



Correlation of Parents' Emotional Intelligence with Enuresis in Children

Mohsen Ghasemi,¹ Parsa Yousefichaijan,² Masoud Rezagholizamenjany,^{3,*} and Sahar Alizadeh³

¹Department of Psychiatry, Assistant Professor of Psychiatics, Arak University of Medical Sciences, Arak, Iran

²Amir Kabir Hospital, Department of Pediatric Nephrology, Associate Professor of Pediatric Nephrology, Arak University of Medical Sciences, Arak, Iran

³School of Medicine, Arak University of Medical Sciences, Arak, Iran

*Corresponding author: Masoud Rezagholizamenjany, Department of Psychiatry, Assistant Professor of Psychiatics, Arak University of Medical Sciences, Arak, Iran. Tel: +98-9184374727, E-mail: masoudrezagholi074@gmail.com

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Abstract

Background: Parents' emotional intelligence comprises their prior knowledge, IQ, and technical or professional skills, which can influence children's emotional dimensions and lead to voiding dysfunction.

Objectives: The aim of this study was to investigate the correlation between parents' emotional intelligence and enuresis in children for a more effective management of this problem.

Methods: This case-control study was conducted on 200 children (age range, 5 - 16 years) in Amir Kabir hospital. The case group consisted of 100 children with nocturnal enuresis, and the control group included 100 healthy children. The demographic and emotional intelligence questionnaires were completed by children and their parents. Also, emotional status was analyzed, based on the global emotional quotient inventory (EQ-i), which was completed by the parents. Finally, the data were compared between the case and control groups.

Results: The demographic characteristics were not significantly different between the groups ($P > 0.05$). All indicators of emotional intelligence were significantly different between the case and control groups ($P = 0.001$). Different aspects of parents' emotional intelligence, including problem-solving, happiness, independence, stress tolerance, self-actualization, emotional awareness, realism, interpersonal relationships, optimism, self-respect, continence, flexibility, responsibility, sympathy, and self-expression were significantly different between the groups ($P = 0.001$).

Conclusions: Attention to the parents' emotional intelligence may be important in the management of enuresis, and we can reduce the duration of nocturnal enuresis by raising the parents' emotional intelligence.

Keywords: Emotional Intelligence, Enuresis, Children, Parents

1. Background

Nocturnal enuresis (NE) is defined as involuntary urination at night in children above 5 years (1). This common problem has an overall high prevalence in different age groups of children, ranging from 1.6% to 15%. The prevalence of NE is estimated at 15% in 5-year-old children, 7% in 8-year-old children, and 1% in 15-year-old children (2). Also, the ratio of boys to girls is 1.4 to 1.

NE is classified into primary enuresis (75%), when nocturnal urinary continence has not been achieved since birth, and secondary enuresis (25%), when bed-wetting occurs in a child with at least 6 months of nighttime dryness (3). Moreover, it can be classified into nonmonosymptomatic (accompanied by daytime urinary symptoms) and monosymptomatic (without daytime urinary symptoms) (4, 5). The aim of the present study was to evaluate primary

NE, which is either monosymptomatic or nonmonosymptomatic.

Intelligence is defined as an individual's cognitive ability to learn different subjects. It is associated with IQ, abstract thinking, consciousness, planning, memory, problem-solving, and creativity (6). Similar to intelligence deficits, NE can result in severe mental disorders, academic failure, and reduced self-confidence in children (7, 8). There are some suggestions about psychological problems in parents of children with NE (9), which may be due to parents' frustration, loss of emotional intelligence and skills, and difficulties with their parental roles (10).

2. Objectives

There is no information about the intelligence-related aspects of NE in Farsi-speaking countries, especially Iran.

In addition, no studies have been performed on the psychosocial or behavioral problems of children with NE in Iran. Therefore, the aim of this study was to evaluate the correlation between parents' emotional intelligence and NE in children.

3. Methods

3.1. Study Setting

This hospital-based, case-control study was conducted in the pediatric clinic of Amir-Kabir hospital in Arak, Iran.

3.2. Study Population

We recruited a total of 200 children, within the age range of 5 - 16 years. The sample size was selected, based on other similar studies. In total, 100 children with NE were allocated to the case group, and 100 healthy children were included in the control group. Children in each group were selected via randomization. For this purpose, the participants were asked to select between 1 (case group) and 2 (control group); the groups were equal in terms of demographic information.

