

Partnership between autism experts, pediatricians identifies toddlers at risk for autism

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Parents and health care providers can't always tell whether toddlers display signs of autism syndrome disorder (ASD), but new research from the University of Utah shows that a significant portion of at-risk children between 14-24 months can be identified through systematic screening by autism experts and providers working together.

Identifying children with ASD as young as possible is critical for the [early intervention](#) that can improve their lives and ability to function in the world. But a systematic way to do that has not been established, according to the lead author of the study published May 1, 2011, in *Pediatrics*, Judith S. Miller, Ph.D., formerly of the U Department of Psychiatry and now at the Children's Hospital of Philadelphia. The study was designed to see if a partnership between pediatricians and [autism](#) experts could identify at-risk children in a real-life, clinical setting, and captured a diverse range of race and ethnicity, including Hispanic, Pacific Islander, black, and Native American toddlers. Ultimately, the study identified 10 toddlers with early signs of ASD that hadn't yet been identified.

"There has been limited research into how screening might occur in a real-life situation," Miller said. "Our study demonstrated how collaboration between pediatricians and autism experts facilitates screening."

She and her U colleagues used two widely accepted [questionnaires](#) to screen 796 tots between 14 and 24 months at Granger Pediatrics, a large Salt Lake Valley [medical practice](#). The questionnaires – a 23-item checklist for parents called the Modified Checklist for Autism in Toddlers (M-CHAT), and the Infant Toddler Checklist (ITC), a 24-item broad-based screener of language and communication – were given during a six-month period in 2008. They were filled out by caregivers (usually parents) and pediatricians for each child during all types of patient visits – well-child, follow-up, sick visits, and immunizations.

Early signs of ASD include impairments in social attention, such as the inability to direct the attention of others or to respond to other people easily and naturally; impaired nonverbal communication; lack of integration of verbal, facial, and gestural communication; lack of response to name; impairments in the ability to imitate; and repetitive use of objects. With this in mind, the questionnaires asked caregivers and providers to answer questions such as: When you say your child's name, does he or she respond? Does your child pick up objects and give them to you? Does your child imitate and pretend to use objects? Does your child try to attract your attention to his/her activities?

Toddlers who exhibited three or more inappropriate behaviors on the 23-item M-CHAT were identified as potentially at-risk for ASD. The ITC assessment was compared to a norm score.

Miller and her colleagues evaluated each questionnaire and if either the M-CHAT or ITC indicated a child had signs of ASD, the researchers then conducted a follow-up interview on the phone to verify the parent's responses. If the follow-up interview verified the potential signs of autism, the child was evaluated in person.

Through the combination of using both screening tests for each child, Miller and her U colleagues identified 13 children with early signs of

ASD, 10 of whom had not previously been evaluated for ASD. Neither questionnaire identified all 10 children, and two children were initially missed by both questionnaires. But the act of filling out the screeners made parents reconsider their child's development, which ultimately led to an evaluation.

In 2007 the American Academy of Pediatrics (AAP) recommended that all children be screened for autism at 18 and 24 months of age. "This study validates those recommendations" says co-investigator Paul Carbone, M.D., who is a member of the AAP Autism Subcommittee and an assistant professor of pediatrics at the University of Utah. According to Carbone, many toddlers are still not being screened because implementing autism screening into pediatric offices presents challenges. "This is why we offered to partner with pediatricians to help address some of those challenges," he says.

The study not only showed that a partnership between autism experts and providers can identify at-risk children at a much younger age, but also provided immediate help to 10 toddlers who may have otherwise been missed for several years – critical lost time for intervention. "It was great to help parents see their child's strengths as well as areas of concern, and to try to help them access intervention before the signs of ASD had become severe," Miller said. "I hope it leads to a better outcome."

The partnership with Granger Pediatrics was critical. "The faculty and staff were incredibly supportive and together we accomplished something other research groups haven't," Miller said. "We couldn't have done this without them."

For future research, Miller suggests an even larger study in a larger set of pediatric practices to determine the costs of widespread screening and study the impact of screening on families and toddlers with ASD. Co-authors on the study were: Terisa Gabrielsen, Michele Villalobos, Ph.D.,

Rebecca Alleman, Natalie Wahmhoff, Paul S. Carbone, M.D., assistant professor of pediatrics at the U medical school, and Brandon Segura.

Provided by University of Utah Health Sciences

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