

Prevalence of Nocturnal Enuresis and Its Associated Ultrasonic Findings in Children of Wasit

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ABSTRACT

Nocturnal enuresis refers to an inability to control urination during sleep. The aim of this study is to determine the prevalence of nocturnal enuresis and its associated ultrasonic findings in children of Wasit. In this study 360 child were surveyed, 180 of them were male and 180 were female. The results showed that 7.5% of children had nocturnal enuresis, including 5.5% of primary nocturnal enuresis and 2% of secondary nocturnal enuresis. The prevalence of nocturnal enuresis in the boys (10.0%) was higher compared with that in the girls (5.0%). All children with nocturnal enuresis showed ultrasonic findings in form of thick bladder wall and bilateral mild dilated ureter, pelvis and calyces.

Keywords: urination, Nocturnal enuresis, Ultrasonic, Wasit

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INTRODUCTION

Nocturnal enuresis is referring to an inability to control urination and involuntary urination during sleep. Enuresis classified as primary enuresis (urinary incontinence in a child who has never been dry) and secondary enuresis (urinary incontinence in a child who has been dry for at least 6 months). Nocturnal enuresis can cause a variety of behavioral, psychological, and social problems including lack of self-esteem, blushing and aggression. Therefore, identifying children at risk and performing therapeutic measures are necessary. Based on the results of various investigations, enuresis has many causes including differences in the growth of urinary sphincters of a child, diabetes, urinary tract infections, emotional changes and conflicts such as the birth of a new baby, educational stressful conditions, parental separation and family conflicts. Studies such as that by Butler & McKenna (2002) show how nocturnal enuresis is hereditary, with approximately 50% of children affected one parent has suffered from it. Secondary enuresis may also be due to urological and neurological problems, as disorders of the spinal cord and recurrent urinary tract infections. 90% of enuresis cases are primary, and its prevalence usually changes with age. The review of the relevant literature showed considerably different prevalence rates for enuresis, a study in Turkey was 8.9% out of which 7.75% was primary nocturnal enuresis, studies in china 4.7%. In the USA, 5-10% of 7- year- old children suffered from nocturnal enuresis while the rate was lower than 5% in children over 10 years old. The aim of this study is to investigate the prevalence of this disorder and its ultrasonic findings in Wasit children.

METHODS

A study was done in Wasit south east of Iraq. Data collection started in April 2016 and was completed in November 2017. At the end of the study period a total of 360 child surveyed, 180 male and 180 females. A questionnaire included age (5-10 years), primary or secondary enuresis. Abdominal ultrasound done for children suffering from nocturnal enuresis to show any abnormal ultrasonic findings in the urinary system.

RESULTS

Out of a total of 360 samples (180 were male and 180 were female), we found that 27(7.5%) of the subjects had nocturnal enuresis, and the highest prevalence rate of nocturnal enuresis was found in the 5 years old age group(10%) and the lowest rate in the 10-year-old age group(5.0%). No significant difference was found regarding the decrease in nocturnal enuresis up to the age of 10 ($p>0.05$) (Table1). However, the difference between the prevalence rates of nocturnal enuresis in the 5- and 10 -year-old age groups was significant($p<0.05$). In relation to the gender, the prevalence of nocturnal enuresis was 10.0% in the boys and 5.0% in the girls, showing clearly higher rate in the boys ($p=0.009$). Additionally, 5.5% and 2% of the children with nocturnal enuresis suffered from primary and secondary enuresis, respectively (based on being dry for 6 months). Regarding the ultrasonic findings all the subjects with nocturnal enuresis shows thick bladder wall and bilateral mild dilatation of ureter, pelvis and calyces.

Table1: Prevalence of nocturnal enuresis in children of Wasit in term of age and gender.

Variables	Nocturnal enuresis Number (%)	Total number	P value	Age
5	6 (10%)	60	0.435	
6	5 (8.3%)	60		
7	5 (8.3%)	60		
8	4 (6.6%)	60		
9	4 (6.6%)	60		

10	3 (5.0%)	60	
Gender			
Male	18 (10.0%)	180	0.009
Female	9 (5.0%)	180	

DISCUSSION

Nocturnal enuresis is a common developmental problem among school-aged children. The prevalence of nocturnal enuresis in this study was 7.5% which is higher compared with the studies conducted in China (4.7%), but it is lower compared with studies conducted in Iran (8%), Turkey (8.9%). The prevalence of nocturnal enuresis in this study was significantly higher in the boys than in the girls, which is consistent with findings of some studies. In this study, the prevalence of nocturnal enuresis decreased with age with no significant relationship, where as the difference between the prevalence rates at the ages 5 and 10 was statistically significant. The prevalence of enuresis in this study was 10% at the age of 5 and 5% at the age of 10. This finding is compatible with the results of various studies. Ozkan et al. reported the prevalence of nocturnal enuresis in the age group of 5-6 years old to be 10.3% and at age of 11 to be 5.6%. There is no study about the ultrasonic findings in children with nocturnal enuresis. All the subjects with nocturnal enuresis in this study shows thick bladder wall and mild dilatation of ureter, pelvis and calyces by ultrasound, this might indicate presence of urinary tract infection, vesico ureteric reflux or bladder outlet obstruction in infancy or early childhood.

CONCLUSION

The results of this study clearly indicate a higher prevalence rate of nocturnal enuresis in the boys than in the girls. Moreover, the frequency of nocturnal enuresis decreases with age. Also, ultrasonic findings of thick bladder wall and dilated system need urological assessment in early childhood.

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