

PREVALENCE OF ENURESIS IN NASSIRIYAH CITY-THI QAR GOVERNORATE

Alaa H. Abed¹, Omran S. Habib² & Moayyad N Majeed³**ABSTRACT**

In this paper we report the results pertaining to a cross sectional study carried out on 617 households in Nassiriyah City-Thi Qar governorate. The study aims at determining, among other things, the prevalence of enuresis among children aged 5-15 years. A total of 942 children in the targeted age group were identified and 233 of them were reported to have enuresis. These figures gave an overall prevalence rate of enuresis at 24.7% with substantial decrease with advancing age from 40.6% in children aged 5-6 years to 5.4% in children aged 13-15 years. The prevalence was higher among first born children (31.5%) as compared to those born afterwards (22.0%). The prevalence was also higher among children with positive family history (52.4%) as compared to those with negative family history (18.2%) but no difference was detected between sexes. The majority of cases of enuresis were of primary type (95.7%), nocturnal timing (97.0%) and of daily frequency (44.0%). The study came to the conclusion that enuresis is common in children in Nassiriyah city and deserves more care from the medical profession.

INTRODUCTION

Childhood enuresis is a common behavioural condition reported in millions of children worldwide.^[1-5] It is defined as the voluntary or involuntary repeated discharge of urine into clothes or bed after a developmental age when bladder control should be established. Most children have obtained bladder control during the day and night by age of five years. The diagnosis of enuresis is made when urine is voided twice a week for at least three consecutive months or clinically significant distress occurs in areas of the child's life as a result of the wetting.^[6] It is one of the most common disorders in childhood and adolescence and is a frequent manifestation with important psychological and social consequences.^[3,4] Bedwetting may be divided into the persistent (primary) type, in which the child has never been dry at night, and the regressive (secondary) type, in which a child who has been continent for at least 1 year begins to wet the bed again. Primary enuresis represents approximately 90% of all cases. Secondary enuresis most frequently occurs between the ages of 5 and 8 years and is more common in late school-aged children. Secondary enuresis may occur as a result of stressful environmental events, such as move to a new house, marital conflict, birth of a sibling, or death in the family. Such bedwetting is typically more transitory and has a better prognosis than primary enuresis. Some late investigations, however, have not identified major psychological stress differences between non-enuretic children and those with secondary

enuresis^[6]. Further classification involves nocturnal only enuresis (voiding urine at night), diurnal only enuresis (voiding urine while awake), and nocturnal/diurnal, which involves passage of urine while awake and asleep. A strong genetic predisposition is one contributing factor to nocturnal enuresis. For example, if both parents have a history of enuresis, the child has a 70% likelihood of having enuresis. A delay in maturational development of the bladder and an underlying medical condition are additional aetiological factors to consider in nocturnal enuresis. Nocturnal enuresis occurs at all stages of sleep and has not been linked to the depth of sleep or arousal patterns. Other proposed but controversial aetiologies of nocturnal enuresis include reduced bladder capacity and abnormal secretion patterns of antidiuretic hormone.^[6] Some studies state that there is no substantial evidence that those children with primary nocturnal enuresis continuing until age 10 years have any increased rate of emotional disorders when compared with non-enuretic children. However, a significant percentage of children with primary nocturnal enuresis that persists past age 10 years do have symptoms of attention deficit hyperactivity disorder.^[6] Diurnal enuresis is more common in girls and rarely occurs after age of 9 years. The most common cause of day time enuresis in the preschool child is waiting until the last minute to void urine (micturition deferral). In addition to micturition deferral, aetiological factors to consider in diurnal enuresis include a urinary tract infection, chemical urethritis, associated

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constipation, diabetes, and giggle or stress incontinence.^[6] Day time wetting consists of a heterogeneous group of syndromes, which should be considered as functional incontinence.^[5] At all ages, infrequent bedwetting (fewer than six episodes per year) accounts for half of all reported bedwetting. Bedwetting in children aged 5 years and older, irrespective of its frequency, is associated with increased rates of behaviour problems.^[7] Parents' perceived need for help with emotional and behavioural problems, however, is increased only among children with frequent bed-wetting. The parental concern level is not high and only 15% of the children visit a physician for management of enuresis as reported in a study in the United States.^[8] With regard to treatment, enuresis is a pediatric public health problem and concerted efforts at all levels, i.e. professional, promotional, educational, and public should be made to address its multiple domains such as preventive, etiological, and curative.^[9] Although a variety of pharmacological and non-pharmacological modalities are traced, there is yet no agreement on a single strategy. In such cases, the modified treatment protocol should include psychological counseling and support. A general agreement about behavioural therapy as the first choice of treatment of this minor malady began to emerge. Tricyclic antidepressants are the most frequently prescribed drugs for the treatment of childhood enuresis.^[9] Although infrequent bedwetting may not warrant medical intervention, this condition should prompt health care providers to explore behavioural issues in greater depth.^[8] The role of conditioning treatment is confirmed at the forefront of management of enuresis.^[10] In Iraq, enuresis problem among children does not seem to be investigated in depth. Although, there is a general impression among professionals and lay people that enuresis is considerably prevalent health problem. This means that, considering the huge current knowledge about the disorder worldwide, there is an urgent need for massive scientific research in Iraq for a long time in order to formulate a clear image about this serious problem.

Research Question: What is the extent of the problem in southern Iraq?

