



Mini Review

Physiotherapy Interventions in Autism: A Contemporary Mini-Review

Shardeshu Srivastava¹, Malvika Lal² and Niharika Lal^{3*}

¹Department of Physiotherapy, PhysioAdviser India, Delhi, India

²Department of Physiotherapy, BLK Super Speciality Hospital, Pusa Road, Delhi, India

³Department of Pharmacy, Metro College of Health Sciences and Research, Greater Noida, Uttar Pradesh, India

Submitted : 10 November, 2025

Accepted : 18 August, 2026

Published : 19 August, 2026

*Corresponding author: Niharika Lal, Department of Pharmacy, Metro College of Health Sciences and Research, Greater Noida, Uttar Pradesh, India, E-mail: niharikalal24@gmail.com

Keywords: Physiotherapy, Autism, Motor skills, Children, Developmental therapy

Copyright License: © 2026 Srivastava S, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

<https://www.medscegroup.us>



Check for updates

Abstract

Autism Spectrum Disorder (ASD) is a neurodevelopmental condition that affects communication, behavior, and social interaction. Many children with ASD exhibit motor impairments, including difficulties with coordination, balance, and postural control. Physiotherapy plays a crucial role in addressing these challenges by improving gross and fine motor skills, promoting participation, and enhancing overall well-being. This review discusses the key physiotherapeutic approaches for children with ASD, emphasizing individualized and evidence-informed practice, interdisciplinary collaboration, and early intervention.

Introduction

A neurological and developmental condition known as Autism Spectrum Disorder (ASD) has an impact on how people connect with others, communicate, learn, and behave. Autism is referred to as a “developmental disorder” since symptoms typically start to manifest in the first two years of life, even though it can be diagnosed at any age. Autism Spectrum Disorder (ASD) is characterised by impairments in social communication and restricted, repetitive behaviours, often accompanied by motor difficulties such as poor coordination, balance, and postural control. These deficits may persist from childhood into adulthood and can be associated with ASD symptom severity. Evidence from a meta-analysis of 15 studies indicates that physical activity interventions can improve balance, motor skills, and physical fitness in children with ASD. People with ASD frequently show the following symptoms, according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), a manual established by the American Psychiatric Association that health care professionals use to identify mental disorders [1]:

- Having trouble communicating and interacting with others

- Limited interests and recurring patterns of behaviour
- Symptoms that impair a person’s ability to function in job, school, and other facets of their lives. Autism is referred to as a “spectrum” condition due to the wide range in the nature and intensity of its symptoms.

ASD can be diagnosed in people of various sexes, racial and ethnic backgrounds, and socioeconomic statuses. Even though ASD can be a lifelong illness, some programmes and therapies can help with symptoms and day-to-day functioning. The American Academy of Paediatrics advises that all kids have an autism spectrum disorder screening. Parents should discuss ASD screening or evaluation with their child’s doctor.

Early gross motor milestones like sitting, crawling, and independent walking may be accomplished by children with ASD within the predicted time frame, although their movements may be less mature or stereotyped than those of their peers. The foundations for later motor skill development, which calls for more complex and precise movement control, are laid by these early motor skills [2]. Children with ASD or ADHD may therefore find it difficult to learn higher-order motor abilities including hopping, skipping, riding a bike,

balancing, and dribbling. These abilities have an impact on the child's overall involvement in peer and community activities, which in turn has an impact on their general development. The basic understanding of Autism is depicted in Table 1.

It's crucial to make sure that a child with autism still has trouble using their gross and fine motor skills despite developmental delays in their behaviour, communication, and social interactions. Assessment and treatment of motor deficits should be a part of autism treatment. To teach autistic children to feel confident in their bodies and competent in their activities, physiotherapists must take into account the autism diagnosis while developing structured treatment plans. Children with autism who receive physiotherapy as part of their autism treatments have seen improvements in (and decreases in the severity level of) weak muscle control, which helps to prevent future injuries and boosts self-confidence [3].

Diagnosis of Autism Spectrum Disorder (ASD)

Health care providers diagnose Autism Spectrum Disorder (ASD) by assessing a person's behavior and development, and the condition can often be reliably identified by age two. Early evaluation is crucial, as prompt diagnosis allows timely access to therapies and support services that can improve long-term outcomes.

Diagnosis in young children

The diagnostic process for young children typically involves two stages:

Stage 1: Developmental Screening

During routine well-child visits, pediatricians screen for developmental delays and autism-specific signs. The American Academy of Pediatrics recommends general developmental screenings at 9, 18, and 24 or 30 months, and autism-specific screenings at 18 and 24 months.

Caregivers' observations and concerns are essential, and screening may involve standardized tools, questionnaires, and clinical observations. If developmental differences are noted, the child is referred for a more detailed evaluation [4].

