



The Effect of Resistance Training on Intrinsic Capacity of Older Adults

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Background and Aim. Intrinsic capacity (IC), defined by the World Health Organization as the composite of an individual's physical and mental capacities, declines progressively with ageing and increases the risk of frailty and dependency. Resistance training (RT) is considered an effective strategy to counteract age-related functional decline; however, its association with specific IC domains remains insufficiently quantified. Therefore, this study aimed to compare overall intrinsic capacity and selected domains (locomotion and cognition) between resistance-trained and active control group.

Methods. A randomised controlled trial was conducted among community-dwelling older adults aged 65 years and older. Participants were divided into two groups: a RT group consisting of individuals who had engaged in regular, structured resistance training for 12 weeks, and a control group who did static stretching exercise. IC was assessed using standardised domain-specific measures. Locomotion was evaluated using gait speed (m/s) and the 30-Second Chair Stand Test (repetitions). Cognitive function was assessed using a validated screening instrument (MoCA; total score /30). Group differences were analysed using independent samples t-tests, and multiple regression analysis was performed to identify predictors of overall intrinsic capacity. Statistical significance was set at $p < 0.05$.

Results. Preliminary findings are expected to indicate that older adults participating in resistance training demonstrate higher overall IC compared with active control group. Improvements are anticipated in locomotion measures (gait speed and 30-second chair stand performance) as well as in cognitive scores.

Conclusion. Understanding the relationship between resistance training and intrinsic capacity may provide important insights for developing exercise-based strategies aimed at promoting healthy ageing, maintaining functional independence, and improving quality of life among older adults.

Keywords: Intrinsic capacity; resistance training; healthy ageing; locomotion; cognitive function; older adults

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