

THE PREVALENCE OF DAYTIME URINARY INCONTINENCE IN PRIMARY SCHOOL CHILDREN

Aims of Study

To determine the prevalence of daytime urinary incontinence in primary school children and the quality of life of affected children, we performed a new questionnaire to children in primary school as a pilot study.

Methods

At this pilot study, three primary schools in Hiroshima city were randomly selected and total 1,382 children from seven to twelve years of age were registered. Children with neurological disease were ruled out. This daytime urinary incontinence questionnaire was newly developed by the International Consultation on Incontinence Questionnaire-short form launched at the second International Consultation on Incontinence meeting in Paris in 2001. It was composed of eight closed end questions and was designed to complete in a few minutes. The questionnaire involved information of bowel habit, nighttime wetting and some micturitional symptoms, such as urgency, frequency, squatting on urge and urinary tract infection. The questionnaires were directly handed to the children at school and administered mainly by parents. After completion, the questionnaires were sent back to our hospital and were analyzed in detail. This pilot study was performed between November 2001 and January 2002. We defined daytime urinary incontinence as leakage of some urine presents during the daytime more frequently than once per month in the 6 months before the survey.

Results

The completions were returned from a total of 836 children (response rate, 60.5%), 426 boys and 410 girls. The prevalence of daytime urinary incontinence was 29% of 7-year-old boys and 21% of girls, 27% of 8-year-old boys and 18% of girls, 17% of 9-year-old boys and 19% of girls, 15% of 10-year-old boys and 11% of girls, 10% of 11-year-old boys and 15% of girls and 4% of 12-year-old boys and 10% of girls. Nighttime wetting at least more than once in the per month was detected 18% of 7-year-old boys and 9% of girls, 16% of 8-year-old boys and 8% of girls, 5% of 9-year-old boys and 3% of girls, 9% of 10-year-old boys and 3% of girls, 7% of 11-year-old boys and 2% of girls and 2% of 12-year-old boys and 0% of girls. The prevalence of daytime urinary incontinence was higher than that of nighttime wetting of the same age. In our study, boys were more affected by daytime urinary incontinence than girls and this difference in frequency between boys and girls of 7 and 8-year-old was significant ($P < 0.05$). Although about 8% of wetting children soaked to the trousers severely, the majority of children who wet during the daytime had not history of urinary tract infection. Urge incontinence especially presented in the afternoon and was found in 72% of all children with daytime urinary incontinence. Holding maneuvers such as squatting on urge in order to prevent incontinence were common and detected by 63% of wetting children. It was assumed that urge incontinence was caused by uninhibited detrusor contraction countered by the frequent attacks of imperative urge to void, countered by holding on postures such as squatting. It was conceivable that urge incontinence was also present during the night in the form of a slight loss of urine. Stress incontinence was detected in 8.5% of wetting children. The majority of parents with affected children was anxious about children's symptoms and sought our medical advice.

Conclusions

In this initial pilot study, we developed a new daytime urinary incontinence questionnaire and indicated that the prevalence of daytime urinary incontinence in Japanese children is higher than we and teachers had expected. A strong correlation was found between daytime urinary incontinence and some behavior problems such as squatting on urge. Extended field-work is going on and the results obtained from more than 5,000 children from 7 to 12 years of age will be presented.