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EFFECT OF PROBIOTICS ON THE SYMPTOMATOLOGY OF AUTISM SPECTRUM DISORDER AND/OR ATTENTION DEFICIT/HYPERACTIVITY DISORDER IN CHILDREN AND ADOLESCENTS: PILOT STUDY

Yaikwawong,Rojo-Marticella, M ; Arija, V ; Canals-Sans, J
Research on child and adolescent psychopathology. 2025;53(2):163-178

Autism is a neurodevelopmental difference that usually appears during childhood and persists into adulthood. Dysbiosis of the gut microbiome has been seen in autistic people with both high and low levels of Bifidobacterium observed. Similarities have been seen in the gut microbiota composition of autistic people and those with attention deficit/hyperactivity disorder (ADHD). The aim of this study was to investigate the impact of the probiotic strains Lactiplantibacillus plantarum and Levilactobacillus brevis on the clinical characteristics of autistic children and/or those with ADHD, as assessed by behavioral and neuropsychological tests. This was a 12-week randomised, double-blind, placebo-controlled trial design with two parallel arms of 38 children with ADHD and 42 autistic children. The results showed that compared to placebo, probiotic supplementation did not affect autism traits. There was a trend for improvements to ADHD behaviours in the probiotic arm. When stratified by age, probiotic supplementation was found to improve hyperactivity and impulsivity in younger autistic children and those with ADHD. The authors concluded that this strain of probiotic may improve hyperactivity-impulsivity in autistic children and/or those with ADHD.

THE IMPACT OF EXERCISE INTERVENTION ON SOCIAL INTERACTION IN CHILDREN WITH AUTISM: A NETWORK META-ANALYSIS

Hou, Y ; Song, Z ; Deng, J ; Song, X
Frontiers in public health. 2024;12:1399642

Pharmacological and behavioural strategies can be employed for the management of differences in social interaction and communication in autistic children. Amongst these, physical activity (PA) has been shown to have positive effects on autistic children, however it is unclear as to the benefits of various sports on social functioning.

This study aimed to investigate the effects of different sports on the social functioning of autistic children and adolescents and to rank effectiveness. This was a network meta-analysis of 16 randomised control trials involving autistic children and adolescents.

The results showed that physical activity significantly improved social functioning. Mini basketball, karate, and SPARK programmes were all shown to be highly effective, with karate the most effective. Combined Exercise and Nei Yang Gong interventions exhibited the least significant effects on social functioning, with them having less than small effects. The authors concluded that PA can enhance social functioning in autistic children and adolescents, with karate being the most effective.

