



A Study to Assess Prevalence of Nocturnal Enuresis and Its Associated Factor among School Going Children in Selected Rural Areas of Vadodara

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Background: Nocturnal enuresis, also called bedwetting, is involuntary urination while asleep after the age at which bladder control usually begins. Bedwetting in children and adults can result in emotional stress. Little is known about toilet training in pre-modern societies, but attitudes toward training in recent history have fluctuated substantially, and may vary across cultures and according to demographics. Treatments range from behavioral therapy, such as bedwetting alarms, to medication, such as hormone replacement, and even surgery such as urethral dilatation. Since most bedwetting is simply a developmental delay, most treatment plans aim to protect or improve self-esteem. Treatment guidelines recommend that the physician counsel the parents, warning about psychological consequences caused by pressure, shaming, or punishment for a condition children cannot control. Bedwetting is the most common childhood complaint. Children may face certain risks associated with training, such as slips or falling toilet seats, and toilet training may act in some circumstances as a trigger for abuse.

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Aims: The aim of this study is to assess the prevalence of nocturnal enuresis and its associated factors among school going children in selected rural areas of Vadodara.

Methods: A descriptive research design was carried out for this study. The sample size of the study is 500. Participants were selected using stratified sampling technique. The tool consists of two parts. First part consists of demographic data of the sample and second part consists of assertiveness self-assessment questionnaire.

Results: While assessing the associated factors of nocturnal enuresis in school going children, 15% children are having mild nocturnal enuresis, 77% children are having moderate nocturnal enuresis and 8% children are having severe nocturnal enuresis. While assessing the association, there are three demographic variables age, sex and education of father has no significant association. So H_0 has been rejected and H_1 is accepted.

Conclusion: The present study concluded that majority of the children's is having moderate level of nocturnal enuresis (77%) and minority of the children's is having severe level of nocturnal enuresis (8%).

Keywords: Nocturnal enuresis; prevalence; associated factors; children; rural areas.

1. INTRODUCTION

Nocturnal enuresis, also called bedwetting, is involuntary urination while asleep after the age at which bladder control usually begins. Bedwetting in children and adults may result in emotional stress [1].

Most bedwetting may be a developmental delay—not an emotional problem or physical illness. Only a little percentage (5 to 10%) of bedwetting cases have a selected medical cause [2]. Bedwetting is often related to a case history of the condition [3]. Nocturnal enuresis is taken into account primary (PNE) when a toddler has not yet had a protracted period of being dry. Secondary nocturnal enuresis (SNE) is when a baby or adult begins wetting again after having stayed dry [4].

Within the United States, about 25% of enuretic children are punished for wetting the bed. In urban center, 57% of enuretic children are punished for wetting [5]. Parents with only a grade-school level education punish bedwetting children at twice the speed of high-school- and college-educated parents [6].

Treatments range from behavioral therapy, like bedwetting alarms, to medication, like hormone replacement, and even surgery like urethral dilatation. Since most bedwetting is solely a developmental delay, most treatment plans aim to safeguard or improve self-esteem [2]. Treatment guidelines recommend that the physician counsel the parents [4], warning about psychological consequences caused by pressure, shaming, or punishment for a condition

children cannot control. Bedwetting is that the most typical childhood complaint [6].

Specific recommendations on techniques vary considerably, although a variety of those are generally considered effective, and specific research on their comparative effectiveness is lacking [7]. No single approach could also be universally effective, either across learners or for the identical learner across time, and trainers may have to regulate their techniques in step with what's only in their situation. Training may begin shortly after birth in some cultures. However, in much of the developed world this happens between the age of 18 months and two years, with the bulk of youngsters fully trained by age four, although many children should still experience occasional accidents [8].

2. MATERIALS AND METHODS

In this research study quantitative research approach with descriptive survey research design was used. The sampling techniques was randomized sampling was used to collect the 500 samples of school going children of selected rural areas of Vadodara and data collection done by the help of self-assessment questionnaire. The formal permission was obtained for the approval of the study from Sarpanch of respective villages. The assent form was prepared for the study participant regarding their willingness to participate in the research study. The period of study is one year. The research tool for data collection consists of two sections:

2.1 Section 1: Demographic Data

This section included age, sex, medium of instruction, mode of instruction, socio-economic

status, history of nocturnal enuresis, education of father and education of mother.