3.3. Measurements

After selecting the participants, history of mental and physical status was thoroughly examined in children. In addition, demographic information, including age, gender, number of children in family, occupation, educational level of parents, and family's economic status, was collected by the researcher from the families. Also, the global emotional quotient inventory (EQ-i) was completed by the parents. The responses were scored on a 5-Likert scale (strongly agree, agree, neutral, disagree, and strongly disagree).

The EQ-i consists of 5 scales, 15 subscales, and 90 questions. This questionnaire has been replicated in 3 steps in Iran, and the number of questions was reduced from 117 to 90 (6). The reliability of this questionnaire has been examined using parallel or peer methods; its reliability was reported at 93% based on Cronbach's alpha. The subscales include emotional self-awareness, problem-solving, happiness, independence, stress tolerance, self-actualization, emotional awareness, realism, interpersonal relationship, optimism, self-respect, continence, flexibility, responsibility, and sympathy.

3.4. Inclusion and Exclusion Criteria

Infants with NE diagnosis, based on the diagnostic and statistical manual of mental disorders (DSM-IV-TR) criteria, were included in the study. On the other hand, children with mental retardation and brain problems, such as

epilepsy, autism, hydrocephalus or structural abnormalities (abnormal ultrasounds), psychiatric disorders, and diseases of the kidney and urinary tract were excluded. Moreover, subjects who were unwilling to cooperate or continue the study were eliminated, in addition to parents with schizophrenia, severe mental retardation, or mental disorders.

3.5. Ethical Considerations

Ethical issues including plagiarism, data fabrication, and double publication were completely observed by the authors. In addition, the ethics committee of Arak University of Medical Sciences approved the study protocol.

3.6. Statistical Analysis

Data analysis was conducted by measuring the mean, standard deviation, and frequency of quantitative variables. The analyses were conducted via Chi square and independent t tests in SPSS version 21 to compare the mean values of parameters between the groups. The significance level was considered as $P < 0.05$.

4. Results

Based on the results, we find a correlation between NE in children and emotional intelligence of parents. As presented in Table 2, the groups were homogenous in terms of demographic information. Age ($P = 0.052$), child's gender ($P = 0.557$), father's education ($P = 0.984$), mother's education ($P = 0.901$), father's occupational status ($P = 0.689$), mother's occupational status ($P = 0.972$), economic status ($P = 0.479$), and living area ($P = 0.755$) were not significantly different between the groups.

As presented in Table 1, all indicators of emotional intelligence were significantly different between the case and control groups ($P = 0.001$). The mean \pm SD values of these factors are presented in Table 1. The subscales included problem-solving ($P = 0.001$), happiness ($P = 0.001$), independence ($P = 0.001$), stress tolerance ($P = 0.001$), self-actualization ($P = 0.001$), emotional awareness ($P = 0.001$), realism ($P < 0.001$), interpersonal relationship ($P = 0.001$), optimism ($P < 0.001$), self-respect ($P < 0.001$), continence ($P < 0.001$), flexibility ($P < 0.001$), responsibility ($P = 0.001$), sympathy ($P < 0.001$), and self-expression ($P < 0.001$), all of which were significantly different between the groups.

5. Discussion

In the present study, we compared the nephrotoxic effects of gentamicin and amikacin. It was revealed that the emotional intelligence of parents with healthy children

Table 1. The Average Score of Emotional Intelligence of Parents in the Case (n, 100) and Control (n, 100) Groups

Variables	Case	Control	Total	P Value
PS, mean \pm SD	16.37 \pm 3.86	22.28 \pm 2.42	19.32 \pm 3.14	0.001
HA, mean \pm SD	16.45 \pm 3.79	22.32 \pm 2.52	19.38 \pm 3.15	0.001
IN, mean \pm SD	16.48 \pm 3.76	22.16 \pm 2.41	19.32 \pm 3.09	0.001
ST, mean \pm SD	18.95 \pm 4.86	25.24 \pm 2.45	22.08 \pm 3.65	0.001
SA, mean \pm SD	18.92 \pm 4.86	24.99 \pm 2.60	21.95 \pm 3.73	0.001
EA, mean \pm SD	18.96 \pm 4.87	25.17 \pm 2.52	22.07 \pm 3.69	0.001
RE, mean \pm SD	18.94 \pm 4.88	25.00 \pm 2.50	21.97 \pm 3.66	< 0.001
IR, mean \pm SD	18.90 \pm 4.86	25.16 \pm 2.60	22.03 \pm 3.73	0.001
OP, mean \pm SD	18.83 \pm 4.94	25.03 \pm 2.57	21.93 \pm 3.75	< 0.001
SR, mean \pm SD	18.81 \pm 4.92	25.07 \pm 2.55	21.94 \pm 3.73	< 0.001
CO, mean \pm SD	18.82 \pm 4.94	25.10 \pm 2.60	21.96 \pm 3.77	< 0.001
FL, mean \pm SD	18.82 \pm 4.97	25.13 \pm 2.50	21.98 \pm 3.74	< 0.001
RE, mean \pm SD	18.84 \pm 4.96	24.96 \pm 2.57	21.79 \pm 3.76	0.001
SY, mean \pm SD	18.84 \pm 4.96	25.05 \pm 2.45	21.95 \pm 3.71	< 0.001
SE, mean \pm SD	18.81 \pm 2.89	25.06 \pm 2.54	21.93 \pm 2.71	< 0.001

