

Intervention Can Improve Attention in Autism

BY DIANA MAHONEY
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MONTREAL — Intensive intervention programs that focus on joint attention using a child-directed teaching approach can affect change in autistic children's attention states, and potentially improve social functioning and their long-term prognosis, Tanya Paparella, Ph.D., said at the 5th International Meeting for Autism Research.

Joint attention—which refers to the propensity of a child to engage others' attention through eye contact, referential eye gaze, and pointing as a way to share their experience of objects or events—is a critical area in normal development that typically emerges between the ages of 9 and 15 months. Studies have indicated that joint attention behaviors lay the foundation for later emerging skills, including more complex expressive language and symbolic play.

Impairment in the development of joint attention is characteristic of children with autism spectrum disorders, and it is one of the core deficits addressed in the Early Childhood Partial Hospitalization Program (ECPHP) in the division of child psychiatry at the University of California at Los Angeles. The ECPHP is a 12-week program for children with autism between the ages of 2 and 7 years in which structured, intensive, individualized treatment is provided to 12 children at a time for 6 hours per day, 5 days per week.

The comprehensive program is made up

of direct intervention in core areas of functional deficit: educational, behavioral, and social intervention plans; parent education and support; and liaison with community agencies. All children in the program receive speech therapy, occupational therapy, and recreational therapy interventions. They also are seen individually or in therapeutic groups to promote language usage, socialization, and appropriate interaction with others, Dr. Paparella said in a poster presentation.

In a study designed to assess whether participation in a comprehensive treatment intervention can affect the development of joint attention behaviors, Dr. Paparella and her colleagues evaluated the outcomes of 10 ECPHP participants using an observational measure designed to examine the proportion of time each child spent in any of six engagement states.

The states of engagement were defined as: unengaged, in which the child is not involved with any object or event; onlooking, whereby the child is observing another's activity but is not taking part in it; object engaged, in which the child is focused solely on an object by himself, minus any type of communication with another person; person engaged, where the child is engaged in an interaction with another person but does not shift his or her attention between the person and object; supported joint attention, in which the child and another individual are actively involved in the same object, but the child shows little awareness of the other's involvement; and coordinated joint attention, where the child actively attempts to coordinate his or her attention to both another person and the object resulting in a shared social experience.

Joint attention refers to the propensity of a child to engage others' attention through eye contact, referential eye gaze, and pointing.

All of the children were evaluated using the Mullen Scales of Early Learning, which assess early cognitive ability and motor development. Of the 10 children—6 males and 4 females with a mean age of 38 months—4 were defined as lower functioning based on their Mullen scores; 6 were considered higher functioning.

At four equally spaced time points during the 12-week program from the time of admission to discharge, each child was observed for 15 minutes in each of four different contexts, including one-on-one instruction, structured play, circle time, and unstructured play. For observational coding, each 15-minute session was divided into 30-second time intervals, at the end of which the child's predominant engagement state was recorded. For each time point, a total score for each state was calculated across all four contexts to represent the mean number of intervals that the child was engaged in a specific engagement state.

Over the 12-week study period, "all of the children demonstrated decreases in the proportions of time spent in unengaged and on-looking states, and all increased the proportion of time spent in person-engaged, supported joint attention, and coordinated joint attention states," Dr. Paparella reported. The trajectories of change in the various engagement states varied, depending on the child's functional level, she noted. "The four lower-functioning children showed good increases in the lower-level engagement states and more gradual trajectories of change with the successively advanced states." In contrast, "the higher-functioning children showed dramatic increases in the more socially complex joint attention states."

The ability to change autistic children's attention states—and, in particular, to aid in the development of joint attention behaviors—through intensive behavioral intervention may play an important role in developing more complex social behaviors and communication skills, Dr. Paparella said. Simply decreasing the amount of time spent in passive states relative to active, engaged states can have a substantial impact on how children with autism experience the world. Further studies are needed to examine which aspects of the intervention have the most impact on attention states, she said. ■

Data Linking Autism, Measles Virus In Intestines Viewed as Preliminary

BY DIANA MAHONEY
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MONTREAL — Measles found in the intestines of a cohort of autistic children with bowel disease should not be perceived as proof of an association between the measles vaccine and autism, Stephen J. Walker, Ph.D., stressed at the 5th International Meeting for Autism Research.

