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# Severiy level of enuresis among children and adolscents in Ado-Odo, Ota, Ogun state, Nigeria.

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## Abstract-

Nocturnal enuresis habitually called bedwetting is said to be a highly prevalent health condition in children and adolescents but the impact of enuresis is often taken too lightly. Around the world today 15 % of children are affected. Enuresis is socially stigmatizing and can affect quality of life. Parents and families are equally frequently stressed about the condition. The knowledge of nocturnal enuresis and its severity will help to promote effective management. The aim of the study was to determine the severity of nocturnal enuresis among children and adolescents in Ota, Ogun state. The objectives are to assess frequency, history and parental perception about the condition. A crossectional community based study was conducted among 141 children in Ado-Odo, Ota local government area within the age range of 6-18 years. Self-administered two-section questionnaire was designed to assess demographic data, frequency of bedwetting, behavioral pattern, emotional stressor, parent's history, and previous attempt at treatment among others. The collected data was analysed using data tabulation (frequency distributions & percent distributions). The presence of enuresis among the children was 29 %. Enuresis was more in females (53.66 %) compared to males (46.34 %). There was a decrease in prevalence of enuresis with increasing age group (6-9 years was 52.4 %, 10-13 years was 33.3 % and 14-17 years was 14.3 %). History of nocturnal enuresis among parents and siblings was found to be 75.61 % and 57.10 % respectively. A higher percentage (90.24 %) of parents punishes their children for bedwetting. None of the mothers of the enuretic children had complication during pregnancy or at childbirth. Enuresis is a highly common childhood complaint. Genetics could be a leading factor for the occurrence nocturnal enuresis, but complication during pregnancy and childbirth is not. There is need to create awareness and educate parents and families about enuresis and the treatment options available.

**Key words:** Nocturnal enuresis, children, prevalence, Nigeria

## 1. Introduction

In the contemporary world today, 15 % [1] of 5 -7-year olds are regularly afflicted with enuresis, it can consequently be said to be a highly prevalent health condition in children including adolescents but the impact of enuresis is often taken too lightly [2]. Nocturnal enuresis habitually called bedwetting is the most prevalent complaint among children and it becomes a clinical problem especially in children above the age of seven years [3]. According to Berry and Amanda [4], bedwetting is the third most stressful event of life amongst children and second amongst teenagers. The International Children's Continence Society (ICCS) describes nocturnal enuresis as a boy or girl over the six years of age with one or more night time incontinence episodes every month [5]. It is said to be caused by a neurological developmental delay resulting to a decrease in the night time secretion of antidiuretic hormone (ADH) also referred to as vasopressin hormone [6]. Further studies indicated that genetics can be the cause, it was reported



that children of parents with nocturnal enuresis have the potential of having nocturnal enuresis. Psychological factors, detrusive instability, and an abnormally deep sleep pattern are also contributing factors [7]. Enuresis may be subdivided into two, primary or secondary enuresis. Primary enuresis is when a child older than the age of five with bedwetting episodes has not been able to achieve a period of six months of dryness. Secondary enuresis is when a child older than the age of five with bedwetting episodes has previously been able to achieve six months of dryness [8].

Enuresis results in psychological and emotional distress in children affected, parents and the family as a whole [9]. It is socially stigmatizing and the quality of life could be significantly impacted. The consequence includes depression, lack of social and personal relationship, humiliation, guilt, social exclusion and poor performance at school [10]. Children who wet the bed may experience condemnation by parents, siblings and repeated failures to treat themselves which may reduce self – esteem. Children can as well be at high risk of physical and emotional abuse. Parents or guardians are faced with the additional stress of taking care of bedwetters, other concerns includes bedroom smell, extra laundry cost, anxiety, extra cost of changing mattress, embarrassment at sleepovers or vacations. It is therefore essential to properly manage enuresis for ' humane reasons '[11].

## **2. Methodology**

The study was conducted in 2 communities; oja ota and iju in ado odo ota local government area of ogun state, Nigeria. We recruited a total of 41 children identified with nocturnal enuresis within the age of 6-18 years. A well-designed questionnaire was the instrument used for data collection. The questionnaire comprised two sections, a section for the children and another for parents. All questionnaires were filled by parents and children. The first part of the questionnaire was designed to asses' data on child's demography - age and gender. Information sought regarding the child's enuretic characteristics included, sleeping pattern, emotional stressor, dream patter, behavioral pattern and other related lifestyle. Information sought regarding the severity of enuresis included, frequency of bedwetting in a week, number of voids per night, presence of day time enuresis. Parental information sought in the second section of the questionnaire was the parent's history, family background, parent's attitude and perception of bedwetting such as previous treatment methods and clinical history. Interviews were conducted using door-to-door and face-to-face approach.

