Methylphenidate May Be OK for Preschoolers

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BY KERRI WACHTER
Senior Writer

WASHINGTON — Methylphenidate appears to be effective and safe for the treatment of attention-deficit hyperactivity disorder in preschool-age children, according to preliminary data presented at the annual meeting of the American Academy of Child and Adolescent Psychiatry.

The results come from Treatment of Attention Deficit Hyperactivity Disorder in Preschool-Age Children study (PATS), sponsored by the National Institute of Mental Health.

Several studies have previously suggested that preschool-age children with ADHD would respond to and tolerate methylphenidate, and this multisite study is the first major effort aimed at directly assessing the safety and efficacy of a stimulant for attention-deficit hyperactivity disorder in children aged 3-5 years.

"The take-home message is that 85% of the children responded to the methylphenidate," during the 5-week crossover period to determine the optimal dosing for each of the children, said study investigator Howard B. Abikoff, Ph.D., of the New York (N.Y.) University Child Study Center.

The optimal dose for each child was determined during a 5-week period. Over that period, all of the children were given a placebo or a dose of 1.25 mg, 2.5 mg, 5 mg, or 7.5 mg three times daily for 1 week each. Overall, 144 children completed this 5-week trial. Each week, a composite score of symptom severity was assigned based on parent and teacher responses to the Conners, Loney, and Milich (CLAM) Questionnaire and the Swanson, Kotkin, Agler, M-Flynn, and Pelham (SKAMP) rating scale.

Two blinded assessors were then asked to identify the best dose for each child. A full panel of all investigators decided upon the appropriate dose when the two assessors did not agree. Just over half (51%) of the children were referred to the full panel of investigators to determine the optimal dose.

Children also could be evaluated at a 10-mg dose if investigators agreed that there was a good chance that the child would have an even better response with a higher dose. This happened in 15 cases.

"First of all, we got a very significant effect per dose relative to placebo," said Dr. Abikoff. For the 2.5-mg, 5-mg, and 7.5-mg doses, the children's composite scores were significantly lower than for placebo.

"We got small to moderate effect sizes at the intermediate doses [2.5 mg and 5 mg] and a reasonably robust effect size at the 7.5-mg dose," Dr. Abikoff said. There was also a trend toward significantly lower scores for children in the 1.25-mg group.

After the 5-week crossover period, 113 children were randomized to receive either the optimal dose (61 children) or placebo (52 children) for 4 weeks. In the analysis of this portion of the trial, all children were included even if they left the trial early, with the last observation for that child carried through.

In the second portion of the study, a statistically significant difference was found in the composite scores—1.79 points for those in the placebo group and 1.49 points for those receiving the optimum dose of methylphenidate. "The effect sizes are linear from 1.25 mg up to 7.5 mg. … The effect size for 10 mg was somewhat lower," said Dr. Abikoff.

Over the course of the trial there were 39 adverse events, including difficulty falling asleep, decreased appetite, emotional outbursts, and stomach discomfort.

Safety was a significant concern, given the age group involved. The researchers worked closely with the Food and Drug Administration in designing the trial to ensure safety. In fact, the original study design was altered to account for the concern that children in this age group might be uniquely sensitive to stimulants and have a number of adverse events. Originally, the lowest dose of methylphenidate was planned to be 2.5 mg three times a day, but the dose was lowered to 1.25 mg three times daily to ease FDA concerns about adverse reactions.

There was also a 40-week open-label maintenance phase, with children receiving a mean total daily dose of 14 mg. During this phase, the child was given the dose that the clinician thought was appropriate. "What's interesting is that we see a noticeable increase of 23% in absolute dose," Dr. Abikoff said.

At the end of this maintenance period, the optimal dose had increased to 20 mg/day. This suggests "the doses used here were a bit low in terms of clinical optimization," he said. ■

Aggression in Young Children Requires Close Attention

BY SHARON WORCESTER
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BAL HARBOUR, FLA. — Aggression is an increasing and troubling problem among young children, but there are things physicians can do to help parents address the matter, Barbara J. Howard, M.D., said at the annual Masters of Pediatrics conference sponsored by the University of Miami.

