22% of preschool children, 8% of primary school students and 3% of adolescents have tics

Gadow K, Nolan E, Sprafkin J *et al.* Tics and psychiatric comorbidity in children and adolescents. *Developmental Medicine and Child Neurology* 2002 May; **44**: 330–8.

QUESTION: What is the prevalence of tics in a community sample of children? What is the relationship between tics and psychiatric symptoms?

Design

Cross sectional study.

Prevalence of Attention Deficit Hyperactivity Disorder and tics in a community sample

	3–5 years % (n=413)	6–12 years % (n=1520)	13–18 years % (n=1073)
ADHD plus tics	10	4	2
ADHD only	8	12	1
Tics only	12	3	1
All tics	22	8	3

Setting

12 preschools and 16 public elementary and secondary schools in Missouri, Wisconsin and New York, USA.

Participants

3006 school children; 413 aged 3–5 years, 1520 aged 5–12 years and 1073 aged 12–18 years.

Main outcome measures

A teacher-rated DSM-IV referenced scale was used to assess tics and other psychiatric symptoms. Children were classified into 4 groups: 1) attention deficit hyperactivity disorder (ADHD) with tics; 2) ADHD without tics; 3) tics without ADHD, and 4) neither ADHD nor tics.

Main results

22% of preschool children, 8% of 5–12 year olds and 3% of adolescents had tics (table). Tics were more common in males, regardless of comorbid ADHD symptoms ($p < 0.05$). Obsessive-compulsive, simple and social phobia symptoms were more common in children with tics (all $p < 0.05$).

Conclusions

Studies of the prevalence and psychiatric comorbidity of chronic tic disorder have been conducted largely with children referred to tic disorder clinics. This study found similar prevalence and comorbidity rates in a community sample.

COMMENTARY

This study provides many lessons for clinicians working with Attention Deficient Hyperactivity Disorder (ADHD) and Tourette syndrome in a referral-based clinic:

Late onset of symptoms. DSM-III-R and IV criteria for ADHD require symptoms to begin prior to 7 years of age. Gadow *et al* suggest that the prevalence of inattentive ADHD is about 12–16% with both tics and inattentive type ADHD increasing between 9–11 years of age.

The utility of questionnaires. Gadow *et al* suggest that a DSM-based checklist can provide “high specificity for most disorders when compared with criterion-based clinic diagnoses and structured psychiatric interviews.” This allows those with modest budgets to investigate clinically important questions such as comorbidity rates.

How often do children have tics only? Tourette syndrome and ADHD are spectrum disorders with many comorbid conditions, but we often wonder about the proportion of people who only have tics. In Gadow’s sample, 12% of all 3–5 year olds, 3% of 6–12 year olds and 1% of 13–18 year olds had tics only.

How often do ADHD children have tics? This is the flip side of the issue. Gadow *et al* suggest that 55% of 3–5 year olds, 30% of 6–12 year olds, and 17% of 13–18 year olds with ADHD also have tics. Since treatment approaches may need to be modified when tics are present, these figures illustrate the importance of asking about tics in children with ADHD.

Since tics are often easy to detect, they can be used as a flag for increased risk of specific genes. Instead of passing tics off as benign ‘habits’ that will go away, they should alert the clinician to check for the company they often keep.

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