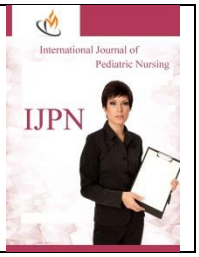
INTERNATIONAL JOURNAL OF PEDIATRIC NURSING

Journal homepage: www.mcmed.us/journal/ijpn



EFFECTIVENESS OF BEHAVIORAL MODIFICATION THERAPY IN REDUCING NOCTURNAL ENURESIS AMONG CHILDREN AGED 5-10

Rajalakshmi A[1]*, Sangeetha S P[2]

[1]Professor, Department of Child Health Nursing, Vijaya College of Nursing, Vadapalani, Chennai, Tamil Nadu 600026, India.
[2]Assistant Professor, Department of Child Health Nursing, Vijaya College of Nursing, Vadapalani, Chennai, Tamil Nadu 600026, India.

Article Info

Received 25/07/2023
Revised 15/08/2023
Accepted 18/08/2023

Key word: Childhood behavioral problems, Nocturnal enuresis, Behavioral modification therapy, Primary caregivers, Pre-experimental design.

ABSTRACT

Children's well-being is greatly impacted by emotional and behavioral issues during childhood. A prominent behavioral problem observed during middle childhood is nocturnal enuresis, among other behavioral problems such as stuttering, pica, sleep disturbances, and enuresis, encopresis, and tics. A study was conducted to evaluate whether behavioral modification therapy can reduce nocturnal enuresis among children aged 5 to 10 years living with their primary caregivers. By using judgmental sampling techniques, 70 children were chosen as pre- and post-test participants in a pre-experimental design. Statistical analyses were conducted both descriptively and inferentially. There was a significant difference between mean scores pre- and post-assessment following behavioral modification therapy ($p<0.001$). Following this therapy, children's nocturnal enuresis levels decreased significantly. Furthermore, the study revealed that pre-assessment scores of nocturnal enuresis correlated significantly with selected demographic variables, including the child's age, gender, and previous enuresis experience in siblings. As a result, behavioral modification therapy appears to be effective at ameliorating levels of nocturnal enuresis in children. In order to promote improved well-being and quality of life for affected children and their families, early intervention strategies tailored to address behavioral problems in childhood are critical.

INTRODUCTION

Children with enuresis are more likely than those with allergic disorders to experience this disorder, which makes it an important childhood challenge [1]. A condition in which children cannot control their urination, particularly during sleep, enuresis places a great burden on the families and friends of those who suffer from it. According to DSM-IV, enuresis is defined as at least twice a week over three consecutive months of involuntary urination in children age five and older. The condition manifests differently among individuals due to genetic factors, which play a role in the development of the condition [2-6]. Children and their parents experience considerable emotional distress due to enuresis, which can affect their self-esteem and academic performance.

Corresponding Author
Rajalakshmi A

Email: alakshmi0606@gmail.com

Children with bedwetting were often deferred clinical intervention until they are 7-8 years old, even though bedwetting can be diagnosed as early as five years old.

There is a strong connection between primary enuresis and the presence of a family history of delayed bladder control. Besides urologic and neurological problems, disorders of the spinal cord, and recurrent urinary tract infections, secondary enuresis can also be a result of recurrent urinary tract infections. The occurrence of enuresis usually changes with age, and ninety percent of cases are primary. Its associated factors and nocturnal enuresis have been studied in a number of studies. There were considerable differences in occurrence rates for enuresis in the literature reviewed; the prevalence rates were reported to range from 5-20% in different regions and in children over five years old (5).

Since the researcher experienced nocturnal enuresis with her cousin's child, she has observed the difficulties children and parents face in handling the problem, especially due to lack of knowledge about the disorder. Accordingly, if mothers possess adequate knowledge, they can effectively practice behavioral modification therapy, which will help address their children's enuresis issue. As the child began to isolate herself, the researcher observed behavioral problems in the child. In order to treat nocturnal enuresis among children of primary caregivers, behavioral modification therapy was needed. This study is to evaluate the efficacy of behavioral modification therapy in managing nocturnal enuresis among children aged 5 to 10 years who are under the care of primary caregivers.