2.2 Section 2: Self-Assessment Questionnaire

The tool is consisted of 13 questions that would help to evaluate the nocturnal enuresis in school going children's. Options in self-assessment

questionnaire was "Yes" if parents are agree and "No" if parents are disagree. A score was consider as if it was 1-4 it was indicated as a mild form of nocturnal enuresis, if it was between 5-8 it was indicated as a moderate form of nocturnal enuresis and 9-13 it was indicated as a severe form of nocturnal enuresis. A scoring was done by the score which we get after the data collection was done.

3. RESULTS

Table 1. Frequency and percentage distribution of sample according to their demographic variables (n=500)

Sr. No.	Variables		Frequency	Percentage
1	Age	5-6 years	85	17.0%
		7-8 years	168	33.6%
		8-9 years	179	35.8%
		9-10 years	68	13.6%
2	Sex	Male	183	36.6%
		Female	317	63.4%
3	Medium of instruction	English	30	6.0%
		Gujarati	430	86.0%
		Other	40	8.0%
4	Mode of delivery	Normal Vaginal Delivery	289	57.8%
		Cesarean Section	211	42.2%
5	Socio-economic status of family	Upper Class	18	3.6%
		Middle Class	402	80.4%
		Lower Class	80	16.0%
6	History of nocturnal enuresis in family	Yes	225	45.0%
		No	275	55.0%
7	Education of father	Illiterate	32	6.4%
		Primary	327	65.4%
		Secondary	138	27.6%
		Higher Secondary	3	0.65%
		Graduation & above	0	0
8	Education of mother	Illiterate	162	32.4%
		Primary	278	55.65%
		Secondary	57	11.4%
		Higher Secondary	3	0.6%
		Graduation & above		
Total				! 100%

Five hundred (500) children's were participated in the study for final analysis. Where, majority of children's 35.8% (n=179) were belongs to 8to9 years of age and 63.4% (n=317) were female child. Among the respondents, 86% (n=430) were instructed in gujarati language. Most of the mother is having normal vaginal delivery 57.8% (n=289). Nearly more than half percentage of participants were having middle-class socio-economic status 80.40.% (n=402). The 55% (n=275) participants had history of NE. Most of father's education is up to primary level 65.4%(n=327) and mother's education is up to primary level 55.65%(n=278).

Table 2. Association of nocturnal enuresis with the socio-demographical variables

Variables		Mild (1-4)	Moderate (5-8)	Severe (9-13)	X ²	D.f	Level of significance
Age	5-6 years	15	64	6	4.04	6	4.04<12.59
	7-8 years	27	124	17			
	8-9 years	21	145	13			
	9-10 years	11	53	4			
Sex	Male	27	141	15	0.01	2	0.01<5.99
	Female	47	245	25			NS
Medium of Instruction	English	1	20	9	23.67	4	23.67>9.49
	Gujarati	69	333	28			S
	Other	4	33	3			
Mode of Delivery	Normal	54	218	18	8.76	2	8.76>5.99
	Vaginal Delivery						S
	Cesarean Section	21	168	22			
Socio- Economic Status of Family	Upper Class	2	13	3	10.70	4	10.70>9.49
	Middle Class	67	301	34			S
	Lower Class	5	72	3			
History of Nocturnal Enuresis in family	Yes	20	178	27	18.03	2	18.03>5.99
	No	54	208	13			S
Education of father	Illiterate	4	23	5	6.95	6	6.95<12.59
	Primary	53	250	24			NS
	Secondary	17	111	10			
	Higher Secondary	0	2	1			
	Graduation & Above	0	0	0			
Education of mother	Illiterate	23	123	16	17.31	6	17.31>12.59
	Primary	43	219	16			S
	Secondary	8	43	6			
	Higher Secondary	0	1	2			
	Graduation & above	0	0	0			

