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Perception and Home Remedies for Nocturnal Enuresis

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ABSTRACT

Nocturnal enuresis has diverse causes and modalities of treatment. The awareness of parents about this condition is presumably low and deserves investigation.

The objective was to find out the perceived causes and home remedies used in the treatment of nocturnal enuresis amongst primary school children. A Cross-sectional study of primary school children in Sagamu LGA of Ogun State, Nigeria was done. Five primary schools (public and private) were selected through multi-stage sampling technique. Self administrable semi - structured questionnaires were administered on the parents of pupils aged 6 years to 12 years old respectively. The data extracted included demography, parental education and occupation, presence and frequency of night-time enuresis, perceived causes and home remedies for enuresis.

A total of 424 school children were studied; there were 45.5% males and 55.5% females. The overall prevalence of enuresis was 40.8%. The perceived causes of bedwetting included excessive play (54.9%), deep sleep (27.7%) and excessive water intake at night (7.5%). Bedwetting occurred more frequently between ages 6 years and 9 years. About one third (32.9%) of caregivers did not apply any form of home remedy to their enuretic wards, 27.7% restricted water intake at night, 13.8% woke them up in the night to urinate and 8.7% beat them for bedwetting

It was then concluded that enuresis is a common problem among school children in Sagamu with wrongly perceived causes and home remedies. Health education is hereby canvassed to correct these wrong notions.

Keywords: *Nocturnal, enuresis, perception,home remedies.*

INTRODUCTION

The development of urinary continence takes place in different stages with a transitional period between two and four years of age when toilet training leads to social awareness due to voluntary vesico-sphincter coordination. [1-3] Children with enuresis have been shown not to show normal rise in nocturnal anti-diuretic hormone levels. This results in more production of urine at night. [4]

There are evidences that children with enuresis have low self esteem, poor school performance and attached social stigma [5]. Previous studies had shown large family size, male gender, low socioeconomic class as well as disorders of sleep as the possible reasons for enuresis [6-10].

Enuresis is expected to resolve spontaneously in early childhood but about one percent will progress unto adulthood. [11] Various modalities of treatment have been used in the past and these included motivational therapy, hypnotherapy and diet

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modification. Others include the alarm system and bladder training exercises [12-14]. Although, varying degrees of success are known with the various modalities of care, none has been reported to be effective in all situations of enuresis.

No doubt, gaps still exist in the knowledge of care givers and parents about enuresis and this presumably influences their care of enuretic children in the community. Interestingly, there has been no study of enuresis in Sagamu, the seat of a tertiary health facility in Ogun State of Nigeria that could fill any of the gaps. Therefore, this study was undertaken to determine the perceived causes of nocturnal enuresis as well as the pattern of home remedies applied by parents and care givers to help enuretic children in Sagamu.

METHODS

This cross-sectional study of primary school children in Sagamu Local Government Area of Ogun State, Nigeria was done between October 2008 and January 2009. Five schools were selected through multi-stage random sampling technique. Using simple random sampling five schools were selected. In the selected schools, one class each was selected thereafter proportional sampling was then used to select pupils from the selected classes. Pupils younger than six years and older than 12 year were excluded from the study. A self-administrable questionnaire was distributed to the selected pupils. Data collected included the age of child, presence of night-time enuresis, frequency in the last three month, perceived causes of enuresis and the treatments offered at home by the care-givers. Others included educational level of both parents as well as occupation of the parents. To the questionnaires were attached assent forms for the caregivers to indicate willingness to allow their wards participate in the study.

Socioeconomic classification was done using the method recommended by Ogunlesi where scores were awarded for the education and occupation of each parent and the mean of the sum of the four scores to the nearest whole number was the socioeconomic class of the child [15]. Socio-economic classes I and II formed the upper class while III to V constituted the lower class. Enuresis, in this study, was defined as involuntary voiding occurring more than once during night sleeps in the last three months. Daytime enuresis and those with features of secondary enuresis were excluded.

Data analysis was done using SPSS version 15.0. Chi –squared test was used to compare proportions in categorical data and Student's t test was used to compare means of continuous variables. P values less than 0.05 were regarded as statistically significant.

RESULTS

A total of 424 questionnaires were returned and analyzed; 307 (72.4%) from private schools and 117 (27.6%) from public schools. Overall, the subjects comprised 193 (45.5%) males and 235 (55.5%) females with a male-to-female ratio of 0.8:1.

Overall, 173 children were enuretic giving a prevalence of 40.8%; the prevalence of enuresis in public schools was 41% (48/117) while it was 40.7% (125/307) in private schools. The difference in the prevalence rates of enuresis in private and public schools was not statistically significant ($\chi^2 = 0.003$; p = 0.954).

Table 1: The prevalence of enuresis among children in the various socioeconomic classes

Classes	*Total*	*Frequency of Enuretics*	*Prevalence of Enuresis*
I	29	4	13.8% (2.4%)
II	36	18	50.0% (10.8%)
III	155	63	40.6% (38.0%)
IV	97	44	45.4% (26.5%)
V	87	37	42.5% (22.3%)

Key:

**Figures in parentheses are percentages of total*
*** Data of 20 respondents were missing. Out of these 20 respondents whose socio-economic classes could not be computed, 7 were enuretic*

Table 1 shows that the prevalence of enuresis was smallest amongst respondents in class I. The enuretics were notably concentrated in socio-economic classes III to V (144/166, 86.7%). However, the prevalence of enuresis among children in socio-economic classes III to V (144/339; 42.5%) compared

to children in socio-economic classes I and II (22/65; 33.8%) lacked statistical significance ($\chi^2 = 1.679$; p = 0.195).

