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Prevalence and clinical correlates of intermittent explosive disorder in Turkish psychiatric outpatients

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ABSTRACT

Objective: Intermittent explosive disorder (IED) is defined as the failure to resist aggressive impulses resulting in repeated acts of verbal and/or physical aggression. Although it is frequently encountered in clinical psychiatric practice, there is a paucity of data concerning IED in the scientific literature both internationally and in Turkey. The aim of this study was to evaluate the prevalence of IED and associated sociodemographic and clinical features in a clinical setting.

Methods: A total of 406 patients who were referred to our psychiatry outpatient clinic for the first time in a six-month period were included in the study. The diagnosis of IED was made using both Diagnostic and Statistical Manual of Mental Disorders 4th edition (DSM-IV) and DSM-5 criteria. Axis I disorder and personality disorder diagnoses were made according to DSM-5 criteria. Diagnoses were based on information from the Structured Clinical Interview for DSM-IV (SCID I) and the Structured Clinical Interview for DSM-IV personality disorders (SCID II), Symptom Checklist-90 (SCL-90), Wender Utah Rating Scale, Adult Attention Deficit Hyperactivity Disorder (ADHD) DSM-IV Based Diagnostic Screening and Rating Scale, a clinical interview conducted by the researcher, and a sociodemographic data form. In addition, participants were administered the Buss-Perry Aggression Scale and Barratt Impulsiveness Scale Version 11 (BIS-11) to assess aggression and impulsivity.

Results: Lifetime and 12-month prevalence of IED according to DSM-5 were 16.7% and 11.3%, respectively. Mean age at onset was 16.4 years. The prevalence of lifetime IED was 3.8 times higher in males than females (95% CI = 1.9–7.5); twice as high in individuals living in rural areas compared to those living in urban centers (95% CI = 1.1–3.7); 2.7 times higher among those with lifetime suicide attempt versus those without (95% CI = 1.3–5.6); 4.5 times higher in those with lifetime self-injurious behavior compared to those without (95% CI = 2.3–8.7); and 3 times higher in individuals reporting aggression/anger problems in the family compared to those without (95% CI = 1.5–5.9). The prevalences of childhood ADHD, conduct disorder, and oppositional defiant disorder were significantly higher in the IED group.

Conclusion: The result of the current study has revealed that approximately one-sixth of respondents experienced lifetime IED according to DSM-5 diagnostic criteria. Statistically significant sociodemographic correlates of IED include gender, urbanicity, history of suicide attempt, history of self-injurious behavior, and family history of aggression/anger problems.

1. Introduction

Intermittent explosive disorder (IED) is defined as a failure to resist aggressive impulses, resulting in recurrent acts of impulsive aggression [1]. Although the Diagnostic and Statistical Manual of Mental Disorders fourth edition (DSM-IV) criteria focused on physical aggression, DSM-5 allows IED diagnosis in the presence of frequent verbal aggression with or without concurrent physical aggression. Individuals who meet the criteria for IED experience recurrent episodes of verbal and/or physical aggression that are disproportionate to any psychosocial stressor or provocation and not better accounted for by the presence of other mental disorders or the effects of a substance-related or medical condition. According to the diagnostic criteria, the aggressive behavior is related to anger or impulse, as opposed to aggression in the pursuit of secondary gain such as money or power, and is associated with substantial distress, troubled relationships, occupational and social impairment, and legal or financial problems.

Some epidemiological and clinical studies showed that the disorder occurs significantly more often in males and younger individuals, with a mean age at onset of 14–18 years [2–7]. In contrast, there are some community and clinical studies in the literature reporting that IED

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affects males and females approximately equally [8–10]. However, it has not been clearly established whether IED is associated with other sociodemographic correlates such as ethnicity, marital or occupational status, level of education, or family income [3,4,9,11,12]. In addition, high comorbidity rates have been documented, along with mood, anxiety and substance-related disorders [3,11,13].

As for the prevalence of IED, there are a limited number of epidemiological studies examining the prevalence and correlates of IED, most conducted in the U.S. The lifetime prevalence of IED was reported to be 5–7% in the U.S., 2% in Japan, 1.7% in Iraq, and 9% in South Africa [3–5,8,9,11]. Some studies assessing the prevalence of IED among psychiatric clinical samples reported rates of 3–7% [10,14–16]. Although findings of IED prevalence have varied due to variably in the definition of IED used, data collection methodology, and cultural context, the evidence suggests that IED is common in clinical settings [8,10,17].

During the DSM-III/III-R/IV revision process, studies conducted on the biology and treatment of aggression demonstrated that some individuals with IED exhibit only 'high-frequency/low-intensity' aggressive outbursts, in addition to the 'low-frequency/high-intensity' aggressive outbursts characterized as the 'A criterion' in DSM-IV [18,19]. This finding led to the development of research criteria aimed to clarify the nature of IED and describe and categorize individuals with recurrent, impulsive aggression [6,18]. Furthermore, the concept of aggressive behavior was expanded include all forms of aggression ranging from verbal assault and non-damaging/non-destructive physical aggression toward objects, animals or individuals to damaging/destructive aggression toward objects, animals or individuals [20]. The most recent version of research criteria for IED divided the A criterion into A_1 (high-frequency/low-intensity) and A_2 (low-frequency/high-intensity) to identify the nature and time frame of aggression [18]. While the A_1 criterion was not part of the formal diagnostic criteria in DSM-IV, it was acknowledged as an associated feature in DSM-IV-Text Revision (TR) [19]. The A_1 and A_2 criteria were brought from 'associated feature' in the DSM-IV-TR into the formal diagnostic criteria in DSM-5, which was estimated to increase the rate of IED diagnosis among individuals with recurrent, impulsive aggression by 20% [19]. Moreover, the diagnostic criteria for IED were expanded to include verbal aggression in the DSM-5. Accordingly, the prevalence of IED is expected to be higher according to the DSM-5 compared to previous diagnostic criteria [21].

