
# DIAGNOSTIC UTILITY OF STANDARDIZED TOOLS IN THE ASSESSMENT OF AUTISM SPECTRUM DISORDERS IN CHILDREN

**Sh.Sh.Shamansurov**
**N.R.Mirdjuraeva**
**Center for the Development of Professional Qualification of Medical Workers, Tashkent, Uzbekistan**
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*In Uzbekistan, similar systemic challenges persist, including limited availability of trained specialists and insufficient implementation of early screening programs. These factors contribute to delayed diagnosis, which in turn reduces the effectiveness of intervention strategies and negatively impacts developmental trajectories*

**ABSTRACT**

*Autism spectrum disorder (ASD) is a complex neurodevelopmental condition characterized by persistent impairments in social communication and the presence of restricted, repetitive patterns of behavior. Early diagnosis and timely initiation of comprehensive support represent critical determinants of developmental outcomes and quality of life in affected children. The present study aims to evaluate the diagnostic effectiveness of standardized assessment tools in identifying ASD in children aged 2–8 years under clinical conditions. The study included 169 children with clinically confirmed ASD and 30 typically developing children. The results demonstrate high diagnostic validity and statistically significant intergroup differences ($p < 0.0001$), confirming the reliability and applicability of the standardized diagnostic approach. The findings support the integration of such methods into clinical practice to enhance early detection and improve long-term outcomes.*

## Introduction

Autism spectrum disorder (ASD) constitutes one of the most significant challenges in contemporary pediatric neurology and psychiatry. According to the DSM-5-TR classification, ASD encompasses a heterogeneous group of neurodevelopmental conditions characterized by deficits in social interaction, communication, and behavioral flexibility [1]. The global prevalence of ASD has increased substantially, reaching approximately 1–2% of the pediatric population [2].

Early diagnosis is a key factor influencing the effectiveness of subsequent therapeutic and educational interventions. Numerous studies have demonstrated that early signs of ASD can be identified as early as 18–24 months of age [3,11]. However, in many healthcare systems, particularly in developing countries, diagnosis is often delayed due to limited access to specialized care, insufficient training of professionals, and lack of standardized diagnostic protocols.

In Uzbekistan, similar systemic challenges persist, including limited availability of trained specialists and insufficient implementation of early screening programs. These factors

contribute to delayed diagnosis, which in turn reduces the effectiveness of intervention strategies and negatively impacts developmental trajectories.

International clinical guidelines emphasize the necessity of routine ASD screening in early childhood [3,4,10]. The use of standardized diagnostic tools, including parental questionnaires, structured behavioral observation, and clinical evaluation, has been shown to significantly improve diagnostic accuracy [5,6,8,12]. The integration of these methods allows for comprehensive assessment and reliable differentiation between ASD and typical development.

**Materials and Methods**

The study included 169 children aged 2–8 years with clinically confirmed ASD and a control group of 30 typically developing children. All participants were examined in a clinical setting using a comprehensive diagnostic approach, including collection of medical history, standardized observation, and clinical assessment. Exclusion criteria included severe neurological or somatic disorders interfering with assessment and refusal to participate. The diagnostic procedure was conducted in a controlled clinical environment with the participation of the child, parents, and a trained specialist. The applied methods allowed for a comprehensive evaluation of social interaction, communication abilities, and behavioral characteristics. Statistical analysis included the calculation of diagnostic validity parameters and the comparison of results between the ASD and control groups.

**Results**

The results obtained demonstrate that the applied diagnostic methods possess high validity in identifying ASD. In the ASD group, most children exhibited clinically significant levels of autistic symptomatology, whereas all children in the control group showed results within normative limits. Statistical analysis revealed significant intergroup differences ($p < 0.0001$), confirming the strong discriminative capacity of the applied diagnostic approach [7,11]. Age-related analysis indicated that core ASD symptoms remain stable across all age groups examined. Deficits in social communication were consistently identified regardless of age, demonstrating the reliability of standardized assessment methods [7,9].

At the same time, moderate variability in symptom severity was observed, particularly in older children. This variability may be associated with behavioral adaptation or the effects of ongoing intervention while preserving the core clinical profile of ASD.

The results further indicate that the combined use of multiple diagnostic methods provides higher accuracy compared to single-tool assessment. The integration of screening, structured observation, and clinical evaluation enables more precise differentiation between ASD and typical development.

**Discussion**

The findings of the present study are consistent with international research demonstrating the effectiveness of standardized diagnostic tools in early ASD detection [5,6]. Early identification allows for the timely initiation of comprehensive support, which significantly improves developmental outcomes. Evidence-based interventions, including behavioral therapy, speech and language therapy, and psychoeducational approaches, have been shown to enhance communication skills, adaptive functioning, and social integration [4].

Furthermore, early support contributes to the reduction of maladaptive behaviors and improves long-term prognosis.

The stability of core ASD symptoms across age groups highlights the importance of early screening and continuous monitoring. Although symptom severity may vary, the fundamental characteristics of ASD remain consistent, supporting the reliability of standardized diagnostic instruments. Parental involvement is another critical factor in the effectiveness of diagnostic and intervention processes. Educating parents about early signs of ASD and involving them in intervention programs enhances treatment outcomes and supports the child's development in naturalistic settings.

**Conclusion**

The present study confirms that standardized diagnostic tools are highly effective in the assessment of autism spectrum disorders in children. Their application significantly improves diagnostic accuracy, facilitates early detection, and supports evidence-based clinical decision-making. The integration of standardized diagnostic approaches into clinical practice is essential for the development of effective early intervention strategies and the improvement of long-term developmental outcomes and quality of life in children with ASD.

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