Stage 2: Comprehensive Diagnostic Evaluation

A multidisciplinary team—including child neurologists, developmental pediatricians, psychologists, speech-language pathologists, occupational therapists, and educational specialists—conducts a full diagnostic assessment.

This evaluation may include:

- Medical and neurological examinations
- Cognitive, speech, and language assessments
- Behavioral observations and caregiver interviews
- Evaluation of daily living skills (e.g., eating, dressing, toileting)
- Review of family and developmental history
- Additional tests such as hearing or blood tests, if needed

Because ASD is complex and may occur with other developmental or learning conditions, a comprehensive evaluation ensures accurate diagnosis and appropriate treatment planning. The outcome provides families with guidance for early intervention services, educational programs, and behavioral therapies best suited to the child's needs.

Diagnosis in older children, adolescents, and adults

In older children and adolescents, caregivers and teachers are often the first to notice signs of Autism Spectrum Disorder (ASD). These may include social and communication difficulties, such as trouble understanding tone of voice, facial expressions, body language, humor, or sarcasm, and challenges in forming

Table 1: The Causes, signs and diagnosis of Autism

CAUSES	SIGNS & SYMPTOMS	DIAGNOSIS
Having a sibling with ASD	Social communication/interaction behaviors may include: A person with autism who exhibits various behaviors such as making inconsistent eye contact, appearing uninterested, and not responding to verbal bids for attention. They also struggle with back-and-forth communication, often discussing topics without acknowledging others' interest. They also display unusual facial expressions, unusual voice tones, difficulty understanding others' perspectives, and social adjustment issues.	Healthcare providers diagnose Autism Spectrum Disorder (ASD) by assessing behavior and development, typically detected by age 2. Early diagnosis expedites treatment and services.
Having older parents	Restrictive/repetitive behaviors may include: Individuals with sensory sensitivities may exhibit unusual behaviors, intense interest in specific topics, overly focused interests, difficulty transitioning routines, and varying sensitivity to sensory input.	General developmental screening during well-child checkups
Having certain genetic conditions (such as Down syndrome or Fragile X syndrome)	Sleep problems and irritability.	Additional diagnostic evaluation The diagnostic evaluation for ASD typically involves medical and neurological examinations, cognitive and language assessments, behavior observation, caregiver conversations, and age-appropriate skills assessment. Additional tests may be necessary due to ASD's complexity and potential inclusion with other illnesses or learning disorders.
Having a very low birth weight	--	--

or maintaining friendships. The school's special education team may conduct an initial assessment and recommend further evaluation by a health care provider or an ASD specialist. During evaluation, clinicians need to consider both the child's challenges and strengths to develop personalized recommendations for educational and therapeutic support [5].

Diagnosis in adults

Diagnosing ASD in adults is often more complex than in children because symptoms can overlap with other mental health conditions such as anxiety disorders or attention-deficit/hyperactivity disorder (ADHD). Adults who suspect they may be on the autism spectrum should consult a health care provider for referral to a neuropsychologist, psychologist, or psychiatrist experienced in ASD assessment.

Adult evaluations typically assess social communication and interaction difficulties, sensory sensitivities, repetitive behaviours or routines, and restricted or highly focused interests.

Clinicians may also speak with family members or caregivers to gather information about the person's early developmental history, which supports an accurate diagnosis.

A confirmed ASD diagnosis in adulthood can help individuals better understand their experiences, recognize their strengths, and access appropriate services, workplace accommodations, and support networks. Ongoing research continues to explore effective interventions and support systems for transition-age youth and adults on the autism spectrum.

In the current scenario, a novel physical therapy service delivery model for young children with ASD is introduced. This approach has been in use for the past two years and is intended to suit the complicated demands of this population.

The study of an active model in use has significant theoretical and clinical ramifications.

First, in the absence of a well-established model of PT service delivery for children with ASD, models of service delivery are essential for future learning [especially given that general recommendations for interventions with this population are based on best practice principles for examination and intervention with children with ASD and other developmental disabilities [6].

Second, models of service delivery at the disciplinary level facilitate outcomes research and fact-based decision-making.

Physical therapy treatments are primarily intended to increase children's engagement and lessen functional and developmental barriers so they can be included and supported in their appropriate peer groups. The majority of treatment activities are often started in the therapy room with the goal of moving them as soon as possible to the child's natural surroundings (the kindergarten setting or playground).

Each child receives an individualised intervention programme after undergoing an evaluation by a physical therapist. The

following factors must be decided upon during programme development: (a) programme intensity; (b) programme type (hands-on, supplemental, or both); (c) intervention modality (individual physical therapy intervention, group physical therapy intervention, supplementary therapeutic intervention carried out by the carers on a daily/weekly basis); (d) interdisciplinary coordination and staff meetings; and (e) research and development [7].

