

Ritalin to treat ADHD in preschoolers: Does it work? What are the risks?

Wigal T, Greenhill L, Chuang S, McGough J, Vitiello B, Skrobala A et al

The Bottom Line:

The findings of this study suggest that, in preschool children who have a firm diagnosis of [Attention Deficit/Hyperactivity Disorder \(ADHD\)](#), [methylphenidate \(Ritalin™\)](#) works to alleviate their symptoms, although the likelihood that their symptoms will completely disappear is less than that seen in school-aged children.

As far as safety is concerned, the number of children in this study was relatively small, so it is not possible to use it as evidence that methylphenidate is absolutely safe in this age group.

Growth rates were significantly lower for both height and weight. Parents and clinicians are advised to consider the risk of shorter stature vs. the benefits of helping a child function better at home, school, and in the community.

What problem is being addressed?

[Stimulant medications](#) have been used for more than 20 years to treat the symptoms of [Attention Deficit/Hyperactivity Disorder \(ADHD\)](#) in school-aged children and adolescents, and their effectiveness has been well documented. One of the most common stimulant drugs is methylphenidate, known commonly by its trade name Ritalin™.

Preschoolers, just like older children, display symptoms of ADHD. However, Ritalin™ and other stimulant drugs used to treat older children and teens have not been approved for use in smaller children because they were no studies that showed they were safe and effective for this age group.

Some parents have also been concerned about safety in light of [recent reports linking stimulant drugs to increased suicidal behaviour](#) in depressed children.

What intervention is being tested?

The Preschool ADHD Treatment Study (PATS) looked at both the effectiveness and safety of methylphenidate (Ritalin™) to treat ADHD in children aged 3 to 5. All the children had a firm diagnosis of ADHD.

What is the *real scientific evidence*?

The study began with 261 children and their families completing a 10-week trial of behavioural therapy involving parent training. 183 of the children did not respond to the initial trial. These children were chosen to participate in the second phase of the study to test the safety and effectiveness of methylphenidate (Ritalin™).

Prior to receiving the medication, the children were given a complete physical examination and their heart rate, blood pressure, temperature, and height and weight were recorded. They were then started at a low dose of methylphenidate that was gradually increased over time. Reports of side effects and vital signs (i.e., blood pressure, pulse) were recorded as the number and strength of the doses was increased.

Safety: Reported side effects caused 11% of the children to stop drug treatment. Of the serious side effects noted, only one could be directly related to the drug. It is possible that the way the study was conducted actually increased reports of side effects that were not really related to the drug or caused parents to withdraw their children from the study because of concerns for their health that may have been unfounded.

Growth Rate Slowing: Another concern raised was that children on the drug had growth rates that were 20% lower than expected for height and 55% lower for weight. The significance for adult height is not yet known. However, the children were larger than average at the start of the study. The researchers suggest that children started on methylphenidate at a young age should be monitored for height and weight gain several times a year.

Effectiveness: Most of the children who stayed in the study experienced a reduction in the severity of their symptoms, although the effects were smaller than for school-aged children on the same medication. About 21% of the preschoolers who reached their optimal dose saw their symptoms disappear altogether.

+++

The preceding is a summary of:

Wigal T, Greenhill L, Chuang S, McGough J, Vitiello B, Skrobala A et al. *Safety and Tolerability of Methylphenidate in Preschool Children with ADHD*. Journal of the American Academy of Child and Adolescent Psychiatry 2006, 45(11): 1294-1303.