

## **NATURAL HISTORY OF THE ACQUISITION OF NIGHT-TIME BLADDER CONTROL: TRACKING STUDY TO FOLLOW CHILDREN FROM AGE 3 1/2 YEARS LIVING IN SCOTLAND**

### **Hypothesis / aims of study**

1. To gain more understanding of the natural history of the acquisition of night-time bladder control in pre-school children and the prevalence of nocturnal enuresis.
2. To evaluate a number of factors that may affect the age at which children become reliably dry at night, including: family history, parental concern, perceived control and optimism.
3. To explore the families' perceptions of the economic burden of their child's bed wetting.
4. To explore the appropriateness of the methods used by families for bedding protection.

### **Study design, materials and methods**

Setting: Primary care, in Tayside and Greater Glasgow, Scotland.

Sample: Parents of 500 children aged 39-42 months were recruited from 22 general practices from Tayside and Greater Glasgow, at the time of their child's routine Community Child Health Surveillance check. A response rate of 99.8% was achieved.

Design: A longitudinal survey. The research nurse explored with parents the child's night time bladder control and any family history of bed wetting using a shortened form of the *Family Perspectives on Bed Wetting Questionnaire*(1). For those children still found to be wetting the bed the parents were further asked about: the severity of the bed wetting; the degree of their concern; the methods used for mattress protection; the burden on family finances; their perception of their own control over the situation and their optimism for the future. When the child was 4 years old the Research Nurse telephoned the family to ascertain whether the child was still wetting the bed. The parents of these children were invited to take part in a further structured interview.

### **Results**

38% of children aged 39-42 months were found to be wetting the bed at least once a week, with 31% wetting every night. 78% of those children reliably dry had been dry for more than 6 months and 38% for over a year. The prevalence of diurnal enuresis among children with nocturnal enuresis was 2%. The median age at which children became reliably dry in the day-time was 27 months. No statistically significant relationship was found between nocturnal enuresis and the number of siblings, the child's birth order, the child's birth weight, the Carstairs Deprivation Score(2) for the family address, the age when the natural mother was dry, the parents' concern, perception of control, or optimism. However, an association was found between nocturnal enuresis and day-time wetting, which is congruent with other studies.

21% of parents of children aged 39-42 months were concerned about the bed wetting, rising to 38% of parents with children still wetting at age 4. Even at this young age, a third of parents had mixed feelings or were unhappy about the situation – long before most health care professionals perceive bed wetting to be problematic. Parents were most concerned about the effects on the child's self esteem. When asked how much bother their child's bed wetting was, in the practical sense, about 20% of parents had found it bothersome, and concerns included the extra laundry and other related practicalities. However, less than 20% of parents reported that their child's nocturnal enuresis had placed more than a minimal financial burden on the family finances and 84 - 86% of parents stated that cost was not important when it came to deciding on how to manage the consequences of their child's bed wetting.

Most parents believed that effort and ability were important for their child to become dry at night. A competency framework relating to parents' perceptions of their ability to help their child is presented. The model acknowledges the importance of parental expectations, as well as task difficulty, opportunity and the help required by both parents and children.

### **Interpretation of results**

The management of nocturnal enuresis in pre-school children is left almost entirely to parents yet there has been little research into the size of the problem or parents' beliefs or perceptions of their abilities to help their child to become dry at night. By the time the child is 39-42 months old many parents are concerned about the situation and pessimistic about their own ability to help. Furthermore, these parents did not see health care professionals as having an essential part to play in ensuring a successful outcome, and very few had contacted a health care professional for advice about the practicalities. The parents of four year olds were increasingly concerned and some felt that health care professionals had little help to offer families with this problem.

### **Concluding message**

In current practice, most active treatments, such as the use of the body-worn alarm, are not initiated until the child is at least 7 years old, despite evidence that successful treatment can be commenced earlier. This study has highlighted the need for family support and treatment protocols for the families of children aged 4-6 years, and a separate study is now underway to explore parents' perceptions of their needs, prior to setting up and evaluating a service to supplement the clinics being run for older children.

### **References**

1. Parents' and young people's attitudes towards bedwetting (1998) British Journal of Urology 81: Supplement 3, 56-66.
2. Deprivation and Health in Scotland (1991) Aberdeen University Press, Aberdeen Scotland.

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