Evaluation using reliable tests

The child's developmental, functional, and motor abilities are assessed individually at day-care centers and communication kindergartens. Assessments include medical records, validated tests, observations, and questionnaires. A pre-intervention assessment is performed upon entry, and follow-up assessments are conducted annually. This process is crucial for children aged 1.5–4 years.

Personalised therapy sessions

Practitioners use strategies to enhance a child's joy of movement, incorporating communication, interaction, and educational goals. Individualized interventions address ASD needs, reducing anxiety, encouraging self-regulation, and facilitating motor learning.

The three major objectives of the intervention programme are:

- a) Make it easier for people to develop their motor skills in both static and dynamic settings
- b) Reduce the physical limitations brought on by ASD
- c) Promote the acquisition of abilities that improve independent functioning in the peer group, family, and society

The program aims to improve a child's planning, organization, function-oriented movement, spatial orientation, independence, posture, movement patterns, cardiovascular abilities, ergonomic adaptation, assistive devices, and educational abilities through sensory organization and centering, enhancing their spatial organization, cardiovascular abilities, and overall well-being.

Interventions are tailored to each child's skills, level of anxiety, and capacity for change, but all sessions follow a standard fixed framework. The format of an intervention is built on regular, planned sessions that begin with an opening ceremony (entering the therapy room, taking off shoes, and introducing the intervention's context). The activities in a therapy session progress from more passive to more active in nature (e.g., sensory organising, tone changing), from assisted active participation (e.g., setting up the room) to a more active part of the session at a higher level of engagement (e.g., alignment, muscle strengthening, performing new functional tasks), and finally ending in a functional context and a predetermined, structured closing ceremony [8].

Sessions for therapy in groups

Group interventions can be either direct by a physical therapist or daily/weekly programs by caregivers, supervised by the therapist. They aim to enhance motivation for movement, assist children with ASD in basic interaction demands, help them acquire imitational skills, and challenge them to typical performance in daily settings. These interventions can be tailored for individuals or pairs, two children with another staff member, or a group of up to four children, designed for caregivers to operate on days the therapist is not in the facility.

Parent/staff guidance and supervision

The proposed holistic program provides supervision and guidance to caregivers, educational staff, parents, and healthcare professionals on the physical needs of children with ASD. This includes constructing and supervising programs within educational facilities, at home or in the neighborhood, and implementing motor intervention programs with peers during initial integration.

Team meetings and collaboration

Interdisciplinary interactions with healthcare professionals are regularly conducted, involving joint goal setting, intervention planning, and knowledge sharing. This includes weekly participation in educational facilities, multi-disciplinary meetings, assessment for complex children, joint home visits, and joint treatments with other healthcare professionals [9].

Professional development, education, and training

Professionals with advanced knowledge and abilities must be competent, experienced, and experienced working with children with ASD.

Leading clinical and academic physical therapists with clients with Autism Spectrum Disorder (ASD) meet monthly to discuss clinical care and therapy plans. They are encouraged to participate in case studies, clinical brainstorming groups, workshops, and conferences. Experienced therapists provide individual instruction, workshops, and professional educational meetings for paraprofessionals. Emotional support groups are facilitated by experts.

Research and development

Physical therapists play a crucial role in knowledge gathering and research for children with ASD, involving case studies, data collection, and evaluation of intervention outcomes. This information is then used to develop Evidence-Inspired Practice (EIP) for this population.

Future prospects

Future directions in physiotherapy for children with Autism Spectrum Disorder (ASD) should focus on developing innovative, evidence-based, and technology-assisted interventions that cater to the diverse needs of this population. Incorporating virtual reality (VR), robotics, and interactive gaming systems into physiotherapy programs can enhance engagement, motivation, and sensory-motor learning.

Moreover, tele-rehabilitation and digital monitoring tools can increase accessibility to therapy services, particularly for children in remote or underserved areas. Further research is needed to establish standardized physiotherapy protocols tailored to different levels of ASD severity, ensuring consistency in assessment and intervention. Longitudinal studies should be conducted to evaluate the long-term impact of physiotherapy on motor, social, and cognitive outcomes.

Interdisciplinary collaboration will remain a cornerstone of future practice, with physiotherapists working closely with occupational therapists, psychologists, educators, and families to design holistic and personalized care plans. Additionally, training and professional development programs for physiotherapists specializing in ASD should be strengthened to ensure competence in handling the complex behavioral and sensory needs of these children. Ultimately, the future of physiotherapy in ASD management lies in integrating clinical expertise, family involvement, and emerging technologies to create more inclusive, adaptive, and outcome-oriented therapeutic environments that empower children with ASD to reach their full potential [10,11].

