



A Cross Sectional Survey to Know The Prevalence of Nocturnal Enuresis and Associated Comorbidities in Children Aged 5 To 18 Years

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ABSTRACT

Nocturnal enuresis seems a relatively benign condition but it mark serious adverse impact on quality of life of child and caregivers. Despite it being quite common, it remains under reported. There is paucity of the data from India about the magnitude of this condition. The present research was aimed to identify prevalence & associated comorbidities of nocturnal enuresis in children. Present study was a cross sectional survey, conducted in two government schools. The school, administration was briefed about this disease ,its adverse impact on child's school performance. Data collected was related to age, gender ,some disease characteristics and associated comorbidities .Questionnaire used had contact number of the hospital, some general instructions to help these children like restricted liquid intake in evening hours, regular frequent urination & maintenance of voiding diary. The permission to conduct the survey was granted by the schools. To maintain anonymity ,to avoid embarrassment and to encourage maximum participation these were handed over to the class teachers who distributed these to the parents of all the students in next Parent teacher meeting. Children dropped these filled questionnaire in a box kept in common room.Total 306 children were identified. Enuresis was commonest in age group 7-12 years. MNE was found in majority. Positive family history of enuresis & poor quality of sleep was present in 50.3% &32% children respectively. Functional constipation was found in 41.2% (126) & UTI in 8.8% (27) children. Only 18.9% (58) children were taken to a health care facility for NE.Parental punitive practices reported were humiliation and physical punishment in 83% &66.7% children. Nocturnal enuresis is a common under reported condition. Families and children are suffering instead of consulting a doctor parents resort to various punitive measures.

KEYWORDS: children, bed wetting, depression, UTI, urinary dribbling, school performance

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INTRODUCTION

Nocturnal Enuresis (NE)continues to be a common pediatric health problem and about 10% children at 7 years of age, 3.1% at 11-12 years, and 0.5-1.7% at 16-17 years [1]. Despite it being quite common it remains under reported as parents often wait for spontaneous resolution of the condition. These children & their families usually suffer in silence .Such children suffer from low self esteem, always afraid of being exposed to the peers, face mockery by sibs ,peers &may have poor relationship with parents. Despite so many serious implications it remains an under addressed condition. There is paucity of the data from India about the magnitude of this condition [2].

International Children's Continenence Society (ICCS) defines enuresis as repeated leaking of urine into clothes during night with or without daytime symptoms in a child who is chronologically and developmentally older than 5 years [3]. The episodes must occur at least twice per week for 3 months or cause significant distress or impairment [4]. It may be monosymptomatic (MNE) or nonmonosymptomatic nocturnal enuresis (NMNE). Children with NMNE have lower urinary tract symptoms (LUTS) or daytime symptoms, while they are absent in MNE. In the present study we aimed to describe the different epidemiological aspects of NE in children aged 5 to 18 years from urban Ghaziabad, associated comorbidities, behavioural issues, sleep & diet related factors.

MATERIAL AND METHODS

This cross sectional descriptive survey was done in two government schools situated in urban Ghaziabad after getting clearance from institutional ethical committee. These schools were situated near the medical college hospital of the team doing this survey. The school administration was briefed the purpose of the survey to help the students suffering from NE. The hospital offered to help these students by providing

necessary counselling, investigations & nonpharmacological treatment. It also had some general instructions to help children of NE life restricted liquid intake in evening hours & voiding diary.(5) The permission to conduct the survey was granted by the schools. To avoid embarrassment and maximum participation questionnaire forms were distributed in Parent Teacher Meeting by the class teachers to all the parents explaining the animosity of the data. Children were requested to bring back these filled forms & put them in a box kept in common room. next day. The questionnaire had phone number of the medical college hospital doing survey and the support being offered to willing parents in the hospital. The data collected was -age, gender, family history of enuresis, Sleep disturbances, day time bedwetting, day time symptoms, Associated UTI, constipation, liquid intake habits, parental attitude towards child, treatment sought.