"We haven't done anything to demonstrate that the measles virus is causing autism or even causing bowel disease. We have simply shown that there is measles virus in the guts of a large number of children who have regressive autism," said Dr. Walker of Wake Forest University in Winston-Salem, N.C.

A high percentage of children with autism have chronic bowel disease, which can have a direct influence on cognitive and behavioral issues associated with the condition, Dr. Walker said.

To explore the potential causes of autistic enterocolitis, the non-specific ileocolitis with ileocolonic lymphonodular hyperplasia that

plagues many of these children, Dr. Walker and colleagues have so far assayed terminal ileum biopsy tissue from 82 of 275 autistic children who had been referred to a pediatric gastroenterologist for evaluation. Eighty-five percent of the children tested, all of whom have the regressive form of autism in which an apparently normal child loses skills, have tested positive for the measles virus.

In addition, Dr. Walker noted, "of the handful of results we have in so far, all of the measles viruses are vaccine strains and none are wild measles."

In emphasizing that the findings are preliminary, Dr. Walker noted that "there are lots of viruses in the gut and any one of them could be the cause of chronic inflammation in these kids." While the findings do not confirm a causative link between the measles component of the measles/mumps/rubella virus suggested by a British scientist in 2002 and causing a maelstrom of accusations and protests, "if the virus from the vaccine is the cause of inflammation and chronic bowel disease in some suscepti-

ble children, that is something that needs to be known," he said.

Because of the long-standing controversy surrounding the MMR vaccine-autism theory, Dr. Walker suggested that the objectives and findings of this study be considered in the "proper context," noting that "our goal is to discover the biology of bowel disease in these children and to gain insight into the most effective ways to treat it."

Relieving the bowel discomfort is a top priority. "These kids experience severe stomachaches every hour of every day, and many of them are nonverbal, so they can't communicate their pain," he said. Instead, they exhibit certain behaviors that are often considered characteristic of their autism, such as leaning over the edge of a table or chair for hours at a time.

Identification and treatment of the bowel disease can lead to improvements in other areas, Dr. Walker noted. "There is case after case where kids improve cognitively, behaviorally, and biomedically when the bowel disease is treated. Right now, that is our goal." ■

Self-Reports of Depressive Symptoms Tied to Asthma

Child-reported depressive symptoms are more strongly associated with asthma than are clinician- or parent-reported symptoms, reported Dr. James Waxmonsky and his colleagues at the State University of New York at Buffalo.

Dr. Waxmonsky and his colleagues found that clinically significant depressive symptoms were reported in more than one-quarter of the children (26%) in the study, which looked at 129 asthmatic inner city children aged 7-17 years.

The researchers evaluated the prevalence of depression and the best ways to measure symptoms in inner city children with asthma, because this population is understudied and may be predisposed to physical and emotional illnesses (J. Am. Acad. Child Adolesc. Psychiatry 2006;45: 945-54).

Each child's depression was assessed using several measures, including the Child Depression Inventory, Children's Depression Rating Scale—Re-

vised, and Child Behavior Checklist—Internalizing Scale.

The depression rating scales were significantly correlated with one another, but self-report measures, such as the CDI, may be the most effective at assessing the link between depression and asthma "because they may best capture depressive symptoms that compromise airway conductivity," the researchers wrote.

Overall, 96 children (74%) had moderate to severe asthma, and the mean lung function, based on forced expiratory volume in 1 second, was 88.1 FEV₁. Asthma was significantly associated with minority race.

Previous studies have shown associations between parental depression and children's asthma, but no significant association between those factors was found in this study—although 43% of mothers and 32% of fathers met the criteria for depression based on Beck's Depression Inventory.

—Heidi Splette