IED is associated with higher scores on a variety of psychometric assessments beyond the typical measures of physical or verbal aggression and impulsivity [13]. Although no self-report instrument is available for the screening or assessment of IED, there are several instruments typically used in research settings, including the Barratt Impulsiveness Scale (BIS-11), Buss-Perry Aggression Questionnaire (BPAQ), Affect Lability Scale, Life History of Aggression Questionnaire (LHA), Life History of Impulsive Behavior (LHIB), and State-Trait Anger and Expression of Anger (STAXI) scales [2,19,22,23]. With regard to impulsivity, a recent study compared individuals diagnosed with IED with psychiatric controls and healty volunteers on the varied facets of impulsivity such as negative and positive urgency, sensation seeking, lack of perseverance and premeditation, using the UPPS-P impulsive behavior scale [24]. This study found that positive/negative urgency was greater among those with IED compared to healty controls, and that heightened negative urgency specifically discriminated IED from other psychopathology. The study further found that negative urgency was associated with poorer anger control and increased trait of anger within the IED group [24]. Self-report studies also show that IED is associated with suicide attempts and non-suicidal self-injurious behaviors [6,22,25] as well as trauma [5,11,26]. In fact, exposure to trauma in childhood may be one of the factors thought to contribute the development of IED. In addition, DSM-5, by including verbal aggression as a new criterion, has brought a new dimension to the types of aggressive episodes reported. A recent study on IED focused on how individuals with verbal aggression differ from those with physical aggression. Individuals with both frequent verbal arguments and repeated physical aggression were shown to exhibit a more severe profile, with greater trait anger, anger dyscontrol, higher number of aggressive acts, and greater motor impulsivity and aggression [23]. It was also determined in the same study that individuals with only verbal aggression and those with only physical aggression showed comparable deficits and impairment [23].

These facts highlight the necessity to replicate the findings described for IED in different populations, regions, and cultures to facilitate adequate recognition of IED and its clinical appearance and demonstrate the availability of the signs and the established diagnostic criteria. The purpose of the current study was to examine the prevalence of IED according to both DSM-5 and DSM-IV diagnostic criteria and to evaluate associated sociodemographic and clinical features in a clinical setting.

2. Materials and methods

2.1. Study setting and subjects

This standalone study was conducted as a specialization thesis for psychiatry between January 2015 and June 2015 at the outpatient clinic of the Department of Psychiatry, Cukurova University Faculty of Medicine. The hospital of Cukurova University Medical School is a tertiary level hospital located in Adana, in the southern part of Turkey, and serves a population of 3 million including the surrounding provinces. The study sample was comprised patients that were referred to the psychiatry outpatient clinic for the first time. The average number of first-time referrals to our psychiatric outpatient clinic was 20 patients per day, and it was predicted that an average of 2400 patients would be referred to our clinic for the first time during the 6-month study period.

Prior to the current study, there were no studies conducted in Turkey on IED except for studies investigating impulse control disorders [27–29]. Therefore, the smallest sample size needed was calculated using the OpenEpi program [30] based on the prevalence values in a systematic review published in 2014 [2]. When the lifetime prevalence of IED was accepted as 5% with 2% deviation according to this systematic review, the smallest sample size required for 80% power and 95% confidence was calculated as 384.

At the beginning of the study before the recruitment of participants, we have carried out a pre-operational study and found out that an average of 20 patients applied to our outpatient clinics for the first time each day. As the study was a specialization study conducted by one person (the first author), it would have been very lengthy and not possible to include all of these cases. So to reach the number of cases calculated by power analysis and time period we needed to complete study, we estimated that 4 cases per day will be sufficient to complete the study in estimated time period. To avoid any bias, we included first 4 cases which is still a randomized procedure and we believe it does not interfere the generalizability of our results. If a patient did not agree to participate in the study or did not meet the criteria for inclusion, the next patient who met the inclusion criteria was included in the study.

The inclusion criteria were being 18 years of age or over, literate, and referred to the outpatient clinic for the first time. A total of 456 participants were interviewed during the study period. Of these, 50 were excluded. Nine patients had psychotic episode, 1 had manic episode, 1 had a diagnosis of mental retardation, and 1 had a diagnosis of dementia at the time of interview. The remaining 38 participants were excluded from the analyses due to missing data on the scales. Consequently, 406 participants were included in the data analysis. The study protocol was approved by the institutional review board and written informed consent was obtained from all participants before the study.

2.2. Measures and procedure

Data were collected by two different methods. First, the participants completed a demographic data form and self-report scales. Other data were gathered via the diagnostic and clinical interviews conducted by the researcher.