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A study aims to identify risk factors for, and the effects of, incontinence in children, so that early specialist care can be offered and information resources produced

Children’s parents and early environment can affect their risk of bedwetting

Childhood incontinence: risk factors and impact

In this article...

- Areas that are lacking a robust evidence base
- Risk factors for childhood continence problems
- Continence issues that persist into adolescence

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Continence problems in children can persist into later childhood and have a serious effect on quality of life. Research into its causes and impact is scarce, and useful resources are limited. A Medical Research Council grant is funding a project at the University of Bristol, which aims to improve understanding of the risk factors and outcomes of continence problems in children and adolescents. This article outlines the initial findings, which could help in the production of resources for parents, children and young people.

Continence problems – bedwetting, daytime wetting, constipation and soiling – affect about 900,000 children and young people in the UK (Paediatric Continence Forum, 2014). Structural or anatomic causes are rare; instead, they are thought to be heterogeneous disorders involving a complex interrelationship of biological, developmental, genetic and environmental factors.

To improve the evidence base, three main areas require more research:

- Early risk factors: studies into these are often based on cross-sectional designs and/or relatively small, with highly selected samples. Prospective studies are needed with data on a range of risk factors in early childhood and follow-up data on incontinence. Identifying risk factors to distinguish between children at risk of chronic incontinence and those likely to experience a natural resolution with age could help pinpoint who to prioritise for treatment;
- Prognosis: little is known about this. Parents and health professionals often adopt a “wait and see” as they think incontinence usually resolves with age (Berry, 2006). Many children, however, experience chronic incontinence into late childhood and adolescence. More knowledge on patterns of childhood incontinence less likely to resolve with age is needed, so children can be targeted for specialist treatment;
- Impact: evidence-based knowledge of the effects of continence problems on the daily lives of young people is lacking (National Institute for Health and Care Excellence, 2010). An evidence base is needed to inform clinicians about the range of secondary effects, so appropriate support can be provided. This could also improve existing resources, as current literature is insufficient and not age-appropriate.

The study

The Medical Research Council funded a mixed-methods project at the University of Bristol. The quantitative research is based on an analysis of data from the Avon Longitudinal Study of Parents and Children, a large contemporary birth cohort with a wealth of data on various influences on health and development in children.

The qualitative study is based on in-depth interviews with 20 participants aged 11-20 years, recruited from continence clinics across the UK. The interviews examined the impact of incontinence on their mental health, relationships, social activities, education/school attainment

5 key points

1 Childhood continence problems are common but research in this area is scarce
2 Research is needed to identify risk factors associated with chronic incontinence
3 Little is known about factors affecting the prognosis of childhood incontinence
4 Evidence-based knowledge of the effect of incontinence on young people is needed to address their needs
5 Increased support and improved services are needed for young people with continence problems
and goals/aspirations. Findings will help address serious gaps in information by providing young people with access to empirically based and age-appropriate resources on continence problems.

Early risk factors
The project has identified risk factors in early childhood (4-9 years) that predict the continuation of continence problems at primary school age (4-9 years). For instance, children with delayed development at 18 months had an increased risk of experiencing bedwetting that was frequent (at least twice a week) and persistent (≥9 years) (Sullivan et al, 2015). This is consistent with previous reports suggesting bedwetting in some children is due to a fundamental deficit in brain maturation (Järvelin, 1989).

Children rated by their parents as having a difficult temperament at age 2 (negative mood, problems adapting to change etc), and those with behaviour problems at age 3 (such as conduct problems and hyperactivity), were also more likely to still be bedwetting at school age (Joinson et al, 2015).

Earlier studies were mainly cross-sectional, so the association between bedwetting and behaviour problems was unclear. This study provides evidence that temperament and behaviour problems precede problem attainment night-time bladder control. These early childhood risk factors increased the risk of bedwetting by 20-30%.

Factors relating to parents and the early childhood environment were also associated with an increased risk of bedwetting at school age. For example, children whose mothers had a history of wetting were almost four times as likely to bed wet compared with those with no such maternal history (Sullivan et al, 2015). Children whose mothers had a history of wetting were also at increased risk of more severe forms of bedwetting characterised by high frequency and persistence into late childhood. Exposure to high levels of family stress in early life also increased the chance of persistent incontinence (Joinson et al, 2016).

Adolescence
Most children experience a natural resolution of continence problems, with increasing age – the spontaneous resolution rate for bedwetting is 15% per year (Forsythe and Redmond, 1974). However, evidence increasingly shows that children with severe incontinence are at risk of their symptoms, constipation, stool patterns in infancy and behaviour problems.

Daytime wetting and lower urinary tract symptoms (increased voiding frequency/urgency) were also more common among older, rather than younger, children with bedwetting. Yeung et al (2006) argued this provides evidence that severe bedwetting (frequent, accompanied by daytime symptoms) is less likely to resolve with increasing age. This is being examined in our project using a prospective design – children with different patterns of incontinence are followed up to determine which patterns are most likely to persist into adolescence.

Impact of continence problems
Continence problems can have profound personal and social effects due to the associated shame and embarrassment. Poorly managed continence problems in adolescence can seriously undermine young people’s quality of life and self-esteem. A 14-year-old male participant in the current project summed up incontinence as “not life-threatening, but life ruining”.

Important findings emerging from this research relate to how the stigma and hidden nature of continence problems affects young people in their everyday lives at home, at school and in their relationships with others. There are also key findings relating to their experiences of interacting with health professionals when seeking treatment for their continence problems.

Young people expressed a strong desire to feel listened to and to be involved in decisions about treatments. Trust and rapport were developed more effectively through seeing the same clinician each time and the use of age-appropriate language.

Future directions
Understanding patients’ views would give health professionals greater insight into the patient experience, and help them provide tailored support and care. This could give patients a more positive clinical experience and increase their engagement with, and adherence to, treatment and self-management. This is of particular concern during the adolescent transition period. The qualitative research findings are being used to develop online resources, which will be available from children’s bowel and bladder charity, ERIC (www.eric.org.uk).

Research is also ongoing to determine:

- Whether sleep patterns in early childhood are associated with later bedwetting problems;
- The effectiveness of strategies parents use to encourage continence in children who are still wetting at school age and how incontinence affects the family;
- Factors in early childhood that could be associated with soiling problems at school age – for example, dietary patterns, constipation, stool patterns in infancy and behaviour problems.

Clinical implications
Despite their prevalence and impact, continence problems are poorly researched. Better understanding of factors predicting their persistence is needed to improve the identification of children who should be prioritised for treatment. Many parents do not consider seeking treatment until childhood continence has started to have secondary impacts on their child’s quality of life and many are unaware that effective treatments are available (Schlomer et al, 2013). Parents should be encouraged to seek treatment for children who are still incontinent when they reach school age because timely intervention could help to reduce the risk of the problems becoming persistent and having secondary effects.

References

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- Increasing recognition of childhood incontinence
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