

PARENTAL PERCEIVED STRESS OF NOCTURNAL ENURESIS IN CHILDREN IN TAIWAN

Hypothesis / aims of study

Nocturnal enuresis (NE) often leads to considerable worry and distress in affected children and their parents. NE has been the focus of numerous scientific studies over the past few decades and extensive studies on the epidemiology of NE have been conducted worldwide. However, the figures of prevalence and associated factors vary somewhat among different studies and countries. Previous reports, worldwide, have shown conflicting results or different predisposing factors. The aims of this study were to evaluate the prevalence of NE in Taiwanese school children, aged 6 to 12 years, and to determine factors that affect the parents' perceptions and their attitudes in handling this problem with their children.

Study design, materials and methods

We re-evaluated a cross-sectional study using a multi-stage random sampling method that was conducted among elementary school students (6 – 12 years old) in central Taiwan. Two schools from each district (with a total of 26 districts) in the county of Changhua (a suburban region located in central Taiwan) were stratified randomly and sampled. One class from each grade (grades 1-6), of the selected schools, were chosen for this study and all the parents of these students were invited to participate in the study. All information was derived from parental reports. There were no medical examinations of children or reviews of medical records. Questionnaires were distributed by school nurses, filled in by the parents and returned by mail. Of the 9,228 students sampled, 8273 (89.7%) parents completed the questionnaires. A history of NE was obtained from the question: "During the past six months has your child ever wet the bed?" Positive responses were followed up with questions which informed us of the parents' perceptions of their children having NE, the frequency of bed-wetting in the past six months and the parents' perceived needs for professional counseling or help for coping with these problems etc. The variables investigated in this study included the child's age, gender and grade, family characteristics, parental educational level (as a measure of socioeconomic status), parental explanations of their children with NE and family history of NE. Data were analyzed by SPSS (version 10.0). Pearson Chi-square test, Fisher's exact test, Chi-square test for trends, univariate analyses and multivariate logistic regression analyses were used for analyzing the variables. A P value of less than 0.05 was considered to be a statistically significant difference.

Results

The overall prevalence of NE was 6.8% (560/8,273) in Taiwanese school children aged 6 to 12 years. The prevalence of NE decreases progressively with children's increasing age (12.5% at age 6 years and 2.0% at age 12 years). Males have enuresis almost 1.5 times more often than females (8.0% vs. 5.5%). These prevalence results of NE are similar to previous epidemiological studies in Taiwanese children [1, 2] (the above results were submitted to a local medical journal for publication). There was no significant correlation between age and frequency of NE. There were 40.0% (224/560) parents who perceived the need for professional counseling and help or the need for medical intervention. Most of the parents who reported the presence of NE in their children (60.0%, 336/560) believed their children would recover spontaneously and that it did not warrant medical intervention. Half of the parents accepted NE as a normal condition associated with children's development. Parents (paternal or maternal) with a higher educational level were more likely to perceive the problem in their children as a result of tension accompanying the NE and sought professional help ($P < 0.05$). The severity of NE (more than once per week) was the factor which influenced parents to regard NE as a significant problem and to find it necessary to employ a more aggressive treatment to cope with NE in their children ($P < 0.05$). The severity factor also led to a considerable amount of worry and distress in these parents.

Concluding message

Our results suggest that prevalence rates of NE in Taiwanese children are similar to those in Western and other Asian children (except for Chinese children in Hong Kong [3]) as previously reported. However, in previous studies, there are few which try to investigate the discrepancies of parents' perceptions and attitudes in handling this problem.

1. An epidemiological study of nocturnal enuresis in Taiwanese children. *BJU International* 2001; 87: 678-681.
2. Prevalence of nocturnal enuresis and associated familial factors in primary school children in Taiwan. *J Urol* 2002; 168: 1142-1146.
3. Nocturnal enuresis in Hong Kong: different Chinese phenotypes. *Scand J Urol Nephrol* 1997;183 (suppl): 17-21