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Role of strength training exercise regime to improve cognitive function in children and young adults with intellectual disabilities

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Role of Strength Training Exercise Regime to improve cognitive function in children and young adults with Intellectual Disabilities: A literature review was done to analyse the positive effects of Strength Training exercise on cognitive function in children and young adults with Intellectual Disabilities, collecting research articles and data from difference sources including PubMed. There is already substantial evidence that physical activity and exercise have positive effects on cognition and brain function in children with or without Intellectual Disabilities. But in the population of Intellectual Disabilities, exercise proves essential so as to regress the progression of cognitive impairment. Traditionally exercise was used as treatment for children with Intellectual Disabilities for improving cardiovascular fitness and reducing obesity. But there is strong evidence that suggests changes in cognition at the molecular, cellular, systems and behavioural levels that could improve their academic performance and better access to employment in the future. It is also observed in the data that strength training proves superior to aerobic exercise as it involves constant change in parameters as well as better inclusion of cognitive functions like decision speed, memory and visual processing. Neuroimaging studies have shown changes in Cerebrum and Basal Ganglia areas that are involved in cognitive control of stimulus-response challenges. Also post exercise, significant changes in hippocampus is seen especially in terms of spatial memory. Future research in this area is needed as the adolescent age is crucial to introduce exercise as treatment for better changes of physical and cognitive health in the population of Intellectual Disabilities.

Biography

Zainab Adenwalla has completed her Masters Degree of Science in Clinical Physiotherapy in Cardiorespiratory Physical Therapy from Coventry University, U. K. and Bachelors Degree of Physiotherapy from Gulf Medical University, U. A. E. She is practising currently at Al Zahra Private Hospital, Dubai, U.A.E. She has conducted many lectures and workshops for promotion of physical activity and exercise for Cardiorespiratory Health. She is active in many community health camps within Dubai to promote Post Surgical Rehabilitation.

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