

EVALUATION OF ANXIETY LEVELS IN CHILDREN AND THEIR MOTHERS WITH MONOSYMPTOMATIC NOCTURNAL ENURESIS

PRİMER ENÜREZİS NOKTURNA TANILI ÇOCUKLAR VE ANNELERİNDE ANKSİYETE DÜZEYİNİN DEĞERLENDİRİLMESİ

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ABSTRACT

Objective: To evaluate the anxiety levels in children and their mothers with enuresis.

Material and Method: The study population is consisted of 96 children (52 enuretic children, and 44 healthy children) and their mothers. Anxiety levels of the study population were evaluated by using the Screen for Child Anxiety and Related Disorders in children, the and State-Trait Anxiety Inventory in the mothers.

Results: The mean score of SCARED was significantly higher in the Primary monosymptomatic nocturnal enuresis (PMNE) group compared to the healthy control group (32.5±10.7 vs 26.7±10.6 respectively, p=0.009). The STAI-2 score was significantly higher in the enuretic children's mothers compared to mothers of the healthy control (49.4±8.8, 42.4±6.8 respectively, p=0.001).

Conclusion: We demonstrated high anxiety levels in children with PMNE and in their mothers. Nocturnal enuresis is an important problem affecting the children and mothers. Recognition and management of anxiety in enuretic children and their mothers is crucial for a successful treatment.

Keywords: Anxiety scales, enuretic children, mother

ÖZET

Amaç: Enürezisli çocuklar ve annelerindeki anksiyete durumunu değerlendirmek

Gereç ve Yöntem: Araştırma 96 çocuk (52 enüretik çocuk, 44 sağlıklı çocuk) ve annelerinden oluşmaktadır. Çocuklarda Çocukluk Çağı Anksiyete Tarama Ölçeği, annelerde Anlık ve Sürekli Anksiyete Ölçekleri kullanılarak anksiyete düzeyleri değerlendirildi.

Bulgular: Enüretik hastaların çocukluk çağı anksiyete tarama ölçeği (ÇATÖ) puanı ortalaması kontrol grubundan daha yüksekti (32,5±10,7 ve 26,7±10,6 p=0,009). Enüretik çocukların annelerinin Sürekli Anksiyete Ölçek puanı ortalaması kontrol grubundaki annelerin puanından daha yüksek bulundu (49,4±8,8 ve 42,4±6,8 p=0,001).

Sonuç: Araştırmamızda PEN'li çocuklar ve annelerinde anksiyete düzeyleri kontrol grubuna göre yüksek bulundu. Gece idrar kaçırma, çocukları ve anneleri etkileyen önemli bir sorundur. Enüretik çocuklarda ve annelerinde anksiyetenin tanınması ve yönetimi başarılı bir tedavi için oldukça önemlidir.

Anahtar Kelimeler: Kaygı ölçekleri, enüretik çocuk, anne

INTRODUCTION

Primary monosymptomatic nocturnal enuresis (PMNE) is defined as intermittent incontinence of urine while sleeping in children who are never dry for more than 6 months and have acquired urine control without an organic cause (1). Enuresis is a common and chronic problem among

school-aged children. In the literature, attention problems, aggressive behaviors, low social competence, low school performance, and depression were observed as higher in children with enuresis than in healthy control groups (2,3). The aim of this study was to evaluate the anxiety levels in children with enuresis and their mothers.

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MATERIAL AND METHOD

This study was approved by the local ethics committee of our hospital (Study no: 2017/551). The study group was comprised of 52 children with PMNE and their mothers. These children were the untreated children who applied for the first time to hospital due to enuresis. The children with any chronic diseases were not included in the study. The control group consisted of 44 age and sex-matched healthy children and their mothers. The mothers with anxiety-causing conditions such as newborn babies, marital discord, and chronic disease were excluded from the study. Informed consent was obtained from the mothers of the patients and the controls.

The Screen for Child Anxiety Related Emotional Disorders (SCARED) was applied to all children, and the answers were recorded (4). The Turkish translation and adaptation of the SCARED was conducted by Karaceylan (5). The SCARED includes 41 likert-type questions, children are valued between 0 and 2 points for each item (0: not true/hardly ever true, 1: somewhat true/sometimes true, 2: very true/often true). All scores were summed to calculate an average value. A total score of 25 and above was considered to be a warning for anxiety disorders (4,5).

A validated Turkish version of the State-Trait Anxiety Inventory (STAI-1 and STAI-2) was administered to all mothers (6,7). The STAI-1 test was used to describe state anxiety in terms of how the mother feels at a certain moment in time. The STAI-2 test was used to describe trait anxiety in terms of how she feels in general. Each test includes 20 items. State anxiety is rated on a four-point scale, as

follows: (1) not at all, (2) somewhat, (3) moderately so, and (4) very much so. Trait anxiety is rated on a four-point scale as follows: (1) almost never, (2) sometimes, (3) often, and (4) almost always. Forty-five points and above were considered to have an alert for anxiety. The questions were asked by the same doctor in the outpatient clinic.

Statistical analysis

Analyses were performed using the SPSS ver. 21.0 package program for Windows. Results are expressed as mean \pm SD or median (lower and upper limit) for descriptive data. The normality of the parameters was tested using the Shapiro–Wilk normality test. Parametric (Student's t test) and nonparametric tests (Mann-Whitney U test) were used for between-group comparisons. Chi-square test was used for the comparison of qualitative data. Values of $p < 0.05$ were considered statistically significant.

RESULTS

The median age of the patients and control group was 9.5 years and 10.0 years, respectively. The two groups were similar for age, sex, and number of siblings ($p > 0.05$) (Table 1). Moreover, there were no significant differences for age, educational, marital, and family status between the mothers ($p > 0.05$) (Table 1). In the patient group, 63.5% of the children had a history of enuresis in the family.

Enuretic patients had significantly higher SCARED score compared with healthy controls (32.5 ± 10.7 vs. 26.7 ± 10.6 $p = 0.009$) (Table 2). Mothers of enuretic patients had significantly higher trait anxiety scores (STAI-2) ($p = 0.001$) compared to mothers of the control group. However,

Table 1: Characteristics of children and mothers

	Patients (n=52)	Controls (n=44)	P
Children			
Age, years median (25 th -75 th)	9.5 (8-11)	10 (9-12)	0.063*
Sex, male/female (n)	28/24	20/24	0.413**
Number of siblings median (25 th -75 th)	2 (1-3)	2 (1-2)	0.144*
Mothers			
Age, years median (25 th -75 th)	37.5 (32.0-43.5)	38.0 (35.0-43.8)	0.209*
Education			
Elementary/high school (n)	39/13	31/13	0.618**
Marital status			
Married/divorced (n)	45/7	42/2	0.135**
Employed/unemployed (n)	6/46	9/35	0.231**
Family status			
Nuclear/extended family (n)	37/15	35/9	0.344**

*Mann Whitney U test, **Chi-square test

state anxiety scores (STAI-1) were similar ($p>0.05$) (Table 2). Children with PMNE were divided into two groups with a high score (≥ 25) and low score (<25) of SCARED. There was no difference between the patients with high and

low anxiety scores regarding children's age and gender, number of siblings, familial structure, age, educational level, employment status, and marital status of mothers' ($p>0.05$) (Table 3). The mothers of children with PMNE

Table 2: Anxiety scales of children and mothers

	Patients (n=52)	Controls (n=44)	p
Children			
SCARED mean \pm SD	32.5 \pm 10.7	26.7 \pm 10.6	0.009
Mothers			
State anxiety (STAI-1) mean \pm SD	40.6 \pm 10.1	37.3 \pm 8.0	0.082
Trait anxiety (STAI-2) mean \pm SD	49.4 \pm 8.8	42.4 \pm 6.8	0.001

Student's t test

Table 3: Comparison of sociodemographic data with high and low scores of SCARED in children with PMNE

	SCARED \geq 25 (n=40)	SCARED<25 (n=12)	p
Children's age, years median (25 th -75 th)	9.0 (8-11.8)	10.0 (8-10.8)	0.672*
Gender of child, male/female (n)	21/19	7/5	0.722**
Number of siblings median (25 th -75 th)	2.0 (1-3.8)	1.5 (1.0-2.0)	0.155*
Mother's age, years median (25 th -75 th)	38.0 (32.0-45.0)	37.0 (32.5-41.5)	0.542*
Mother's education			
Elementary/high school (n)	29/11	10/2	0.447**
Mother's marital status			
Married/divorced (n)	36/4	9/3	0.182**
Mother's employed/unemployed (n)	6/34	0/12	0.154**
Nuclear/extended family (n)	28/12	9/3	0.737**

*Mann Whitney U test, **Chi-square test

Table 4: Comparison of sociodemographic data with high and low scores of STAI-2 in mothers of children with PMNE

	STAI-2 \geq 45 (n=38)	STAI-2<45 (n=14)	p
Children's age, years median (25 th -75 th)	10.0 (8.0-12.0)	8.5 (8.0-10.0)	0.076*
Gender of child, male/female (n)	22/16	6/8	0.335**
Number of siblings median (25 th -75 th)	2.0 (1-3.3)	1.0 (1.0-3.0)	0.167*
Mother's age, years median (25 th -75 th)	39.0 (32.8-45.3)	35.0 (30.8-38.3)	0.033*
Mother's education			
Elementary/high school (n)	31/7	8/6	0.071**
Mother's marital status			
Married/divorced (n)	33/5	12/2	0.916**
Mother's employed/unemployed (n)	4/34	2/12	0.707**
Nuclear/extended family (n)	27/11	10/4	0.979**

*Mann Whitney U test, **Chi-square test

were divided into two groups with a high score (≥ 45) and a low score (< 45) of STAI-2. The two groups were compared in terms of sociodemographic characteristics. No significant difference was detected except that the mothers with higher scores were older than the mothers with lower scores ($p > 0.05$) (Table 4).

DISCUSSION

Enuretic children generally encounter the social and psychological problems of enuresis, such as social exclusion, degradedness, inability to sleep in their friends' homes, and feelings of being different from their friends. These children are known to be ashamed of this situation, and to become more nervous and restless. It has been observed in studies that children diagnosed with enuresis have more common attention disorders, aggressive behaviour, low school performance, and depression symptoms (2,8,9).

In a 15-year study on children diagnosed with primary or secondary enuresis, Fergusson et al, found that, children with enuresis ongoing after 10 years of age show more behavioral problems when compared to the children whose enuresis resolved before 5 years of age; and even when the other factors were controlled, these children have a higher rate of behaviour disorders by 13 years of age, and exhibit higher anxiety/abductive behaviour by 15 (2). Sahtiyanci et al. (10) found that post-treatment depression scores decrease compared to pretreatment scores of enuretic children. In addition, studies investigating the quality of life of these children have shown that quality of life scores of enuretic children were low before the treatment, while the scores increased after the treatment, and that enuresis significantly affects the quality of life in those children (11,12).

The number of studies investigating anxiety levels in enuretic children is quite limited in the literature. In a study by Keten et al. evaluating anxiety level in enuretic children using the Social Anxiety Scale for Children-Revised; the scores were found to be high in the group diagnosed with PMNE (13). In another study conducted to determine anxiety disorders in enuretic children; SCARED scores were recorded based on the Diagnostic and Statistical Manual of Mental Disorders Fourth Edition (DSM IV) with the approval of a psychiatrist; and diffuse anxiety disorder, panic disorder, school phobia, and social anxiety were found to be more common in this group (3). Consistent with these data, in our study, we found significantly higher anxiety levels in enuretic children compared to the controls as a result of the SCARED questionnaire.

It is quite tiring for mothers of enuretic children to change bed sheets and children's clothes, and wash and dry them everyday. Furthermore, trying to a waken the children, and taking them to the toilet several times ev-

ery night may disturb their sleep quality, making them more nervous and stressed. This time and energy wasting may cause behavioral changes in mothers towards their children. Therefore, the mothers' quality of life may be influenced while attempting to overcome this problem. Also, there are studies reporting increased problems in the mothers of enuretic children (14-17). In a study from Turkey, performed by Meydan et al, continuous anxiety point and mean depression scale were found to be higher in mothers of enuretic children (18). In another similar study, quality of life (QoL) scores were lower, anxiety scores were higher, and the depression scale was similar in mothers with enuretic children (11).

In our study, we found higher trait anxiety levels in mothers of these children when compared to the control group, whereas state anxiety scores were similar between the two groups.

To the best of our knowledge, this is the first study which concurrently evaluates anxiety levels both in enuretic children and their mothers. Enuresis affects both children and their mothers psychosocially. Therefore, it is very important to evaluate the anxiety of both of them together, and to give support to the children and mothers. Thus, a big step will be taken to solve this major problem.

Anxiety levels were found to be higher both in enuretic children and their mothers than in control groups, which were comparable in terms of age, sex, and sociodemographic features. No statistically significant difference found between the sampling group and the controls in sociodemographic characteristics, and this is quite important in showing the similarity of the groups and the validity of the results. In addition, there was no difference between high and low anxiety score regarding sociodemographic data in the children and their mothers.

Limitations of our study included that the data were obtained only from the scales, and the lack of a psychiatric evaluation. Furthermore, as another limitation, we could not carry out an evaluation in children and mothers after the treatment.

CONCLUSION

In this study, we demonstrated high anxiety levels in patients diagnosed with PMNE and in their mothers. Nocturnal enuresis is an important problem affecting children and their mothers. Recognition and management of anxiety in enuretic children and their mothers is crucial for a successful treatment.

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