### **2.1 Ethical considerations**

Ethical certificate for this study was obtained from Covenant University Research and Ethics Committee (CHREC/003/19). Written and oral informed consent form was obtained from each parent and participants for the study before the interview began. The researcher that was fluent with the local language being Yoruba helped with interpretation to those that preferred communication in their local dialect. Participation was purely on a voluntary basis; neither monetary nor material incentives were offered for participation.

### **2.2 Data analysis**

Sociodemographic data was analyzed via descriptive analysis including data tabulation (frequencies distribution and percentages distribution). Multivariate analysis of data was conducted with possible risk factors as the independent variables and nocturnal enuresis as the

dependent variable. Statistical analyses were conducted using SPSS 25.0 software (IBM Corporation, New York, USA). All the variables were grouped into different categories based on the responses provided.

### 3. Result and discussions

A total of 141 children between the ages of 6 and 18 years were studied. The children with nocturnal enuresis were found to be 41 (29 %). Table 1 shows the percentage distribution of the children by their age, gender and birth order. The presence of enuresis was more in females (53.66 %) compared to male (46.34 %), and the percentage of bedwetters reduced with increasing age groups (6-8 years was 41.46 %, 9-11 years was 34.15 %, 12-14 years was 14.63 %, and 15-17 years was 9.75 %). Table 2 shows the severity of enuresis in all the children considered. About 48.78 % of the children wet the bed 4-5 times in a week, 36.60 % wet the bed 2-3 times in a week, and 14.63 % wet the bed every night. Also, 70.73 % of the children void once per night, while 29.27 % void more than once per night. Only 2.43 % reported daytime enuresis. History of enuresis in parents and siblings were found to be 75.61 % and 56.10 % respectively (Table 3).

Table 1: Percentage distribution of children by age, gender and birth order.

	Frequency	Percentage (%)
Age (Years)		
6-8	17	41.46
9-11	14	34.15
12-14	6	14.63
15-17	4	9.75
Total	41	100
Gender		
Female	22	53.66
Male	19	46.34
Total	41	100
Birth order		
1 <sup>st</sup> born	13	31.71
2 <sup>nd</sup> born	16	39.02
3 <sup>rd</sup> born	11	26.83
Last born	1	2.44
Total	41	100

Table 2: Severity of enuresis in all children.

	Frequency	Percentage (%)
Episodes per week		
Every night	6	14.63
2-3 times	15	36.60
4-5 times	20	48.78
Total	41	100
Voids per night		
Once	29	70.73

More than once	12	29.27
Total	41	100
Daytime enuresis		
Yes	1	2.43
No	40	97.56

Table 3: Relationship between parents and siblings history of enuresis.

	Frequency	Percentage (%)
Parental history of childhood bedwetting		
Yes	31	75.61
No	10	24.39
Total	41	100
Siblings' history of enuresis		
Yes	23	57.10
No	18	43.90
Total	41	100

Table 4 shows some characteristics of enuretic children. It is difficult to wake 56.10 % of the enuretic children, and 68.29 % reported a reoccurrence of dream prior to bedwetting. Such children reported to experience the bed betting as if it were a real life before realizing it was a dream. Among the emotional stressor faced by bedwetters, low self esteem was the highest (41.46 %), followed by depression (31.71 %), discouragement (17.07 %) and guilt (9.76 %). When asked about what bothers them about the condition, 43.90 % of the children said 'parents are upset' while 34.15% reported 'being teased by siblings or friends' 21.95 % reported 'washing of sleep clothes'.

Table 4: Characteristics of enuretic children.

	Frequency	Percentage (%)
Sleep pattern		
Easy to wake	18	43.90
Difficult to wake	23	56.10
Total	41	100
Times awoken by bedwetting		
None	13	31.71
Once	21	51.21
More than once	7	17.07
Total	41	100
Do you usually have a dream prior to bedwetting		
Yes	28	68.29
No	13	31.71
Total	41	100
Emotional stressor		
Low self esteem	17	41.46
Depression	13	31.71

Guilt	4	9.76
Discouragement	7	17.07
Total	41	100
What bothers you most about this condition?		
Parents being upset	18	43.90
Being teased by siblings and friends	14	34.15
Washing of bedwetting clothes	9	21.95
Total	41	100

Table 5 shows the percentage distribution of parents' attitude and perception of bedwetting. It was discovered that 90.24 % of parents punish their children for bedwetting, while only 14.2 % have had previous attempt of non-medical treatment of bedwetting. Also, 73.17 % of parents reported that bedwetting is caused by sleep, 80.49 % reported it is caused by excessive play, while 7.32 % claimed not to know the cause. None of the mothers of the enuretic children had complication during pregnancy or at childbirth. None of the parents have ever taken their children to the hospital to complain of bedwetting.

