Incontinence in children with treated attention-deficit/hyperactivity disorder

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Introduction
Attention-deficit/hyperactivity disorder (ADHD) and incontinence (nocturnal enuresis, daytime urinary incontinence and fecal incontinence) are common disorders in childhood. Both disorders are strongly associated with each other.

Objective
Attention deficit hyperactivity disorder can affect compliance to incontinence therapy in a negative way; it can also affect outcome. The aim of the present study was to assess the prevalence of incontinence, age of bladder and bowel control, and psychological symptoms in children having treatment for ADHD compared to a control group.

Study design
Forty children having treatment for ADHD (75% boys, mean age 11.4 years) and 43 matched controls (60.5% boys, mean age 10.7 years) were assessed. Their parents filled out questionnaires to assess: child psychopathology (Child Behavior Checklist), incontinence (Parental Questionnaire: Enuresis/Urinary Incontinence; Encopresis Questionnaire – Screening Version) and symptoms of the lower urinary tract (International-Consultation-on-Incontinence-Questionnaire – Pediatric Lower Urinary Tract Symptom). The ICD-10 diagnoses and children’s IQ were measured by standardized instruments (Kinder-DIPS, Coloured Progressive Matrices/Standard Progressive Matrices).

Results
Rates of incontinence in the ADHD group (5% nocturnal enuresis, 5% daytime urinary incontinence, 2.5% fecal incontinence) did not differ significantly from incontinence rates in the control group (4.7% daytime urinary incontinence). More children in the ADHD group had Child Behavior Checklist scores in the clinical range. Further ICD-10 disorders were present in eight children with ADHD and in one control child. More children with ADHD had delayed daytime and nighttime bladder control, as well as delayed bowel control, than the controls.

Discussion
The present study showed that if children are treated for their ADHD, according to standard practice guidelines, incontinence rates are similar to those without ADHD. More children with ADHD reached continence at a later age than the controls, which could be an indicator of maturational deficits in the central nervous system. Additionally, children with ADHD showed higher rates of clinically relevant psychological symptoms.

Conclusion
This study provides further information of the association between ADHD and incontinence. Treatment of ADHD may be associated with positive effects on incontinence outcomes. Therefore, children with ADHD should always be screened for incontinence problems and children with incontinence problems should also be screened for ADHD if symptoms of hyperactivity, inattention and/or impulsivity are also present.