METHODOLOGY

A pre-experimental design utilizing a one-group pre-test and post-test approach was employed for this study. The sample consisted of children aged 5 to 10 years under the care of primary caregivers who met the inclusion criteria. A total of 70 participants were included in the study after obtaining verbal consent. The pre-test was conducted using a self-administered questionnaire on the first day of data collection. Following the pre-test, behavioral modification therapy was administered using a PowerPoint presentation. This therapy was conducted in the homes of the children, situated in urban settings. Each topic of the therapy, including night lifting, waking with an alarm, stop-start training, recommendations for good bladder and bowel health, retention control training, and reinforcement therapy, was allocated 10 minutes, totaling 70 minutes for the entire therapy session for each participant. Post-assessment was conducted during the 6th week of the data collection period. The same questionnaire used in the pre-test was administered to assess the levels of nocturnal enuresis and related factors among the children of primary caregivers. Each post-assessment session lasted approximately 45 minutes and was conducted in the home setting for each group of participants [7].

Description of Tool

Section A of the study encompasses various demographic variables, clinical profiles, and contributing factors related to nocturnal enuresis among children. Part-I focuses on demographic variables, including the child's sex, birth order, number of siblings, family income, education levels, and occupations of the father, mother, and guardian. Additionally, it examines whether the parents live together, the history of enuresis in parents and siblings. Part-II delves into the clinical profile, covering aspects such as UTI history, pain during voiding, daytime incontinence, urgency, age of bladder training commencement, habitual bedwetting, and bedwetting frequency at night, along with any consultations with physicians. Part-III explores contributing factors associated with school, including studying problems, fear of attending school, instances of punishment or scolding by teachers, conflicts with peers, and comfort level with school toilets. Part-IV delves into contributing factors linked to the home environment, encompassing fearful situations within the family, pressure for academic success, toilet-related fears or nightmares, punishment for bedwetting, impact on self-esteem, and negative emotions associated with bedwetting habits.

SECTION-B

Part-I of the assessment comprises a Nocturnal Enuresis Rating Scale focusing on the frequency of nocturnal enuresis in children. Meanwhile, Part-II involves a Nocturnal Enuresis Related Factors Rating Scale, encompassing four items: sleep disruption due to bedwetting, avoidance of using the toilet upon waking up, increased water consumption in the evening, and complaints of constipation. Each item is scored on a scale ranging from 0 to 4, with a minimum score of 0 and a maximum score of 16 across all items.

Table 1 : Children with primary caregiver nocturnal enuresis and post-test demographic variables

S.no.	Behavioral Modification Therapy	Mean	Standard Deviation	Mean difference	Paired 't' test
1.	Pre test	8.50	2.23		
2.	Post test	3.22	0.95	4.28	12.46*

Note * statistically significant (p<0.001).

RESULTS & DISCUSSION

Demographic Variables

The demographic analysis of children and primary caregivers revealed that approximately 43% of the children fell within the age group of 6 to 8 years, with males constituting around 54% of the sample. A majority of the children (63%) were the first-born in their families, and nearly three-fourths (69%) had two siblings. Maternal care was predominant, with all 70 children (100%) being looked after by their mothers. In terms of family income, less than half of the children (46%) belonged to households earning between Rs. 10,001 to 15,000. Regarding parental education levels, approximately 40% of fathers had received primary education or less, while 34% of mothers were illiterate. The majority of fathers (80%) worked as unskilled laborers, while most mothers (86%) were homemakers. Moreover, 89% of the children's parents were living together, with only 11% living separately, primarily due to reasons such as separation (9%) or the father's demise (3%). Additionally, a significant proportion of children's parents (63%) had a history of nocturnal enuresis, and 57% of the children had siblings with a similar history.

Clinical profile

The clinical profile analysis of children indicated that the majority (80%) had no history of urinary tract infections (UTI), and none had undergone genital area surgery. More than half (66%) did not experience pain during voiding. Most children (94%) had daytime incontinence, and a similar proportion (91%) experienced daytime urgency. All children (100%) had initiated toilet training, with 89% starting after the age of 3 years. Additionally, all children had a habitual bedwetting duration exceeding three months, with over a quarter (37%) experiencing bedwetting during midnight or early morning hours. The majority (86%) had not consulted a physician for bedwetting, and all had attempted behavior modification therapy, including fluid restriction before bedtime and reminders from mothers to urinate before sleeping.

Contributing factors

School related factors

The analysis of school-related contributing factors among children with nocturnal enuresis revealed that the majority (83%) did not encounter any studying-related problems. Approximately half (51%) of the children perceived going to school as frightening. Most children (89%) reported being punished or scolded by teachers in front of others, and nearly three-quarters (69%) had a history of fighting with friends at school. More than half (57%) of the children were uncomfortable with school toilets. While the majority (63%) used school toilets, a significant portion (39%) avoided using them.

