

Exploring the Physical and Psychological Impact of Scuba Diving Program in Visual Impairment

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Abstract

Background: Inclusive scuba diving is increasing in participation among individuals with Visual Impairment (VI) in recent years. Many studies revealed that scuba diving may offer physical and psychosocial benefits for people with physical and psychological disabilities, but the evidence for people with VI is limited. This pilot study evaluated the feasibility and preliminary effects of a structured pool diving program for adults with significant VI.

Method: Seven adults with severe VI, recruited from the Hong Kong Network for the Promotion of Inclusive Society and medically cleared to dive, participated in monthly 3-hour pool scuba training sessions run by The International Association of Hand-In-Hand Divers (Hong Kong) from April 2025 over four months. Pre- and post-group assessments included the Functional Independence Measure (FIM), Lawton Instrumental Activities of Daily Living (IADL) scale, SF-36 Health Survey, WHO-5 Well-Being Index, Pittsburgh Sleep Quality Index (PSQI), and the Depression, Anxiety, Stress Scales (DASS-21). Completion rates and changes in outcome measures were evaluated descriptively.

Results: Four of the seven participants (57%) completed all four training sessions and both assessments. Among them, notable improvements were observed mainly on the SF-36: Role change due to physical health (Mean score increased 20%), Health change (increased 14%), General health (increased 14%) and PSQI (reduced 13% sleeping problems). Changes in other measures were smaller or inconsistent in this small sample.

Conclusion: Monthly diving training appears feasible for adults with profound VI and may yield benefits in role changes, health and sleep quality. These preliminary findings support further investigation with a larger sample size.