The perceived causes of enuresis are as shown in Table 2. The perceived causes of enuresis by the care givers included excessive play (54.9%), deep sleep (27.7%) and excessive intake of water (7.5%).

Table 2: Perceived causes of enuresis

Perceived causes of enuresis	Frequency	Percentage (%)
Excessive play	102	59.0
Deep sleep	52	30.0
Excessive water intake	14	8.1
Infections	4	2.3
Heredity	3	1.7
No idea	6	3.5

Key: *Some parents made multiple responses*

Table 3 shows that the different interventional methods of caring for enuretic children included restriction of fluid intake (27.7%), interruption of sleep (13.9%), beating (9.8%) and use of herbs (4.6%) None of the parents in socio-economic classes I and II adopted beating, use of drugs and herbs as interventions for their enuretic children (Table 4). However, the proportion of parents in socio-economic classes I – II and socio-economic classes III –V who used sleep interruptions and deprivation of water as interventions to help their enuretic children were similar.

There was no statistical significance when socioeconomic status was compared with the different home remedies as shown in Table 4.

DISCUSSION

The present study showed that enuresis is a common problem in the school age and the prevalence was similar amongst pupils in privately-owned (fee-paying) and public (non-fee paying) schools. By implication, the problem of enuresis cuts across the entire spectrum of social classes in the population studied.

Majority of the respondents in the present study perceived deep sleep, excessive play and excessive intake of water as the major causes of enuresis. The

Table 3: Home remedies applied by the parents of enuretic children

Interventions	Frequency	Percentage (%)
Beating only	16	9.3
Beating and medications	1	0.6
Early Supper	1	0.6
Herbal mixtures	8	4.6
Medications	5	2.9
Water restriction	48	27.7
Food restriction	1	0.6
None	57	32.9
Sleep interruption	24	13.9
No response	12	6.9
Total	173	100.0

Table 4: Comparison of home remedies adopted for enuretics in relation to socio-economic classification

Remedies	Total	*Classes I & II* n=22	*Classes III - V* n=144	*Statistics*
Beating	16	0 (0.0)	16 (36.4)	NC
Drugs	6	0 (0.0)	6 (4.2)	NC
Herbs	8	0 (0.0)	8 (5.5)	NC
No water	48	9 (40.9)	37 (25.7)	X^2=2.205; P = 0.138
Sleep interruption	24	4 (18.2)	20 (13.9)	X^2=0.284; P = 0.594
None	57	6 (27.3)	48 (33.3)	X^2 = 0.319; P = 0.572

Key: *NC – Not Computed*

latter is most interesting because it aligns, to some extent, with the physiologic hypothesis revolving around disordered anti-diuretic hormone secretion in enuretic children [4].

Furthermore, some of the findings in the present study agreed with the Taiwanese report that enuresis may indeed be related to deep sleep in children [8]. However, comparison with a few local studies like those of Osungbade *et al* [16] and Iduoriyemkemwe [17] may need to be done with caution since the cited studies were clinical and laboratory studies reporting underlying factors like sickle cell anemia, urinary tract infection as causes of enuresis. It is also similar to the study of Anochie and Ikpeme on secondary school student in Port-Harcourt [18]. Indeed, enuresis may also be considered to be a reflection of sleep disorder, as it has been reported that enuretics have difficulty in waking up to void. Therefore, some of the respondents might be right in their perception of deep sleep as a cause of enuresis. [9, 19-20]

Reported modalities of clinical treatment of enuresis included diet modifications, awakening alarm system and bladder training exercises. In the present study, the care givers' modalities of treatment which included fluid restriction and sleep interruption to encourage voiding in the night agreed with the findings among Koreans and Pakistani [20, 21] where fluid restriction and sleep interruptions were common adopted self help strategies and similar to the study on Karachi and Port- Harcourt children [18, 20-21]. The method of sleep interruption adopted by the caregivers is similar to the clinically known mode of treatment though the care-givers might not have had enough scientific knowledge or basis for this method. (sleep interruption to empty the bladder reduces the volume of urine and it also breaks the cycle of sleep thereby reducing bedwetting this is similar to the action of desmopressin although the caregivers do not have this scientific understanding before adopting the method)

Low socioeconomic status has been reported as a risk factor for enuresis,[16] howbeit the effect of socioeconomic status on the modalities of home remedies offered to enuretics has not been previously reported. Nevertheless, this study did not find any relationship between socioeconomic status and the perceived cause nor home remedies offered to enuretics by caregivers. There is a great need to increase the knowledge of parents about the usefulness of their adopted home remedies. Indeed, some of these remedies may make affected children prone to physical and emotional abuses. Specifically, treatment modalities like water deprivation may cause dehydration and its various complications; scolding may constitute emotional torture while starvation may predispose to malnutrition. These unwholesome remedies should be discouraged hence the need for health education to change parental perception of the causes of enuresis as well as the home care of enuretics. It was therefore concluded at the end of the study that primary primary nocturnal enuresis is

a problem in Sagamu with wrongly perceived causes and modalities of home remedies there is therefore need for health education and possibility of its inclusion in the school health programme.

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