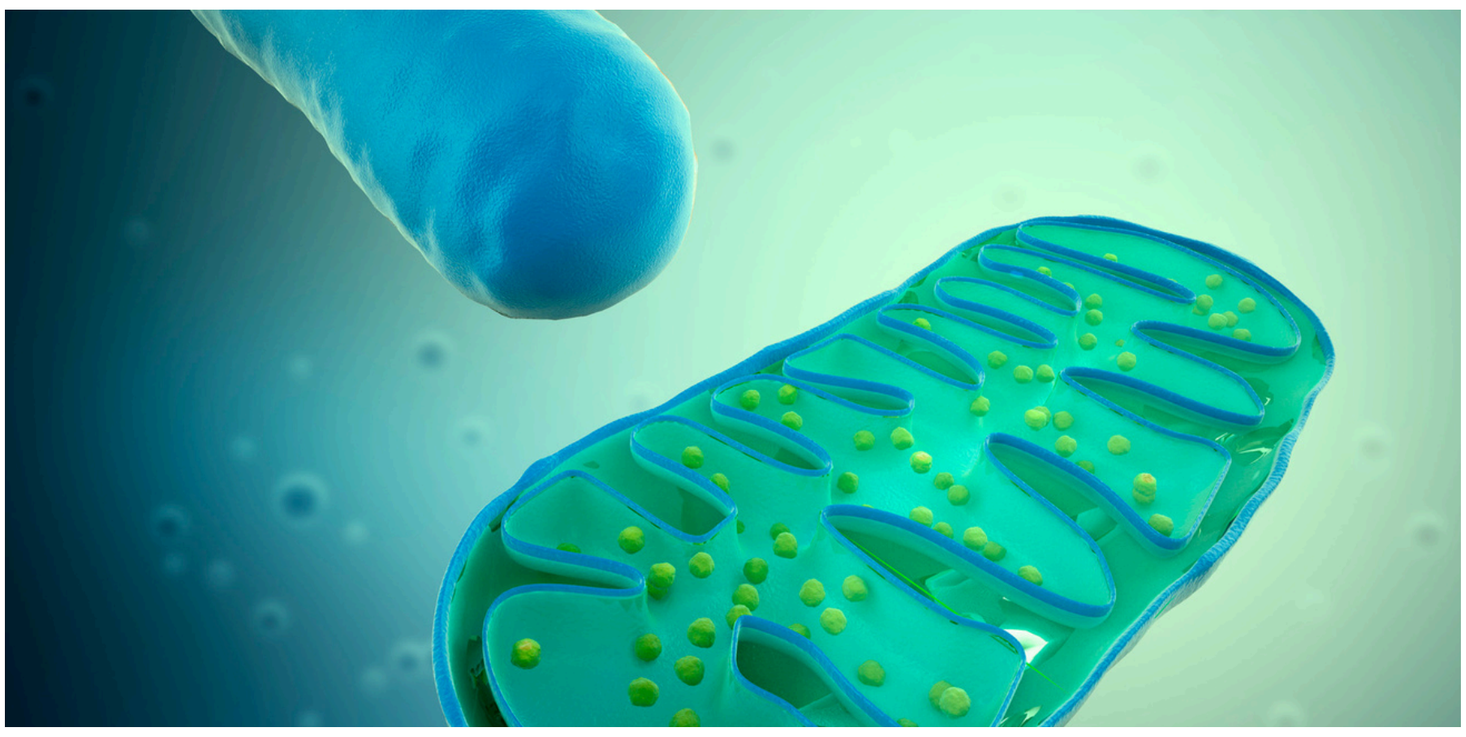
EFFECTIVENESS OF SOCIAL SKILLS TRAINING INTERVENTIONS FOR CHILDREN WITH AUTISM SPECTRUM DISORDER: A SYSTEMATIC REVIEW AND META-ANALYSIS

Alahmari, FS ; Alhabbad, AA ; Alshamrani, HA ; Almuqbil, MA
Saudi medical journal. 2025;46(3):226-237

Autism is a neurodevelopmental difference that is characterised by challenges in social interaction and communication. Group-based social skills training (SST) and individual SST is a therapy that involves children meeting and practicing social skills.

This study aimed to evaluate the effectiveness of SST for autistic children. This was a systematic review and meta-analysis of 17 randomised control trials of children aged 3-18 years.

The results showed that compared to control groups, SST was moderately effective at improving targeted social behaviours and social competence in autistic children. Some variation was observed between outcomes depending on the type and duration of the intervention. It was concluded that SST therapies are beneficial for developing social skills in children with ASD.



A MITOCHONDRIAL SUPPLEMENT IMPROVES FUNCTION AND MITOCHONDRIAL ACTIVITY IN AUTISM: A DOUBLE-BLIND PLACEBO-CONTROLLED CROSS-OVER TRIAL

Hill, Z ; McCarty, PJ ; Boles, RG ; Frye, RE
International journal of molecular sciences. 2025;26(6)

Between 5 and 80% of autistic children have been shown to demonstrate mitochondrial dysfunction, with 5% of them being diagnosed with mitochondrial disease. This study aimed to determine whether a mitochondrial-targeted dietary supplement designed for autistic children improved mitochondrial function and ASD symptomatology. This was a 24-week (12 weeks on therapy or placebo then vice versa for 12 weeks), double-blind placebo-controlled cross-over trial of sixteen children [mean age 9 years 4 months; 88% male] with non-syndromic ASD and mitochondrial enzyme abnormalities, as measured by MitoSwab. The results showed that the therapy improved mitochondrial function as measured by normalised citrate synthase and complex IV activity and mitochondrial respiration of peripheral blood mononuclear cells. Mitochondria also became more resilient to oxidative stress, particularly in those with poor neurodevelopment. Parents also reported improvements to social withdrawal, and hyperactivity. The authors concluded that this small study demonstrated that a simple, well-tolerated mitochondrial supplement can improve mitochondrial activity and symptoms in autistic children.

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