Conclusion

Autism Spectrum Disorder (ASD) is a complex neurodevelopmental condition that not only affects communication and social interaction but also significantly influences motor development and physical functioning. Physiotherapy plays a pivotal role in addressing these motor challenges, supporting children with ASD to improve coordination, balance, posture, and overall body awareness. Through individualized and structured intervention programs, physiotherapists can help children enhance their movement skills, build self-confidence, and participate more fully in home, school, and community environments.

A multidisciplinary and holistic approach, combining physiotherapy with educational, behavioral, and family support, ensures that interventions are comprehensive and child-centered. Early identification and therapy are crucial, as timely physiotherapeutic involvement can reduce functional limitations, enhance independence, and contribute to long-term developmental progress. Continued research, professional collaboration, and evidence-informed practice will further strengthen the effectiveness of physiotherapy in improving the quality of life for children with ASD and their families.

References

1. Draudvilienė L, Draudvila J, Stankevičiūtė S, Daniusevičiūtė-Brazaitė L. Two physiotherapy methods to improve the physical condition of children with autism spectrum disorder. *Children (Basel)*. 2024;11(7):798. Available from: <https://doi.org/10.3390/children11070798>
2. Hirota T, King BH. Autism spectrum disorder: a review. *JAMA*. 2023;329(2):157-168. Available from: <https://doi.org/10.1001/jama.2022.23661>
3. Kojovic N, Ben Hadid L, Franchini M, Schaer M. Sensory processing issues and their association with social difficulties in children with autism spectrum disorders. *J Clin Med*. 2019;8(10):1508. Available from: <https://doi.org/10.3390/jcm8101508>

4. Fyke W, Velinov M. FMR1 and autism, an intriguing connection revisited. *Genes (Basel)*. 2021;12(8):1218. Available from: <https://doi.org/10.3390/genes12081218>
5. Liu LJ. Virtual reality for social skills training of children and adolescents with ASD: a systematic review. *J Educ Humanit Soc Sci*. 2023;8:2061-2067. Available from: https://www.researchgate.net/publication/368376971_Virtual_Reality_for_Social_Skills_Training_of_Children_and_Adolescents_with_ASD_A_Systematic_Review
6. Srivastava K. Autism and diet: an insight approach. In: *Emerging trends in the diagnosis and intervention of neurodevelopmental disorders*. Hershey (PA): IGI Global; 2019. p. 194-210. Available from: <https://psycnet.apa.org/record/2019-00578-010>
7. Miles JH. Autism spectrum disorders—a genetics review. *Genet Med*. 2011;13(4):278-294. Available from: [doi:10.1097/GIM.0b013e3181ff67ba](https://doi.org/10.1097/GIM.0b013e3181ff67ba).
8. Bottema-Beutel K, Crowley S. Pervasive undisclosed conflicts of interest in applied behavior analysis autism literature. *Front Psychol*. 2021;12:676303. Available from: <https://doi.org/10.3389/fpsyg.2021.676303>
9. Ji C, Yang J. Effects of physical exercise and virtual training on visual attention levels in children with autism spectrum disorders. *Brain Sci*. 2022;12(1):41. Available from: <https://doi.org/10.3390/brainsci12010041>
10. Oakley B, Loth E, Murphy DG. Autism and mood disorders. *Int Rev Psychiatry*. 2021;33(3):280-299. Available from: <https://doi.org/10.1080/09540261.2021.1872506>
11. State MW, Šestan N. Neuroscience. The emerging biology of autism spectrum disorders. *Science*. 2012;337(6100):1301-1303. Available from: <https://doi.org/10.1126/science.1224989>

Discover a bigger Impact and Visibility of your article publication with Peertechz Publications

Highlights

- ❖ Signatory publisher of ORCID
- ❖ Signatory Publisher of DORA (San Francisco Declaration on Research Assessment)
- ❖ Articles archived in worlds' renowned service providers such as Portico, CNKI, AGRIS, TDNet, Base (Bielefeld University Library), CrossRef, Scilit, J-Gate etc.
- ❖ Journals indexed in ICMJE, SHERPA/ROMEO, Google Scholar etc.
- ❖ OAI-PMH (Open Archives Initiative Protocol for Metadata Harvesting)
- ❖ Dedicated Editorial Board for every journal
- ❖ Accurate and rapid peer-review process
- ❖ Increased citations of published articles through promotions
- ❖ Reduced timeline for article publication

Submit your articles and experience a new surge in publication services
<https://www.peertechzpublications.org/submission>

Peertechz journals wishes everlasting success in your every endeavours.