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Pathological gambling in eating disorders: Prevalence and clinical implications

Susana Jiménez-Murcia[a,b,c,*], Howard Steiger[d], Mimi Isräel[d], Roser Granero[b,e], Remei Prat[e],
Juan José Santamaría[b], Laura Moragas[a], Isabel Sánchez[a], Núria Custal[a], Lisa Orekhova[a,b],
Ana B. Fagundo[a,b], José Menchón[a,c,f], Fernando Fernández-Aranda[a,b,c,*]

[a]Department of Psychiatry, University Hospital of Bellvitge-IDIBELL, Barcelona, 08907, Spain
[b]Ciber Fisiopatología Obesidad y Nutrición (CIBERobn), Instituto Salud Carlos III, Barcelona, Spain
[c]Clinical Sciences Department, School of Medicine, University of Barcelona, Spain
[d]Douglas Mental Health University Institute, McGill University, Montreal, Canada
[e]Departament de Psicobiologia i Metodologia, Universitat Autònoma de Barcelona, Spain
[f]Ciber Salud Mental (CIBERSAM), Instituto Carlos III, Barcelona, Spain

Abstract

Objective: Pathological gambling (PG) and eating disorders (ED) rarely co-occur. We explored the prevalence of lifetime PG in ED, compared severity of ED symptoms, personality traits, and psychopathological profiles across individuals with ED and PG (ED + PG) and without PG (ED-PG). Finally, we assessed the incremental predictive value of gender on the presentation of a comorbid PG.
Method: A total sample of 1681 consecutively admitted ED patients (1576 females and 105 males), participated in the current study (25 ED + PG and 1656 ED-PG). All participants were diagnosed according to DSM-IV criteria. Assessment measures included the Symptom Checklist and the Temperament and Character Inventory-Revised, as well as other clinical and psychopathological indices.
Results: The observed lifetime prevalence of PG was 1.49%. ED subtype was associated with lifetime PG (p = .003), with PG being more frequent in binge eating disorder (5.7%). ED + PG was more prevalent in males than in females (16% vs. 1.26%, respectively). Additionally, ED + PG patients exhibited more impulsive behaviours, lower impulse regulation and higher novelty seeking. Best predictors of ED + PG were novelty seeking (OR 1.030, p = .035), sex (OR 3.295, p = .048) and BMI (OR 1.081, p = .005).
Conclusions: Some personality traits (novelty seeking), being male and higher BMI are strongly related to the presence of lifetime PG in specific ED subtypes (namely binge eating disorder).
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1. Introduction

Pathological gambling (PG) is a disorder characterized by persistent and recurrent maladaptive patterns of gambling behavior and is classified as an impulse control disorder (ICD) in DSM-IV [1]. Impulsivity has been identified as a trait that underlies vulnerability to binge eating, problem drinking, and problem gambling [2].

In individuals with eating disorders (ED), lifetime comorbid ICDs have a prevalence of 16–23.8%, with the most frequently reported disorders being compulsive buying and kleptomania [3–5]. Tobacco and drug use is also reported to be elevated in eating disorders [6]. Individuals suffering from anorexia nervosa (AN) and bulimia nervosa (BN) are more prone to committing suicide [7,8]. Suicide is reported to be the major cause of death in AN [9] and to have 26.9% lifetime prevalence in BN, being influenced by the combination of internalizing personality traits and impulsivity [10].

A substantial proportion of bulimic women (20%) exhibit problems with impulse control that extend beyond the

impulsivity inherent in binge eating: they display other impulsive behaviors that may have serious medical complications and legal ramifications (e.g., stealing, self-injury, attempted suicide, drug and alcohol abuse, laxative abuse, and sexual promiscuity) [11].

The presence of multi-impulsivity in individuals with BN is associated with more severe clinical features, such as concurrent depressive and anxious symptoms, poor global functioning, and higher prevalence of borderline personality disorder [12]. Genetic findings indicate that women with BN who are GG homozygotes on the _1438G/A promoter polymorphism are more impulsive and have lower sensitivity to post-synaptic serotonin activation. These findings associate the GG genotype with impulsivity and post-synaptic 5-HT function in women with active BN [13].