Table 5: Percentage distribution of parent's attitude and their perception on bedwetting.

	Frequency	Percentage (%)
Have you tried any form of treatment?		
Yes	5	12.20
No	36	87.80
Total	41	100
Do you punish your child for bedwetting?		
Yes	37	90.24
No	4	9.76
Total	41	100
Have you ever taken your child to Hospital for enuresis?		
Yes	0	0
No	41	100
Total	41	100
Cause of bedwetting		
Too much play	33	80.49
Deep sleep	30	73.17
No idea	3	7.32
Was there any complication during pregnancy and childbirth?		
Yes	0	0
No	41	100
Total	41	100

#### 4. Discussion

There are several notable variations of reports on incidence levels worldwide and including Africa. The general widespread presence of nocturnal enuresis was 18.9 percent among Australian children within the ages 5-12 years [12]; study in Turkey showed that the overall incidence of nocturnal enuresis was 12.4 % [13]. Prevalence of enuresis in Nigeria varies widely

in different state. The severity of enuresis among children in our study was 29 %, which is higher when compared with study conducted by Etuk et al [14] in South-South region of Nigeria, where the widespread presence of nocturnal enuresis amongst primary school children was 6.7 %. In another study carried out by Chinawa et al [15] in south eastern Nigeria, the level of enuresis of 22.8 % was noted. In Port Harcourt, a prevalence of 25.3 % in students aged 10-21 years was documented, while in Edo State of Nigeria, 21.3 % of children aged 5-16 years were reported with enuresis. The varying prevalence rates of enuresis may arise from factors such as different age groups, cultural differences, environmental, different diagnostic criteria and type of prevalence [16]. This study reveals a higher percentage in girls (35.1 %) compared with that in boys (21.2 %). This is similar to the report of Mabilia Babela [17] and Aden (Yemen) [18] that also reported higher enuresis rates in girls than in boys in Congo. Our finding is in contrast with other studies, carried out in Turkey [19], India [20] and Iran [21]. This study also revealed that there was remarkable decrease in prevalence of enuresis with increasing age group (6-9 years; 52.4 %, 10-13 years; 33.3 %, 14-17 years; 14.3 %) This is similar to the work of Yeung et al [22], who reported a noticeable reduction in the general prevalence of enuresis with increasing age. Similarly, study carried out by Jian and colleague[23], showed that there was a reducing trend in prevalence of nocturnal with the increase in age, 5 years was 11.83 %, 12 years was 1.72 % and 15 years was 1.21 %.

Our study also showed that genetics could be a leading factor for the occurrence nocturnal enuresis, since 75.61 % of parents and 57.10 % of siblings of subjects had history of bedwetting. This has similarly been documented in other studies by AttiaZein and Amr [24] that attributed enuresis as having a genetic background. Our study found a higher percentage in children who are hard to awaken, similar sleep patterns of enuretic children were reported in other studies elsewhere [25]. Enuresis in children is often deemed an insignificant issue, so medical treatment is seldom sought from our study no one has ever complained at the hospital, in an increasingly urbanized community like Ota [26] and in advanced and inhabited countries like Nigeria, this poses an issue because more children will struggle with enuresis and incidence rates will continue to rise. This study revealed parents have very low knowledge about treatment option for bedwetting, since 80.49 % of parents said bedwetting is caused by excessive play. Approximately 25 % of enuretic kids in the United States are punished for bedwetting. In Hong Kong, 57 % [27] and in Morocco 85 % [28] of their enuretic children are being punished for bedwetting. Our study shows a higher percent of 90.24 %, which is worrisome as physicians portray a downward cycle in which the condemned child experiences embarrassment and loss of self-confidence for bedwetting. This can lead to more occurrences of bedwetting, penalty and shame.

## 5. Conclusion

Enuresis is a highly common childhood complaint. Genetics could be a leading factor for the occurrence nocturnal enuresis, but complication during pregnancy and childbirth is not. There is need to create awareness and educate parents and families about enuresis and the treatment options available.

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