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The efficacy of a 12-week exercise intervention in 11-16 year old adolescents with autism spectrum disorder

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Autism spectrum disorder is a neurodevelopmental disorder, which often results in an array of motor impairments. These motor impairments often lead to reduced performance in activities of daily living as well as in societal tasks which require specific motor abilities and skills. A randomized control trial was conducted to determine the efficacy of a 12 week exercise intervention by assessing the change in posture, physical fitness, body composition, gait and agility, pre- and post-exercise intervention in adolescents with autism (mental age 5.6 ± 1.8 years). All participants were tested pre- and post-intervention. The intervention group ($n=16$) participated in the exercise intervention bi-weekly for 12 weeks (45 minute sessions), while the control group ($n=11$) received standard care. Posture was assessed using a posture grid and body composition and physical fitness were assessed using the Brockport physical fitness test. Gait was assessed using Dartfish two-dimensional video analysis and agility was assessed using a standard agility T-test. Overall compliance to the intervention was 88.78%. The intervention group showed a significant increase in the overall posture scores ($p=0.0004$) and a significant reduction in BMI ($p=0.0130$) post intervention. They also demonstrated a significant decrease in resting systolic blood pressure ($p=0.0069$) and systolic blood pressure taken one minute following exercise ($p=0.0007$). Handgrip strength significantly increased in the non-dominant hand only ($p=0.0289$) while overall curl-up performance and agility times significantly improved: $p=0.0094$ and $p=0.0061$ respectively. In contrast, no significant differences were seen following the intervention for all gait parameters. Overall exercise interventions may be a viable means of therapy for individuals with ASD.

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Follow-up of language therapy with children with ASD: communication activities conducted at home

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The increase in prevalence of Autism Spectrum Disorders (ASD) demands that new strategies for delivering speech-language therapy services to them are tested and improved. Including families and familiar situations may be a way to provide more intensive stimulation to use language with communicative functions.

The aim of this study was to identify strategies to stimulate communication development of children with ASD that can be suggested to parents and followed-up systematically.

Method: Participants were children with diagnosis within the autism spectrum that attended weekly speech-language therapy at a specialized service of a large university in São Paulo (Brazil)

The study was conducted in four phases: Planning of activities: aiming to build a program with individualized planned strategies that could be conducted by each family and were adapted to each child; Four face-to-face meetings with the parents: to suggest and discuss activities that should be conducted at home daily; During six weeks the parents continued to conduct the proposed activities at home, with systematic weekly follow-up by the child's therapist; Individual interviews conducted after the program: the parents reported their impressions about the proposal and the outcomes regarding their child's development during individual interviews Activities involved the main areas of disorders in ASD such as language, social abilities, cognitive flexibility and adaptive behavior, with emphasis in language and communication. It was suggested that the parents used familiar situations as opportunities for games and plays involving language, cognitive and social demands. Parents reported difficulties in implementing the proposed routine of playing with their child for at least a few minutes every day. They mentioned, "lack of time" and "being tired" as the main reasons for it. Nevertheless they all reported that they were more able to understand their child's needs and demands and that their child responded well to the suggestions

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