Teachers and day care workers report that up to 40% of boys and 28% of girls aged 2-5 years exhibit moderate to high levels of aggression. The problem is of concern—particularly before age 3, when aggression peaks in children—because early aggression was associated with later behavior disorders (correlation coefficient 0.68), including conduct disorder, said Dr. Howard, of Johns Hopkins University, Baltimore, Md.

About 40% of severe aggression in adults—the kind associated with criminal behaviors—begins before age 8, she noted.

A number of factors can contribute to aggression, but a particularly important point is that aggression can be stimulated by the thwarting of any major developmental need, she said.

Dr. Howard addressed key developmental needs, including:

► **State regulation.** State regulation requires consistency in routines (such as eating and sleeping) and parental responsiveness. Routines stabilize mood and reduce resistance among children and are especially important for temperamentally irregular, unadaptable children, she said.

Try to educate parents about the impact of environment on emotional state. Encourage routines, including regular snacks and meals, and suggest parents talk softly to their children, decrease television time, and increase sleep time.

Make parents aware of the association between aggression and sexual exposures, bullying (by siblings or peers), and inadequate child care (see box), and advise them to watch for these things. For some parents, keeping a diary of stresses and their effects can be helpful in identifying problems.

► **Mastery.** Experiences of mastery involve balance between respecting the child's need for autonomy and providing the protection the child needs to avoid being overwhelmed by that autonomy. Teach parents to give the autonomy but not beyond what the child can handle.

Mastery also involves avoiding overprotection and over-strictness and providing adequate limits. Inadequate limits can evoke aggression, Dr. Howard said.

Parents with a hyperaggressive child should be counseled about proper discipline—such as instructions about small consequences and the use of time-outs.

For children with gaps in skills such as fine-motor and expressive language skills, placement with younger children should be considered, as should treatment for the deficits to help in the management of problems with mastery that lead to aggression.

► **Positive emotional tone.** Positive tone and stable attachment reduce suspiciousness and enhance resilience under stress that might otherwise evoke aggression in children. Hostility in the family environment increases tension in the child and provides a model for aggression.

Parents should be advised to address their hostility problems, and nonphysical discipline measures should be encouraged.

Eliciting information about parental history of discipline can be helpful for prompting such discussions.

Consider referring families with a lack of positive emotional tone for family therapy, Dr. Howard said.

► **Assistance in regulating negative affect.** Parents can help in the regulation of a child's negative affect through "jollying," distraction, modeling, acknowledgment, verbalization, and compromise. Lack of a tolerance for negative feelings can lead to excessive negative affect, and this can be a source of aggression, she noted.

Encourage parents to help the aggressive child express negative emotions by echoing their feelings or allowing the child to use alternative outlets for the emotions—such as a punching bag.

Consider referring those families trapped in a "coercive cycle" in which the aggression leads to the parents' backing down; such cycles are highly associated with poor outcomes with regard to childhood aggression, she said.

► **Learning pro-social behavior and empathy.** Children must learn such behaviors, including trading, taking turns, waiting, asking for things, using good manners (such as saying "thank you"), considering other points of view, considering the effects of one's actions, and recognizing the feelings of others. Methods for teaching such behaviors include modeling within the family and providing selective attention to and rewards for positive behaviors.

Providing more individual attention (not linked with aggressive behavior) to an aggressive child also can be helpful, as can providing sympathy to the victims of the aggression, Dr. Howard said ■

Signs of Problematic Child Care Settings

An important question when a young child is aggressive is "Who is taking care of the child?" Dr. Howard said.

Aggressive children who spend a great deal of time in day care could be exhibiting behaviors associated with problems there. She advised encouraging parents of aggressive children to look for the following warning signs of problematic child care settings:

► **Large child/caregiver ratios.** Smaller class sizes are better.

► **Lack of attention to positive behaviors.** Children should be rewarded for positive behaviors.

► **Lack of anticipation of problematic behaviors.** Teachers should watch for signs of arising problem behaviors and redirect the child.

► **Lack of a good curriculum.** Children should be adequately stimulated.

► **Limited space for toys and small-group play.** Adequate space for appropriate playing is important for limiting aggressive behaviors.

► **The use of physical discipline.** Physical discipline is problematic in any setting but is unacceptable in the child care setting, Dr. Howard said.