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Psychiatric dimensions in mothers of children with primary nocturnal enuresis: A controlled study

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Summary

Introduction
The etiology of primary nocturnal enuresis (PNE) is not fully understood, but multifactorial factors have been associated with PNE. Parental factors, including attitudes to PNE, disciplinary behaviors, and psychiatric comorbidities in parents have been related to etiology of PNE, outcomes and the quality of life in children with enuresis.

Objective
We examined the psychopathology in mothers of children diagnosed with monosymptomatic PNE(-MoPNE) compared with mothers of non-enuretic children (MoNEC) in terms of personality characteristics, early traumatic experiences, and psychiatric symptom evaluation.

Study design
The study included 44 mothers of children diagnosed with PNE and 45 mothers of non-enuretic children who were randomly selected from the population applying to the pediatric outpatient clinic. Individuals were assessed through psychometric questionnaires, including the Eysenck Personality Questionnaire Revised Abbreviated (EPQR-A), the Symptom Checklist-90 (SCL-90-R), and the Childhood Trauma Questionnaire (CTQ), in addition to a sociodemographic form including 9 structured "yes/no" questions that evaluated intrafamilial relationships, as well as mothers' perceptions of enuresis and its treatment.

Results
The median age of enuretic children was 7 (6, 9.5) (25th, 75th) years in the study population. The rates of history of enuresis in childhood were 26.7% in the MoPNE group ($n = 12$) and 6.7% in the MoNEC group ($n = 3$; $p = 0.011$). There were significant differences between the groups for the subscales of somatization, anxiety, obsessive–compulsive behavior, depression, interpersonal sensitivity, psychoticism, hostility, phobic anxiety, additional items, and the general psychopathology index in the SCL-90-R scores ($p < 0.05$). Meanwhile, there was no significant difference for the subscale of paranoid ideation ($p = 0.070$). There were statistically significant results for the subscales of sexual abuse, physical neglect, and total score in CTQ scale, while the personality dimensions evaluated using the EPQR-A resulted in significant differences in the E and L subscales ($p < 0.05$) (Table).

Conclusion
Our study showed that psychiatric symptomatology and childhood traumatic experiences were considerably higher in mothers of children with PNE. This study highlights the importance of evaluating PNE not only from a biological aspect, but also in terms of psychosocial factors, including assessment of the mother's mental status.

Table Major psychiatric and sociodemographic differences found between mothers of children with primary nocturnal enuresis and mothers of non-enuretic controls.

	MoPNE	MoNEC	*p*-value[a]
Age, median (25th, 75th)	35 (27, 39)	34 (31, 37)	0.502
Number of children, median (25th, 75th)	3 (2, 4)	2 (2, 2.5)	<0.001
Number of mothers with enuresis history in childhood	12 (26,7%)	3 (6, 7%)	0.011
	MoPNE median (25th, 75th)	MoNEC, median (25th, 75th)	
Sexual abuse (CTQ)	5 (5, 5)	5 (5, 7)	0.041
Physical neglect (CTQ)	7 (6, 11.75)	6 (5, 8)	0.001
Extraversion (EPQR-A)	4 (2, 5)	5 (2.5, 6)	0.049
Lying (L) (EPQR-A)	5 (4, 6)	5 (4, 6)	0.019
General psychopathology index (SCL 90-R)	0.9 (0.46, 1.56)	0.41 (0.21, 0.67)	<0.001

MoPNE, mother of children with primary enuresis nocturna; MoNEC, mother of non-enuretic children; CTQ, Childhood Trauma Questionnaire; EPQR-A, Eysenck Personality Questionnaire Revised Abbreviated; SCL-90-R, Symptom Checklist-90.
[a] Mann–Whitney *U* test.

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Introduction

Primary nocturnal enuresis (PNE) is a condition that involves involuntary nighttime bed-wetting after the age of 5 years that cannot be described as originating from a urinary or neurological disorder. The etiology of this disorder is not fully understood, but multifactorial factors have been blamed for PNE, including genetic factors, disrupted secretion of antidiuretic hormones, impaired bladder function, sleep problems, maturational delays in the central nervous system, and behavioral and psychological problems [1]. The prevalence of PNE has been reported to be approximately 20% of children at the age of 5 years. However, prevalence rates have been determined differently over the world because of sociodemographic and methodological differences in studies in the literature [1,2]. In a study conducted in Istanbul, Turkey, 16.2% of 450 children aged 5—13 years reported enuresis as a complaint, while 8.3% of them reported intermittent bedwetting [3].

