

# Pediatric Investigation Study Reveals Potential of Advanced Diagnostic Model for Autism Screening

*Researchers use an interactive screening model to understand the demographic and socioeconomic characteristics of toddlers diagnosed with autism*

BEIJING, BEIJING, CHINA, December 9, 2024 /EINPresswire.com/ -- Autism spectrum disorder (ASD) is a complex developmental disorder that causes significant social, communication, and behavioral challenges. Early diagnosis, along with suitable therapies, is crucial to alleviating the symptoms. To this end, a team of researchers from the United States of America has developed an advanced screening model to identify toddlers with autism from underserved areas. Their model holds the potential for accessible diagnosis for toddlers from culturally and linguistically diverse backgrounds.

Autism spectrum disorder (ASD) is a neurological and developmental disorder that affects a person's behavior, learning, communication, and social skills. ASD can be diagnosed in people from any gender, race, ethnicity, or socioeconomic status. Despite being a lifelong disease, ASD becomes somewhat manageable with therapies and that makes early detection of the condition extremely crucial.

However, there is a lack of valid ASD screening measures, particularly among the under-resourced and culturally and linguistically diverse (CLD) communities. Physical barriers like distance, combined with social and cultural barrier, often delay in screening, negatively impacting the neurodevelopment of toddlers. Researchers are now focusing on the development of tools that can help in early diagnosis, along with training the primary care (PC) and early intervention (EI) providers.

Advancing research, a team of researchers led by Dr. Roula Choueiri from the Kennedy Krieger



Institute, USA, developed a new, interactive screening model called the Rapid Interactive Screening Test for Autism in Toddlers (RITA-T). The developed model offers precise and quick diagnosis for kids between the age of 18 to 36 months. It can help PC and EI providers in the diagnosis of high-risk toddlers and help family members with important information and referrals. This study, published in [Pediatric Investigation](#) on September 27, 2024, explores the potential of RITA-T to improve early identification of high-risk toddlers from underserved areas. Explaining more about the study, Dr. Choueiri says, "For our study, we compared the demographic and socioeconomic traits of two groups of toddlers diagnosed with ASD. One group underwent the RITA-T screening and the other did not."

Over the course of a 14-month long study, the team trained EI providers and assisted PC providers in implementing the RITA-T model in their practice. PC providers used the RITA-T alongside the standard Modified Checklist for Autism in Toddlers, revised with follow-up (MCHAT-R/F). These cases were then recommended to specific urban tertiary care centers called the Autism-R diagnosis clinic. For the group that did not perform RITA-T screening, the MCHAT-R score and a parent-completed questionnaire were necessary and these patients were recommended to standard Autism-S clinic.

In both the groups, toddlers underwent 90-minute diagnostic evaluations conducted at these centers by neurodevelopmental pediatricians or neurology nurse practitioners. The team of researchers then assessed demographic and socioeconomic factors, including gender, race, ethnicity, travel time, and wait times for diagnosis. Some statistical tests were performed to compare the data collected from the two groups.

The findings revealed interesting insights into the demographic and socioeconomic characteristics. While the gender and age of the toddlers belonging to both the groups were similar, there was a significant difference in travel time and wait time. Toddlers in the RITA-T group traveled longer distances for their evaluations but shorter wait times from referral to appointment.

The study also considered the Area of Deprivation Index (ADI), which combines socioeconomic indicators like income, education, employment, housing, and transportation, to identify areas with high levels of deprivation. The ADI score for toddlers referred to through the RITA-T system was high, indicating that they come from neighborhoods with deprived socioeconomic conditions. Additionally, households in the RITA-T group had lower incomes compared to the non-RITA-T group.

These findings support the success of the RITA-T screening approach. Since the PC questionnaire was not mandatory for RITA-T-based screening, the diagnosis became easily-accessible for families, who are not conversant with English as a language. It also allowed screening of patients staying further away from urban centers. Maria DeMeo, a pediatric nurse practitioner at Boston Children's Hospital and a member of the research team, mentions, "More patient referrals during the study period may have resulted from the RITA-T method's ability to streamline and expedite

the entire screening process.”

While these findings are significant, this observational study included more patients screened via RITA-T model, which led to comparison between two unbalanced group sizes. Also, the data regarding the race and ethnicity of the patients was not very clear. However, the participating EI and PC practitioners agreed that using the RITA-T model and integrating it into their programs was easy. Sharing his concluding thoughts with us, Dr. Choueiri says, “The model definitely improves wait time and access to diagnostic services. It also reduces the burden of excessive paperwork, making it easier for family members.”

In the long run, these findings can aid future efforts aimed at improving healthcare access and reduce disparities by expanding the use of the RITA-T approach and improved training initiatives.

## Reference

Titles of original papers: Demographic and socioeconomic characteristics of patients diagnosed with autism through the Rapid Interactive screening Test for Autism in Toddlers

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