An examination of the relationship between ED and PG reveals that although there are shared personality traits between individuals with BN and PG when compared with healthy controls, there are certain sex- and diagnostic-specific personality traits that make BN different from other ICDs [14]. It appears that gambling is associated with higher impulsivity in men, whereas in women, binge eating is strongly driven by the desire to relieve negative affect [2]. However, few studies have addressed the link between BN and PG, nor has the prevalence of PG in ED been ascertained.

The goals of the present study were: 1) to identify the prevalence of lifetime PG in a clinical sample of individuals with ED diagnostic subtypes; 2) to analyze whether ED patients with lifetime PG exhibit more severe eating disorder symptomatology, more maladaptive personality profiles and greater general psychopathology than ED patients without PG; 3) and 4) to assess the incremental predictive value of gender on the presentation of a comorbid PG.

We hypothesized that the prevalence of PG in an ED sample will be greater than in general population, given the shared vulnerability factors between both disorders, and it will be especially higher in BN and BED subtypes. We also hypothesized that those patients who present lifetime PG will show greater clinical severity. Finally, in agreement with the literature, we also hypothesized that PG lifetime in ED patients will be a gender specific trait, being more prevalent in ED males.

2. Methods

2.1. Participants

A total sample of 1681 consecutively admitted ED patients (1576 females and 105 males), diagnosed according to DSM-IV criteria (SCID-I) [15], participated in the current study. Diagnostic distribution was as follows: 354 AN; 783 BN; 105 BED; 439 eating disorder not otherwise specified (EDNOS). Participants were consecutive referrals to the Department of Psychiatry of Bellvitge University Hospital in Barcelona.

Individuals were excluded from the analyses if they had missing values for any diagnostic items. Participants were recruited between May 2002 and April 2008. The Ethics Committee of the hospital approved the study and informed consent was obtained from all participants.

2.2. Instruments

2.2.1. General measures

2.2.1.1. Temperament and Character Inventory –Revised (TCI-R).
The TCI-R [16] is a 240-item questionnaire with a five-point Likert scale format. This questionnaire, as in the original TCI version [17], is a reliable and valid measure of four temperament (Harm Avoidance, Novelty Seeking, Reward Dependence and Persistence) and three character dimensions (Self-Directedness, Cooperativeness and Self-Transcendence) of personality. Performance of the Spanish versions of both the original questionnaire [18] and the revised version [19] have been well-documented. Reliability of the seven dimensions in the Spanish adaptation ranged between 0.77 and 0.84.

2.2.1.2. Symptom Checklist-90 items-Revised (SCL-90-R).
The SCL-90-R [20] is a widely used 90-item scale for assessing self-reported psychological distress and psychopathology. The test is usually scored on nine primary symptom dimensions: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism, in addition to three global indices: Global Severity Index (GSI), Positive Symptom Total (PST), and Positive Symptom Distress Index (PSDI). The Spanish validation of this scale [21] yielded a good reliability of the scales (internal consistency) ranging from 0.81 to 0.90, withtest re-test reliability ranging from 0.78 to 0.90.

2.2.2. Diagnostic-specific additional measures

2.2.2.1. Eating Disorders Inventory-2 (EDI-2).
This inventory is a reliable and valid 91-item multidimensional self-report questionnaire with a 6-points format response (ranging from Never to Always) that measures several characteristics of AN and BN [22]. It has been validated in a Spanish population [23] with a mean internal consistency of (alpha) 0.63.

2.2.2.2. Evaluation of eating disorders and comorbid pathological gambling and substance abuse.
The patients were assessed with a face-to-face structured clinical interview, covering lifetime and current eating disorders, pathological gambling, and substance abuse (drug and alcohol), with the structured clinical interview for DSM-IV axis I disorders, SCID-I. Demographic-clinical information