RESULT AND DISCUSSION

Total 2500 forms were handed over to the parents of children studying in two government school. The completed forms returned were 306. Only 92 Of these 306 children were brought to the hospital by their parents for detailed check-up and counselling. Enuresis was commonest in age group 7-12 years. There was male preponderance & positive family history of enuresis in sibs or one of the parents was found in around 50% children. Table 1 depicts various other clinical characteristics of the participants. Table 2 depicts the associated comorbidities in these children.

Table 1. Clinical Characteristics of Study Participants (Total Number of children -306)

CHARACTERSTICS	NUMBER (%)
Age (years)	
5-7	31(10.1)
>7-12	240(78.4)
>12-18	35(11.4)
Mean age	7.32±2.55 years
Gender	
Male	189(61.7)
Female	117(38.2)
Monosymptomatic NE	254(83)
Non monosymptomatic NE	52(16.9)
Day time incontinence	43(14.1)
Dysuria	48(15.7)
Urgency	39(12.7)
Urgency Incontinence	36(11.8)
Holding manoeuvres	12(3.9)

Table 2. Nocturnal enuresis and associated comorbidities (Total number 306)

Associated comorbidity	Number (%)
Family History OF Enuresis	154(50.3)
Poor Quality of Sleep	98(32.0)
Associated UTI	27(8.8)
Associated Constipation	126(41.2)
Associated Faecal Incontinence	0
Liquids intake	
Up to 8 pm	12(3.9)
Up to 10-11 pm	284(96)
Behavioural Problems	
Shy	102(33.3)
Quarrelsome	48(15.7)
Family Discordance	12(3.9)
Taken to Health Care Facility Ever For NE	
Yes	58(18.9)
NO	248(81)
Parents Declarations	
No Punishment	26(8.4)
Negative Reaction	280(91.5)
Sleep Deprivation	22(7.1)
Humiliation	254(83.0)
Physical Punishment	204(66.7)
Make him wash soiled linens	74(24.2)

First important and disturbing observation of present research was that NE is still under reported as only 18.9 % (59) children were taken to a doctor for counselling. Singh & Seth has stated that many parents wait for spontaneous resolution, which is true, but it cannot be predict. The prevalence of NE in this survey was 12.24 % slightly higher than 10% quoted by some researchers [4].

Majority of the study population in present research were suffering from MNE an observation in concordance with Reddy reported a prevalence of 80% of MNE [5]. The prevalence of NMNE in present study was 16.9%, much lower 77% reported by previous (6) & 30% reported by Singh & Seth [6]. The diagnosis of NMNE could be given only after thorough history and examination & ruling out common comorbidities by appropriate investigations which could be done in present research in only those 92(30%) children who were brought to the hospital by their parents. These were mostly older than 12 years, girls and only a few(52,16.9%) had NMNE. Positive family history was found in around 50% children as has been reported by many others also. This is in concordance with findings of other researchers.

NE is often associated with some comorbidities, such as urinary tract infections constipation [8-9] and fecal incontinence with or without constipation. Hasio *et al* emphasized the need of evaluation & treatment of FC before the treatment of NE. They found higher likelihood of pharmacological treatment failure in children of NE who had FC also [10-11]. The FC was found in around 42% children in present research which in concordance with the observations of these authors. Urinary tract infection could be confirmed by investigations in only small percentage (8 %) of children due to the study design [12].

Low self esteem, chronic stress and many other behavioral issues have been reported by various researchers in children suffering from NE whether the cause or effect of this disease or both but they all reported improvement in child school performance once the the number of wet night decreases[13-14]. In present study shy introvert children were commoner than hyperactive children and very few parents acknowledged family discord or disharmony, which may be again be underrepresentation of the actual figures a limitation of the study design [15].

The parental attitude of punishment in present work was high at 280(91%) than 54.1% reported by Ferrera *et al*. This can be explained by socio economic difference in study population. Many related articles stressed upon the negative impact of intolerant, punitive parental attitude towards this condition. Limitations of the study the main limitation of this study was the lack of clinical verification of comorbid conditions, follow-up data. More population based prospective studies will be helpful to get a more precise magnitude of the disease.

CONCLUSION

Nocturnal enuresis is a common under reported condition. Families and children are suffering instead of consulting a doctor parents resort to various punitive measures.

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