

Effectiveness of Task Oriented Aerobic Exercise along Sensory Integration on Aerobic Capacity, Sensory Profile and Attention in Attention Deficit Hyperactivity Disorder Children: A Randomised Control Trial

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ABSTRACT

Introduction: Attention Deficit Hyperactivity Disorder (ADHD) is a neurodevelopmental illness characterised by symptoms of inattention, hyperactivity, and impulsivity that affects roughly 5-8% of children globally. Motor problems and sensory issues are predominantly observed in ADHD children along with the core deficits.

Aim: To find out the effectiveness of task oriented aerobic exercise along with sensory integration on aerobic capacity, sensory profile and attention in ADHD children.

Materials and Methods: Institution approval was taken for this study. The study design was a randomised control trial, 42 children with ADHD were selected and randomly allocated into three groups. Group A (n=14) received task oriented aerobic exercise and sensory integration therapy and group B received sensory integration therapy alone for 6 weeks. Group C (n=14) was control group continued with their routine activities. The outcome measure were 12 minute walk test, Stroop Test, Wisconsin Card Sorting Test and Short Sensory Profile, which was assessed pre and post test after 6 weeks. Task oriented aerobic exercises includes stepping, throwing and catching

ball, rope jumping performed for 15 minutes and sensory integration exercise includes tactile (brushing), vestibular (swing, rolling, and spinning), proprioception (bouncing on trampoline or large ball, pushing activities, playing with weights), visual (focussing, following and tracking), and auditory (sing-songs, loud and slow noise). was performed for 30 minutes. The exercises were performed 3 days in a week for 6 weeks.

Results: Data was analysed by ANOVA using SPSS 21. The statistical analysis showed significance improvement in group A and B ($p < 0.05$) on aerobic capacity ($F=37.69$), short sensory profile ($F=39.98$) and attention ($F=23.42$). Tukey's post hoc analysis revealed group A was significantly better than Group B and C.

Conclusion: This study concluded that the task oriented aerobic exercise along with sensory integration (group A) showed more significant improvement in aerobic capacity, sensory profile and attention among children with ADHD when compared with sensory integration alone (group B) and controls (group C).

Keywords: Hyperactivity, Impulsivity, Inattention.