Although the neurophysiological aspect of this disorder is pivotal, the psychiatric dimension is also a considerable factor in terms of understanding the reasons for and comorbidities of enuresis. Psychiatric disorders including depression and attention deficit hyperactivity disorder (ADHD) have been associated with PNE comorbidity. Additionally, parental factors including attitudes to PNE and disciplinary behaviors such as punishment, have been related to outcomes and the effect on quality of life in children with enuresis [4,5]. Parental depression and anxiety have contributed to internalizing problems and psychopathology in their children [6]. Increased anxiety and depression levels, as well as marital relationship difficulties, have been reported in parents of enuretic children [7,8]. Traumatic experiences such as abuse and neglect and domestic violence by parents, which may lead to psychopathological vulnerability in childhood, have been found to be highly prevalent in children with enuresis [9,10]. Early childhood traumatic experiences in women have been reported to be predictors in the development of psychopathology during the lifetime, as well as attachment problems and impaired relationships with their own children [11]. In this study, we have examined the psychopathology in mothers of children diagnosed with PNE compared with mothers of non-enuretic children in terms of personality characteristics, early traumatic experiences, and psychiatric symptom evaluation.

Materials and methods

Before this study was conducted, approval was granted by the ethical committee of the Van Regional Research and Training Hospital, Van, Turkey, in accordance with the Declaration of Helsinki. Written informed consent was obtained from each of the study participants. The study included 44 mothers of children diagnosed with monosymptomatic PNE (between 5 and 12 years old), and 45 mothers of non-enuretic children (between 5 and 12 years old) who had no urinary complaint, enuresis history, or chronic disease. Participants were selected consecutively from the Turkish population applying to the pediatric outpatient clinic of Van Military Hospital and Van Regional Research and Training Hospital, Van, Turkey, between October 2013 and October 2014. Participants were included in the study if they were 18—65 years old, literate, and had a child diagnosed with PNE; meanwhile, the exclusion criteria were based on intellectual and cognitive ability for assessment tools, defined as having impaired communication skills, illiteracy, or having a neuropsychiatric disorder that could affect reasoning and cognitive functions. Individuals were assessed through psychometric questionnaires, including the Eysenck Personality Questionnaire Revised Abbreviated (EPQR-A), the Symptom Checklist-90 (SCL-90-R), and the Childhood Trauma Questionnaire (CTQ), in addition to a sociodemographic form including nine structured "yes/no" questions created by authors that evaluated intrafamilial relationships, as well as mothers' perceptions of enuresis and its treatment. All surveys were administered in a private room, alone with the participant on the initial visit. Our study involved only mothers of children, as mothers are considered to be the sole primary caregivers in the study population, and also to collect homogenous data.

The EPQR-A is a short form of the Eysenck Personality Questionnaire that assesses four dimensions of personality, namely psychoticism (P), neuroticism (N), extraversion (E), and lying (L). It consists of 24 "yes/no" items. The N scale is associated with anxiety and depression, a low threshold of activation, and poor emotional regulation. The E scale is associated with sensation-seeking and histrionic features of personality, while the P scale is unrelated to psychosis and corresponds to impulsivity, toughmindedness, and obsessive—compulsive features of personality. The L scale was introduced later in an attempt to measure the extent to which subjects were deliberately attempting to control their scores [12]. The validity and reliability of the Turkish translation of the questionnaire has been reported by Karanci *et al*. [13].

The SCL-90-R is a 90-question self-report scale that measures psychopathology symptoms via the following nine subscales: somatization, depression, anxiety, phobic anxiety, obsessive—compulsive behavior, paranoid ideation, psychoticism, hostility, and interpersonal sensitivity [14]. All answers are rated from 0 to 4 according to severity, giving a total possible score of 360. The scale is used to extrapolate three aggregate indexes, as follows: (a) the general severity index; (b) the positive symptoms distress index; and (c) the positive symptoms total index. The validity and reliability of the Turkish translation of the questionnaire were demonstrated by Dağ in a population of university students [15].

The CTQ is a self-report questionnaire consisting of five subscales (a 5-point Likert scale ranging from 1 to 5 according to severity) comprising emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect in childhood. Each subscale consists of five questions, resulting in a score ranging from 5 to 25. Three questions assess the tendency to minimize or deny abuse and neglect [16]. The validity and reliability of the Turkish version of the CTQ were reported by Sar *et al*. [17].

The questions on the sociodemographic form were as follows: