



Primary Nocturnal Enuresis and Attachment with Parents: A Case-control Study

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Abstract

Background: Improvement of attachment with parents can enhance children's social anxiety and lead to the reduction of urinary disorders.

Objectives: The aim of present study was to evaluate nocturnal enuresis correlation with attachment with parents in children.

Methods: We evaluated two hundred cases aged 5 - 12 years. Children were enrolled in two groups of control (healthy cases) and case (with nocturnal enuresis). We assessed the status of attachment with parents and demographic data of cases. These factors were compared between the two groups by SPSS version 23. $P < 0.05$ was considered significant.

Results: Demographic data were significantly different between the two groups ($P > 0.05$). Nevertheless, attachment styles, including avoidance ($P = 0.003$), anxiety ($P = 0.001$), and security ($P = 0.001$), had statistically significant differences between the two groups.

Conclusions: Parents' attachment condition was different in the two groups. Therefore, these indices as psychosocial factors may be important in nocturnal enuresis management.

Keywords: Nocturnal Enuresis, Children, Attachment, Parents

1. Background

Several models of attachment with family have been described within the context of systematic dysfunction (1). When parents are reliable and supportive, children may have an attachment to them, characterized by the internal working models as appreciated and competent (2). Individuals more attached to their parents may be more accepted by them and experience more positive friendship qualities and lower friendship conflict. These factors might lead to less stress for children and reduce related conditions (3). Therefore, it can be concluded that higher levels of attachment with parents may be related to low levels of social anxiety among children, adolescents, and college students (4).

Nocturnal enuresis is defined as involuntary urination at night in children aged 5 years and older (5). This condition, as an important condition for children and

their parents, has an overall prevalence of 1.6% - 15% (6, 7). It is classified as non-monosymptomatic nocturnal enuresis and monosymptomatic nocturnal enuresis (8, 9). Attachment with parents is a factor that can lead to stressful conditions, and nocturnal enuresis is a urological stressful disorder. Consequently, it is important to examine the correlation between attachment with parents and nocturnal enuresis.

2. Objectives

The aim of our study was to evaluate the effect of attachment with parents on nocturnal enuresis in children.

3. Methods

3.1. Study Setting

This case-control study was conducted in the pediatric clinic of Amir-Kabir Hospital.

3.2. Study Population

A total of 200 children were included in our study. Selected children were divided into two groups, case, and control, which were equal in terms of demographic information. We considered 100 cases with nocturnal enuresis as the case group and 100 healthy cases as the control group.

3.3. Measurements

After case selection, some demographic data, including age and gender, were recorded in the questions list. Afterward, we obtained a detailed biography of physical and mental disorders in children and examined the spine and urogenital systems. Then attachment scale of Collins and Reid was completed by parents. This questionnaire includes a self-assessment composed of 18 data on a Likert scale. We evaluated three scales dependence (relying on others), being close (the comfort of intimacy), and anxiety (fear of a relationship). The validity of this test was verified by Cronbach's alpha as 0.8 or more. This test should be conducted in a quiet environment.

3.4. Inclusion and Exclusion Criteria

The inclusion criteria were children with nocturnal enuresis aged 5 - 15 years. The exclusion criteria entailed children with mental retard, unwillingness to participate in the study, and children with renal and urinary tract structure disorders.

3.5. Ethical Considerations

In addition, the study protocol was approved by the Ethics Committee of Arak University of Medical Sciences (ethical code: IR.ARAKMU.REC.1394.108).

3.6. Statistical Analysis

Standard error, frequency, standard deviation, and mean were used to describe the quantitative variables. In addition, chi-square, covariance analysis, and independent *t*-test were utilized to compare parameters in groups. The significance level was considered $P < 0.05$.

4. Results

We observed a correlation between nocturnal enuresis and emotional intelligence. The two groups of children were the same in terms of demographic information. Mean \pm SD of age was 8.42 ± 2.59 in the case group and 8.36 ± 3.14 years in the control group ($P = 0.052$). The gender of children was 87 male and 113 female, with the case group consisting of 44 males and 56 females and the control group including 43 male and 57 female participants ($P = 0.557$). Other demographic factors, including the father's occupation ($P = 0.68$), mother's occupation ($P = 0.97$), and economic condition ($P = 0.479$), did not have statistically significant differences between the two groups (Table 1).

On the other hand, there were significant differences between attachment with parents and the nocturnal enuresis of children. Attachment variables are presented as mean \pm SD. A secure style was 6.92 ± 3.26 , 10.06 ± 3.99 , and 8.49 ± 3.62 in the case and control groups and in total, respectively ($P = 0.001$). An avoidant style was 10.04 ± 4.11 in the case group, 7.42 ± 7.74 in the control group, and 8.73 ± 5.92 in total ($P = 0.003$). Anxiety score was 10.07 ± 4.14 , 6.95 ± 3.55 , and 8.51 ± 3.84 in the case and control groups and in total, respectively ($P = 0.001$) (Table 2).

5. Discussion

We observed that nocturnal enuresis occurs more in children with higher attachment, which may be an important point in the management of nocturnal enuresis. However, there are no completely matched studies. Therefore, we discussed the most related studies. Schober et al. evaluated the effect of nocturnal enuresis on children's relationships in society. They concluded that monosymptomatic nocturnal enuresis] might negatively influence the child's perception of the quality of attachment (10). Coppola et al., in a case-control study on children with nocturnal enuresis, investigated the psychological correlates of enuresis. These authors concluded that enuresis is a bio-behavioral problem (11). Agerup et al. assessed the associations between parental attachment and depression in young adults and adolescents. They found that attachment to parents can influence the course of depression (12). Chang et al. conducted a study on behavioral problems in children with nocturnal enuresis. They concluded that primary nocturnal enuresis was related to more disorders and parenting stress in children (13). Freeman and Brown evaluated the attachment status of children and adolescents with family and friends. They concluded that during adolescence, individuals were different in terms of attachment figures which may be because of

Table 1. Basic Data of Two Groups

| Variables | Case | Control | Total | P-Value |
|------------------------------|-------------|-------------|-------------|---------|
| Age (mean ± SD) | 8.42 ± 2.59 | 8.36 ± 3.14 | 7.89 ± 2.91 | 0.052 |
| Gender | | | | 0.557 |
| Male | 44 | 43 | 87 | |
| Female | 56 | 57 | 113 | |
| Father's occupation | | | | 0.689 |
| Employee | 44 | 42 | 86 | |
| Employer | 44 | 49 | 93 | |
| Self-employer | 12 | 9 | 21 | |
| Mother's occupation | | | | 0.972 |
| Employee | 32 | 31 | 63 | |
| Employer | 15 | 16 | 31 | |
| Self-employer | 16 | 14 | 30 | |
| House keeper | 37 | 39 | 76 | |
| Economic status (USD) | | | | 0.479 |
| < 250 | 7 | 4 | 11 | |
| 250 - 500 | 50 | 57 | 107 | |
| > 500 | 43 | 39 | 82 | |

Table 2. Attachment with Parents' Status in the Children of the Case and Control Groups^a

| Attachment Figures | Case | Control | Total | P-Value |
|--------------------|--------------|--------------|-------------|---------|
| Secure | 6.92 ± 3.26 | 10.06 ± 3.99 | 8.49 ± 3.62 | 0.0001 |
| Avoidant | 10.04 ± 4.11 | 7.42 ± 7.74 | 8.73 ± 5.92 | 0.003 |
| Anxiety | 10.07 ± 4.14 | 6.95 ± 3.55 | 8.51 ± 3.84 | 0.0001 |

^a Values are presented as mean ± SD.

friendships status (14). Parade et al. conducted a study for evaluating attachment status in female students during the transition to college. They found that the effects of attachment with parents on the outcomes of social anxiety were statistically significant for participants (15). De Bruyne et al. conducted a study on the association between behavior problems, parental stress, and enuresis in children. They observed that parents, especially mothers, reported more behavior problems and more stress in children with nocturnal enuresis compared to the control group (16). Meeus et al. evaluated the role of parental and peer attachment status in the development of adolescence. They concluded that adolescents from ethnic minorities have higher levels of exploration and school commitment compared to indigenous ones (17). Laible investigated the influence of attachment with peers and parents on social behavior and emotional competence. They found that safe attachment training results in better social behavior by increasing emotional awareness, positive

expressiveness, empathy, and low reduction in negative dominant expressiveness (18). De Bruyne et al. assessed behavior problems and stress of parents in children with enuresis. They reported that behavior problems and stress are more prevalent in the parents of children with enuresis (16). Das et al. studied depression improvement after the stimulation of the sacral nerve for treating voiding dysfunction. These authors showed that voiding dysfunctions influence life in physical and psychological aspects (19). In another study, Chang et al. evaluated the association of parenting stress with nocturnal enuresis in the children of the Chinese population. They found that in the Chinese population, nocturnal enuresis was associated with higher parenting behavioral problems and greater stress (13). Yousefichaijan et al. investigated attention deficit hyperactivity disorder (ADHD) in children with primary monosymptomatic nocturnal enuresis (PMNE). They found that the inattentive type of ADHD was more common in children with PMNE (20). Rushton mentioned

that the reactions of parents to children's enuresis may be complicated in treatment efforts for enuresis (21). A limitation of our study was a defective and false filling of the questionnaire by parents, but they agreed to cooperate in the study when we explained the impact of nocturnal enuresis on the nervous, urinary system, and other body systems.

5.1. Conclusions

Attachment factors have their roots in childhood and continue until adulthood. These factors can influence children's mental disorders and lead to nocturnal enuresis. Moreover, in the present study, we found a significant correlation between nocturnal enuresis and the style of attachment with parents.

Footnotes

Authors' Contribution: All authors had equal roles in manuscript preparation and submission.

Conflict of Interests: The authors declared no competing interests.

Ethical Approval: The Ethics Committee of Arak University of Medical Sciences approved the study protocol (ethical code: IR.ARAKMU.REC.1394.108).

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Informed Consent: Informed consent was taken from all participants.

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