was higher than that of parents of children with enuresis. As there are no thorough studies in this area, we discuss some of the most relevant studies.

Bruyne et al. in a study on stress and problematic behaviors of parents and children with NE evaluated 110 children without NE as the control group and 78 children with NE as the case group. They reported that parents, especially mothers of children with NE have more stress and problematic behaviors (11). Moreover, Das et al. conducted a study to evaluate the improvement of depression after sacral nerve stimulation for the treatment of voiding dysfunction. They concluded that unresolved voiding symptoms have significant impacts on the psychological and physical aspects of quality of life. Also, sacral nerve stimulation could improve depression and health-related quality of life (12).

Furthermore, Chang et al. conducted a study on 89 children with NE. They evaluated parenting stress and its association with NE in children of a Chinese population. They found that primary NE was associated with more parenting behavioral problems and greater stress in the Chinese population (13). Yousefichaijan et al. in a case-control study evaluated attention deficit-hyperactivity disorder (ADHD) in children with primary monosymptomatic NE. They evaluated 200 children with and without NE and showed that the inattentive type of ADHD was significantly more common in children with primary monosymptomatic NE (14).

Rushton et al. noted that reactions of parents to NE in children could complicate the efforts of treatment (15).

Moreover, Vaillant et al. evaluated 73 men with the mean IQ of 80 in the age range of 14 - 65 years. They found that men with reactionary low IQ were more likely to be productive and use mature defense mechanisms (16). Additionally, Taylor et al. investigated factors, influencing emotional intelligence in addiction-related behaviors among university students. They found that stress management abilities were the most important factors in the symptomatology of addiction-related behaviors in both genders (17). Considering the few clinical studies on the impact of parents' emotional intelligence on NE in children, further studies are required in this area. Therefore, we recommend studies with larger sample sizes.

The main limitation of this study was incomplete questionnaires by the parents. However, the participants agreed to cooperate with the study, as we explained the impact of NE on nervous and urinary systems, as well as other body systems.

5.1. Conclusion

The results showed a correlation between emotional intelligence of parents and NE of children. NE was more frequent in children of parents with higher emotional intelligence, compared to parents with lower emotional intelligence. Therefore, we can reduce the duration of NE by improving the emotional intelligence of parents.

Table 2. The Demographic Information of the Case (n, 100) and Control (n, 100) Groups

Variables	Case	Control	Total	P Value
Age, mean \pm SD	8.42 \pm 2.59	8.36 \pm 3.14	7.89 \pm 2.91	0.052
Gender				0.557
Male	44	43	87	
Female	56	57	113	
Father's education				0.984
Under diploma	7	7	14	
Diploma	43	45	88	
Associate's degree	2	3	5	
Bachelor's degree	36	33	69	
Master's degree and higher	12	12	24	
Mother's education				0.901
Under diploma	14	17	31	
Diploma	42	42	84	
Associate's degree	1	0	1	
Bachelor's degree	40	39	79	
Master's degree and higher	3	2	5	
Father's occupation				0.689
Employee	44	42	86	
Employer	44	49	93	
Self-employed	12	9	21	
Mother's occupation				0.972
Employee	32	31	63	
Employer	15	16	31	
Self-employed	16	14	30	
Housewife	37	39	76	
Economic status				0.479
< 250 USD	7	4	11	
250 - 500 USD	50	57	107	
> 500 USD	43	39	82	
Living area				0.755
Urban	89	90	179	
Rural	11	10	21	

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Footnote

Conflicts of Interest: The authors declare no competing interests.

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