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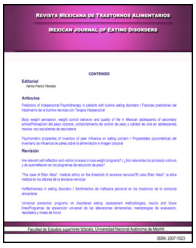

REVIEW ARTICLE

Systematic review of disordered eating behaviors: Methodological considerations for epidemiological research

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KEYWORDS
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Abstract Disordered eating behaviors (DEB) such as dieting, fasting, laxatives or diuretics abuse, self-induced vomiting and binge eating may lead serious physiological and psychological consequences in individuals. Epidemiological data helps to the understanding of the magnitude of this problem within population; however point prevalence rates and the trend of DEB are still a subject of constant debate. Therefore the aim of this study is to systematically review empirical studies that have estimated the prevalence of DEB in women and provide some methodological considerations for future epidemiological studies. The search of articles was made through *MEDLINE* and *SCIENCE DIRECT* databases from 2000 to 2013. According to inclusion and exclusion criteria 20 studies were reviewed. Results yielded that the point prevalence range of dieting (0.6–51.7%), fasting (2.1–18.5%) and binge eating (1.2–17.3%) are higher than purgative behaviors (0–11%). However finding a trend in DEB over time was difficult since methodologies were significantly different. Methodological considerations for future research in DEB are proposed.

PALABRAS CLAVE
Conductas alimentarias de riesgo;

Revisión sistemática de las conductas alimentarias de riesgo: consideraciones metodológicas para la investigación epidemiológica

Resumen Las conductas alimentarias de riesgo (CAR) de los trastornos alimentarios, tales como dieta, ayuno, abuso de laxantes o diuréticos, vómito autoinducido y atracón, pueden

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causar graves consecuencias fisiológicas y psicológicas en el individuo. Los datos epidemiológicos ayudan a la comprensión de la magnitud de este problema en la población, sin embargo las tasas de prevalencia puntual y la tendencia de las CAR aún son tema de constante debate. Por lo tanto, el objetivo del presente estudio es revisar sistemáticamente estudios empíricos que estimen la prevalencia de las CAR en mujeres y proveer consideraciones metodológicas para futura investigación epidemiológica. La búsqueda de artículos fue a través de las bases de datos de *MEDLINE* y *SCIENCEDIRECT* de 2000 a 2013. Con base en los criterios de inclusión y exclusión 20 estudios fueron analizados. Los resultados arrojaron que el rango de la prevalencia puntual para dieta (0,6-51,7%), ayuno (2,1-18,5%) y atracón (1,2-17,3%) son mayores que el de las conductas purgativas (0-11%). Sin embargo, fue difícil encontrar una tendencia en las CAR a través del tiempo debido a que las metodologías utilizadas fueron significativamente diferentes. Se proponen consideraciones metodológicas para futuras investigaciones en CAR.

Introduction

Eating disorders (ED) with higher prevalence rates are anorexia nervosa (AN), bulimia nervosa (BN) and binge eating disorder (BED) according to the 5th version of the *Diagnostic and Statistical Manual of Mental Disorders* ([DSM-5] APA, 2013). In the last two decades studies about epidemiology on ED have increased significantly, however it is worth to point out that the three basic frequency measures in this kind of studies are incidence, prevalence and mortality. Incidence expresses the volume and acceleration of new cases —disease or disorder—over a specific population and period, usually one year (Striegel-Moore, Franko, & Ach, 2006); prevalence rates refer to the number of individuals in relation to the total population that suffer a disease or disorder in a specific time (Moreno, López, & Hernández, 2007); mortality rates point out the number of deaths caused by a specific disease. This measure is often used as an indicator of illness severity (Rothman, 2002). All these measures yield important information that helps us to characterize ED in terms of risk, occurrence and trends over time; however this study will focus exclusively on prevalence, because this measure is essential in planning health services, designation of economical resources and administration of medical care facilities (Hoek & van Hoeken, 2003; Kleinbaum, Kupper, & Morgenstern, 1982). According to epidemiological literature there are different types of prevalence, (a) point prevalence is a particular assessment in certain point in time; (b) period prevalence is the percentage of cases established within a period of time (usually 1-year period); and (c) lifetime prevalence is defined as the number of individuals that at any time have experienced a disorder (Hoek & van Hoeken, 2003; Hunter & Risebro, 2011).

Lifetime prevalence rates for AN, BN and BED are 0.9%, 1.5% and 3.5% among women and 0.3%, 0.5% and 2.0% for men respectively (, Hudson, Hiripi, Pope, & Kessler, 2007). Also the category called ''Other Specified Eating Disorders (OSED)'' included in DSM-5, which is applied when the individual does not meet the full criteria for any of the ED, has a lifetime prevalence of 4–5% (Le Grange, Swanson, Crow, & Merikangas, 2012). Nevertheless it has been documented that disordered eating behaviors (DEB) are more common among community sample, such as, restrictive dieting, fasting, self-induced vomiting, abuse of laxatives and/or diuretics and binge eating (Garner, 2008; Tam, Ng, Man, & Young, 2007). These behaviors are important risk factors because they have physiological complications, for example, delayed linear growth and delayed puberty (Daee et al., 2002); dental erosion, mouth and esophagus ulcers and in severe cases the onset of esophagus cancer (Matsha et al., 2006; Mitchell, Pomeroy, & Adson, 1997); or digestive and urinary abnormalities (Mitchell et al., 1997). However the psychological consequences are as dangerous or even more than physiological complications since individuals who present them at early and late adolescence not only are more likely to develop an ED in adulthood, but also because these individuals are more susceptible to engage on depression, low self-esteem, anxiety, substance abuse or suicide attempts (Garner & Keiper, 2010; Kotler, Cohen, Davies, Pine, & Walsh, 2001; Nunes, Barros, Anselmo, Camey, & Mari, 2003; Preti, Rocchi, Sisti, Camboni, & Miotto, 2011; Tylka & Mezydlo, 2004).

Based on epidemiological research, in South Australia, Hay, Mond, Buttner, and Darby (2008) assessed the prevalence of DEB with women in two moments, the first in 1995 ($M = 43.4$, $SD = 19.2$ years) and the second in 2005 ($M = 45.1$, $SD = 24.5$ years) finding a point prevalence of 3.2% and 7.5% in binge eating; 1.3% and 2.1% in purging behaviors; 2.5% and 5.2% in strict dieting, respectively. These data give evidence of an increase in prevalence of DEB over time.

A set of studies carried out by Keel and colleagues evaluated, in a longitudinal study, the point prevalence of DEB (Heatherton, Mahamedi, Striepe, Field, & Keel, 1997), BN symptoms (Keel, Heatherton, Dorer, Joiner, & Zalta, 2006) and BN and OSED of BN (Keel, Gravener, Joiner, & Haedt, 2010). They reported that purging behaviors—defined as the use of vomiting, laxatives or diuretics to control weight—prevalence were 5.1% in 1982, 3.5% in 1992 and 4.3% in 2002, concluding that these behaviors did not change significantly across cohorts; however point prevalence in binge eating (29.2% in 1982, 20% in 1992 and 14.8% in 2002) and fasting (19.6% in 1982, 12.7% in 1992 and 11.1% in 2002) decreased significantly from 1982 to 2002 (Keel et al., 2006).

When there is a marked uncertainty in a specific topic, such as the prevalence of DEB, it is recommended to carry