and Selten, 2005; Fearon and Morgan, 2006); further research supports strong associations between BED and comorbid mood/anxiety and impulse control disorders (Hudson et al., 2007; Preti et al., 2009; Swanson et al., 2011; Wonderlich et al., 2009). This is an important hypothesis to test because the influence of migration on BED might result from generalized effects on psychopathology rather than factors hypothesized to have specific effects on disordered eating. The environment brings exposure to many factors beyond just eating habits and body image ideals, and it has not been previously explored whether an association between eating disorders and exposure to Western culture is best accounted for by such specific factors or some general set of factors associated with psychopathology broadly. Second, we examine whether migration is associated with differences in cognitive and behavioral symptoms of BED and other eating disorders among people who report binge eating. Such differences might indicate cultural variation in psychiatric implications of binge eating that should be taken into account in the design of the DSM-5 criteria. The pertinence of specific symptoms among people with episodes of binge eating has not been previously examined in cross-cultural epidemiological data.

2. Materials and methods

2.1. Sample

Data come from surveys conducted in Mexico and the US using the same face-to-face interview, the World Mental Health version of the Composite International Diagnostic Instrument (WMH-CIDI; Kessler an Ustun, 2004). The Mexican National Comorbidity Survey (MNCS; Medina-Mora et al., 2005), is based on a stratified, multi-stage area probability sample of household residents in Mexico aged 18–65 years, who lived in communities of at least 2500 people. 5782 respondents were interviewed between September 2001 and May 2002. The response rate was 76.6%. Data on the Mexican-origin population in the US come from two component surveys of the Collaborative Psychiatric Epidemiology Surveys (CPES; Heeringa et al., 2004), the National Comorbidity Survey Replication (NCSR; Kessler and Merikangas, 2004) and the National Latino and Asian American Survey (NLAAS; Alegria et al., 2004). The NCSR is based on a stratified multistage area probability sample of the English-speaking household population of the continental United States (Kessler et al., 2004). The NLAAS is based on the same sampling frame as the NCSR, supplemented to increase representation of target ethnic groups, including monolingual Spanish speakers (Alegria et al., 2004). The NCSR was conducted from 2001 through 2003 and had a 70.9% response rate; the NLAAS was conducted from 2002 through 2003 and had a 75.5% response rate for the Latino sample. In the CPES, 1442 respondents are of Mexican origin. The Spanish diagnostic modules of the WMH-CIDI, used in both the MNCS and NLAAS, were developed following WHO instrument translation guidelines. These procedures involve extensive translation and back translation of the instruments as well as a field-testing period prior to the start of data collection (Harkness et al., 2008).

For the NCSR and MNCS, some disorders were only assessed in a second-stage subsample; eating disorders were assessed in a 50% random subsample of this Part 2 sample. Eating disorders were assessed in the full sample for the NLAAS. Combining the surveys resulted in a cross-national sample of 2268 respondents, 1234 in Mexico and 1034 in the US.

Study procedures were approved by the Institutional Review Boards of Harvard Medical School, the University of Michigan, and the National Institute of Psychiatry Ramon de la Fuente.

2.2. Definition of migrant groups

Respondents in the MNCS were asked whether they had ever migrated to the United States and whether they had a member of their immediate family living in the US. Respondents to the CPES were asked their country of birth and whether their parents were born in the US. CPES respondents born outside of the US were asked the age at which they first arrived in the US. The sample was divided into six groups representing populations across the range of exposure to the US. The six groups are: (1) Mexicans with no migrant in their immediate family; (2) Mexicans with a migrant in their immediate family; (3) Return migrants (Mexicans with a history of migration to the US); (4) Mexican-born immigrants in the US; (5) US-born Mexican-Americans with at least one foreign-born parent; and (6) US-born Mexican-Americans with two US-born parents.

2.3. Assessment of binge eating and BED

The lifetime occurrence of binge eating was assessed by the following question: “The next question is about ‘eating binges’ where a person eats a large amount of food during a short time like two hours. By ‘a large amount’ I mean eating so much food that it would be like eating two or more entire meals in one sitting, or eating so much of one particular food – like candy or ice cream – that it would make most people feel sick. With that definition in mind, did you ever have a time in your life when you went on eating binges at least twice a week for several months or longer?” Respondents who endorsed binge eating were asked the age they first experienced these episodes.

The WMH-CIDI assesses three eating disorders: DSM-IV anorexia and bulimia nervosa (AN; BN), and the proposed BED definition in the DSM-IV appendix. Hierarchy rules were enforced, in that a BED diagnosis was only given when it clearly occurred during a time that neither AN nor BN were present. Binge eating was evaluated without hierarchy enforcement.

Associated symptoms were evaluated in the subsample of respondents who endorsed the above binge eating question. These include the five binge-associated criterion symptoms proposed for DSM-5 (eating more rapidly than normal; eating until uncomfortably full; eating large amounts when not feeling physically hungry; eating alone because of embarrassment; feeling disgusted with oneself, depressed, or guilty afterward), two questions assessing shape or weight concerns, and six types of weight-control behaviors (purging [self-induced vomiting, use of diuretics or related