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Improving balance of individuals with intelletual and developmental disability through a virtual reality intervention

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Introduction: This study investigated virtual reality (VR) as an efective and motivating program to improve balance of adults with intelletual and developmenatl disability (IDD).

Methods: A two arm randomized control trial (RCT), with blind assessors was carried out in two different residential settings (referred to as A and B). Participants were randomly assigned to the control or research groups. Research group A: N=6; age mean (±SD) age=42.9 (±10.6); balance=9.8 (±2.2). Control group A: N=6, age mean=42.9 (±10); balance=11.3 (±3.2). Research group B: N=10; age mean 55.7 (±9.3); balance=17.4 (±4.2). Control group B: N=9, age mean=54.4 (±7.7), balance=17.4 (±4.2). Each 8-week intervention program consisted of two 30-minute sessions per week, using the SeeMe VR system. Pre-post-intervention changes were measured by the timed up and go (TUG) test.

Results: Significant ($P<0.05$) improvements in balance were demonstrated for both research groups in comparison to the control groups.

Conclusions: VR technology as provided by the SeeMe system was found to be suitable as means of engaging adults with a moderate level of IDD, in vigorous activity, thereby improving their balance. The TUG balance test was found suitable to assess balance of individuals with IDD.

Biography

Meir Lotan, MScPT, PhD is a Physiotherapist working as Senior Lecturer at the School of Health Sciences, Department of Physical Therapy, Ariel University, Israel. He is affiliated with the Israeli National Rett Syndrome evaluation team and is a world expert in Physical Therapy for Rett syndrome. He has a special interest in physiotherapy and persons with intellectual disability, children with autism, Snoezelen and physical activity for people with intellectual disability.

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