In this paper we report a profile on the prevalence of enuresis in Nassiriyah City-Southern Iraq. The paper is part of a comprehensive study covering prevalence, determinants and coping with enuresis.^[11]

SUBJECTS AND METHODS

A cross-sectional population-based household survey was carried out on 640 households selected from two residential quarters in Nassiriyah City. The city is stratified into 12 municipal quarters. For the purpose of the present study these 12 quarters were subdivided into two groups; a high and low socioeconomic status based on local criteria. Two quarters were randomly selected one from each of the low and high socioeconomic quarters. A systematic random sample of households was drawn from each sampled quarter. Households included in the sample were visited and children aged 5-15 years (targeted children) were inquired about regarding the presence of enuresis. Data were collected on a questionnaire form by direct interview of father, mother or other adult respondent. A total of 617 households were successfully visited and interviewed giving a response rate of 96.4%. Data were fed into computer and the Statistical Package for Social Science was used for analysis.

RESULTS

A total of 617 households were successfully visited and interviewed. They yielded 942 children in the target age, 233 children of them were reported to have enuresis. Some details on the studied households are given in Table-1.

Table 1. Selected characteristics of the households studied.

Variable	Numbers
Total number. sampled	640
Total number successfully visited	617
Number of children aged 5-15 years	942
Number of children having enuresis	233

Type of enuresis

Table-2, shows the distribution of cases of enuresis according to onset, timing and frequency of wetting. Most of the cases suffered from primary enuresis (95.7%) and only 4.3% were of secondary type. With respect to timing, 97% were nocturnal and only 3% were both nocturnal and daytime enuresis. Reported enuresis seemed very troublesome as 44% wet daily, 34.9% wet 2-3 times a week and only 21.1% were with infrequent wetting.

Table 2. Distribution of enuresis cases according to types.

Type of enuresis	Number of cases	% Of cases
A. According to onset		
Primary	222	95.7
Secondary	10	4.3
B. According to timing		
Nocturnal	225	97.0
Diurnal and nocturnal	7	3.0
C. according to frequency		
Daily	102	44.0
2-3 times week	81	34.9
Weekly or more	49	21.1
Total*	232	100.0

*The Characteristics for one child could not be verified

Prevalence of enuresis

Table 3 shows the prevalence of enuresis in children aged 5-15 years in relation to selected characteristics of children. The prevalence of enuresis decreased very clearly with increasing age from 40.6% in children aged 5-6 years to 5.4% in children aged 13-15 years. This pattern was statistically very significant ($P < 0.001$). No difference in the prevalence could be detected between males and females ($P > 0.05$). Children who were first in birth order and those of positive family history of enuresis showed significantly higher prevalence of enuresis than children who were of birth order 2 or above and those who, belong to families with negative history of enuresis.

Table 3. prevalence of enuresis in children aged 5-15 years by selected characteristics of children.

Variable	No. Of children studied	No. Of children with enuresis	Prevalence rate (%)
Age:			
5-6	229	93	40.6
7-8	170	58	34.1
9-10	170	41	24.1
11-12	171	30	17.0
13-15	202	11	5.4
Sex:			
Male	516	124	24.0
Female	426	109	25.6
Child order			
First	270	85	31.5
Others	672	148	22.0
Family history of enuresis*			
Positive	170	89	52.4
Negative	764	139	18.2
Total	942	233	24.7

** Eight children with unknown family history of enuresis

DISCUSSION

No doubt that paediatrics practice encounters enormous medical problems that have to be dealt with effectively and comprehensively. Enuresis is an important health problem both from medical and social perspective. At household level, about 42.7% of households (186 out of 436) have at least one child with enuresis; and at child level, about 24.7% of the study children (233 out of 942), between 5-15 year old, were complaining of enuresis at the time of the survey. No figure could be found during literature review documents enuresis problem at the "household level". Regardless, the results indicate that enuresis a common problem in the studied population. Almost all literatures which were encountered in the literature review for this research are concerned with and document the problem at the child level. Figures on prevalence of enuresis from various studies are variable and differ largely with each other and with the prevalence obtained in the present study. Possible reasons for such wide variation may be: The difference in study design starting from the definition of the study population, population-based or health facility-based, age and age grouping, and gender. This is a methodological

issue that must be taken into consideration in comparing results of various studies. The possible sociodemographic, economic, cultural, and racial and genetic differences between the different populations studied. In such instances, the differences are likely to be real. None of the studies published investigated children at household level. Almost, all of them studied children from the schools. That is probably because of the assumption that very low percentage of the children are outside the education system; therefore, the figures obtained are mostly close to that of the whole children-population. Comparing results in this study with findings of other researchers, we found that the highest prevalence measured was 19.34% by Ozden et al^[12] in Turkey, who questioned the parents of school children aged between 6-16 years. It is lower than the prevalence measured in the current study. This difference is probably due to the reasons stated above and possibly to the extent and severity of the proposed risk factors. A figure of 15% of school children aged 6-16 years was reported in Saudi Arabia in 1996.^[13] It is difficult to trace studies on enuresis in Iraq. The only figure we could identify is a study by Al-Jawadi, et al 2007^[14] who measured the prevalence of bed wetting in children brought by their mothers to the child health care units in the primary health care centres in Mosul and based on the assumption that all children in the targeted age in Iraq attend nearby primary health care centres to receive vaccination. This assumption is not necessary totally true and the studied sample might be selective to some extent. They reported a prevalence rate of 6% among children aged 5-15 years.

In conclusion, enuresis is common in children in Nassiriyah city and deserves adequate attention at medical, family and community level.

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