Home related factors

The findings of the study indicate that nearly three-quarters of the children (69%) did not experience any frightening situations within their families. More than half of the children (63%) felt compelled to achieve academic success. Approximately 57% of the children reported no fear of using the toilet, while 51% had no history of nightmares. The majority of the children (89%) expressed fear of animals. Furthermore, a significant portion of the children (97%) reported being punished for bedwetting, and 51% felt guilty due to this habit. The majority (89%) also expressed feeling bad about their bedwetting habit.

SECTION B

During the pre-assessment, the study found that the least number of children (9%) exhibited mild levels of nocturnal enuresis, while 20% had moderate levels, 28% had severe levels, and 43% had profound levels. However, after undergoing behavioral modification therapy, the distribution shifted, with 40% of the children showing mild levels, 34% showing moderate levels, 20% showing severe levels, and 6% showing profound levels. Specifically, during the pre-test, 12% of the children had mild levels, 54% had moderate levels, and 28% had severe levels of nocturnal enuresis. Following the therapy, 77% exhibited mild levels, 23% exhibited moderate levels, and none showed severe levels of nocturnal enuresis.

SECTION C: Children of primary care providers and behavioral modification therapy

Table 1 illustrates that the mean score during the pre-test was 8.50 with a standard deviation (SD) of ±2.23. After the implementation of behavioral modification therapy, the mean score notably decreased to 3.22, accompanied by a reduced SD of ±0.95. The paired t-test value of 12.46 exceeded the critical table value of 2.65, indicating a significant difference at the $p < 0.001$ level. This improvement in the levels of nocturnal enuresis scores following behavior modification therapy demonstrates its effectiveness. Consequently, hypothesis 1, which posited the effectiveness of the therapy, was accepted.

SECTION D: Children with primary caregiver nocturnal enuresis and post-test demographic variables

The results indicate that the age of the child, sex of the child, and past history of enuresis in siblings achieved statistical significance at the $p < 0.05$ level. However, variables such as birth order of the child,

number of siblings, caregiver, monthly income, father's education, mother's education, father's occupation, mother's occupation, and the living arrangement of both parents, as well as previous history of enuresis in parents, did not reach statistical significance. Therefore, it is inferred that the observed differences in mean score values are indeed genuine. Consequently, hypothesis 2, which proposed the significance of these variables, was accepted.

CONCLUSION

The study investigated the effectiveness of behavioral modification therapy in addressing nocturnal enuresis among children aged 5 to 10 years under the care of primary caregivers. Prior to the therapy, nocturnal enuresis rates were notably high among the children. However, following the behavioral modification therapy, there was a significant decrease observed in the nocturnal enuresis rates. This reduction indicates the efficacy of the therapy, supported by a positive mean difference of 4.28. Educating children and their primary caregivers about the nature of nocturnal enuresis and its management is crucial for early detection and prevention of its adverse effects. Numerous studies have underscored the importance of such information, highlighting how behavioral modification therapy can contribute to overall health improvement, alleviate stress among children and their families, and better prepare them for future challenges.

References

1. Atekeh Hadinezhad Makrani. (2015). Prevalence of Enuresis and its Related Factors among Children in Iran: A Systematic Review and Meta-analysis. *Int J Pediatr*, 3(6-1), 995-1004.
2. Bradbury M. (1991). Evaluation and Treatment of Enuresis Child. Journal of Pediatric Medical Care, 389-393.
3. Jessie F. (2012). Incontinent Among Children with Enuresis. *Journal of urology*, 666-669.
4. Jeanette Brown. (2013). Evaluate the Levels of Nocturnal Enuresis. *Journal of pediatric*, 110-120.
5. Katayoun Bakhtiar, Yadollah Pournia, Farzad Ebrahimzadeh, Ali Farhadi, Fathollah Shafizadeh, Reza Hosseinabadi. (2014) Prevalence of Nocturnal Enuresis and Its Associated Factors in Primary School and Preschool Children of Khorramabad. *International Journal of Pediatrics*.
6. Mahmoodzadeh, Hashem, Amestejani, Morteza, Karamyar, Mohammad, Nikibakhsh, Ahmad-Ali. (2013). Prevalence of Nocturnal Enuresis in School Aged Children the Role of Personal and Parents Related Socio-Economic and Educational Factors. *Iran J Pediatr*, 23(1).
7. Rodrigo F. (2010). Behavioral Alarm Treatment for Nocturnal Enuresis. *International Brazilian Journal of Urology*, 332-338.