The table depicts that there is no significant association seen between associated factors and demographic variables age, sex, education of father. The significant association seen in medium of instruction, mode of delivery, socio-economic status, history of nocturnal enuresis and education of mother

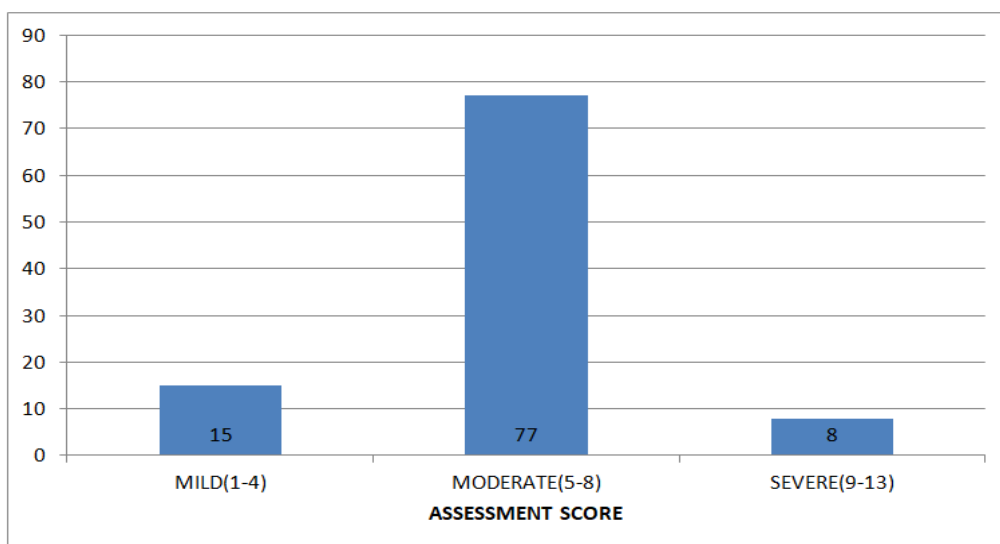


Fig. 1. Assessment score

Table 3. Frequency and percentage distribution of nocturnal enuresis

SR. NO.	Assessment score	Frequency	Percentage
1	MILD(1-4)	74	15%
2	MODERATE(5-8)	386	77%
3	SEVERE(9-13)	40	8%

The result pertaining to assessment score revealed that more than half children's 77% (n=386) were having moderate form of nocturnal enuresis, 15%(n=74) were having mild form of nocturnal enuresis and 8%(n=40) were having severe form of nocturnal enuresis

4. DISCUSSION

In this study first section of the questionnaire was the demographic data, which had 8 variables: age, gender, medium of instruction, mode of delivery, socio-economic status, history of nocturnal enuresis, education of father and education of mother. The analysis was done through descriptive (Frequency, percentage) and inferential statistics. Discussion on the findings was arranged based on the objective of the study. The findings shows that maximum number of children 35.8% were belongs to 8to9 years of age and 63.4% were female child,86% were instructed in gujarati language, most of the mother is having normal vaginal delivery 57.8%,80% were middle-class, socio-economic status 80.40%, 55% participants had history of NE, father's education is up to primary level 65.4% and mother's education is up to primary level 55.65%.

5. CONCLUSION

This study presents the conclusion drawn, implications, limitations, and delimitations and

recommendation of the present study. The focus of this study was to evaluate "A study to assess prevalence of nocturnal enuresis and its associated factor among school going children in selected rural areas of Vadodara". The study involved data collection using pre experimental research design with using non probability convenience sampling technique method. The size of sample was 500 and selection of the sample was done according to inclusion and exclusion criteria. The data was interpreted by suitable and appropriate statistical method. The result shows that that majority of the children's were having moderate form of nocturnal enuresis and some children's were having severe form of nocturnal enuresis. Hence, the nocturnal enuresis effect the children's aged 8-9 years.

CONSENT

As per international standard or university standard, children's written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

The study was approved from ethical committee of Sumandeep Vidyapeeth institutional ethical committee an ethical approval number is SVIEC/ON/NURS/SRP/21023.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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