

This would then also better link in with the cut-off age of '4 years or more' used in many questions in the INDT-ASD. Longer-term longitudinal studies can also be undertaken to determine the diagnostic stability of the INDT-ASD.

The INDT-ASD is currently mapped closely to the DSM-IV TR. Now that the DSM-5 has been published, further research should be done to see if it is just as efficacious for the DSM-5 criteria. It would also be interesting to see how the tool compares to other locally developed tools, such as the Indian Scale for the Assessment of Autism (ISAA), which has been available since 2009 [5]. Finally, an important aspect to note is that psychometric diagnostic tools are to assist a clinician to conclude a diagnosis, but ultimately, it is sound clinical judgment – based on a clear history and a thorough behavioral observation – that is of utmost importance. It is always prudent to consider other differential diagnoses such as cerebral palsy, intellectual disability, neurodegenerative disorders, hearing loss and vision loss.

We hope that further training, usage, and development of the INDT-ASD will facilitate awareness, diagnosis and early intervention for children with autism in India.

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## Challenges in Diagnosis of Autism and the Struggle of Using Western Screening Tools in Different Cultures PSYCHIATRIST'S PERSPECTIVE

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**A**utism spectrum disorder (ASD) and other related conditions are estimated to affect up to 10-15 people per 10,000 in populations worldwide [1]. As defined in the recently published Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), ASD encompasses the previous DSM IV TR's autistic disorder (autism), Asperger's disorder, childhood disintegrative disorder, and pervasive developmental disorder not otherwise specified. ASD manifests in early childhood and is characterized by deficits in verbal communication, social interaction, and restricted repetitive behaviors, interests and activities. Although a clear etiology of ASD is unknown, several different factors have been implicated such as genetic predisposition, obstetric complications, exposure to toxic agents, and perinatal exposure to medications such as valproic acid [2], or infections such as maternal rubella. Several metabolic abnormalities have

been identified in various studies (e.g. elevated 5-HT, impaired phenolic amines metabolism) while neuroimaging has yielded inconsistent results in evaluating autism. Thus, the diagnosis is primarily clinical and often challenging due to frequent co-morbidities and lack of adequate comprehensive screening.

With increased awareness of the potential benefits of early interventions, there has been an increased interest and emphasis on early identification of infants and toddlers with or at risk of ASD. Several instruments have been developed to diagnose ASD. However, administering these tools may need the expertise of child psychiatrists, pediatricians and child psychologists who have extensive training and experience with children with autism in order to use these tools and come up with a reliable and valid evaluation. The Childhood Autism Rating Scale (CARS) is a commonly used scale for diagnosis and measuring the severity of autism along

with others such as the Autism Diagnostic Observation Schedule-Generic (ADOS-G) and Autism Diagnostic Interview-Revised (ADI-R). A recent study by Kimple, *et al.* [3] reported that Spanish-speaking toddlers in the United State of America are twice as likely as their English-speaking peers to have abnormal results on the Modified Checklist for Autism in Toddlers (M-CHAT), a common parent-completed questionnaire to screen for autism. Dr. Kimple's study highlights the fact that children from minority and/or lower socioeconomic status (SES) backgrounds may screen positive at higher rates than majority and/or higher SES. Issues with translation, interpretation, or cultural understanding of behaviors may contribute to these false positive results.

In the current issue of *Indian Pediatrics* [4], the authors describe the development and validation of INCLEN diagnostic tool for autism Spectrum disorder (INDT-ASD). The authors highlight the current challenges involved in using the diagnostic measures developed in the Western world in the diverse socio-cultural Indian setting including the financial implications involved in using patented instruments. Currently, the only other Indian scale used for diagnosing and measuring autism is the Indian Scale for Assessment of Autism (ISAA) [5], which is based on the CARS. The new tool discussed in this issue – INDT-ASD – was tested to have specificity similar to DSM-5 (95%) and sensitivity of 76%, that was much higher. A high Cronbach's alpha coefficient for internal consistency was indicative of a homogenous symptom cluster in the Indian context. The article underscores the importance of socio-cultural factors in the diagnosis of psychiatric disorders, specifically ASD, and also highlights the role of language when making diagnostic considerations in disorders involving language and communication. Currently the INDT-ASD is available in eight different Indian languages.

Common co-morbidities such as intellectual impairment, subnormal intelligence quotient (IQ),

Attention deficit hyperactivity disorder (ADHD) and anxiety are common and may add to the diagnostic challenge. Once accurate diagnosis is established, management involves education of family members and intensive individualized behavioral and psychosocial interventions at home and in school settings in order for the child to achieve an optimal outcome. Applied behavior analysis is the most influential and effective treatment for the main core symptoms of Autism [6]. The role of pharmacotherapy is limited to specific target symptoms and or co-morbidities.

Continued research is needed to develop a better means of diagnosing ASD due to inconsistencies in findings across cultural and socioeconomic backgrounds. The development of INDT-ASD seems to address this issue in the Indian culture.

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