Effectiveness of the Lebed method therapeutic intervention on physical fitness among elderly individuals in Kakamega county, Kenya

Abstract

The physical fitness of elderly individuals deteriorates as they grow older, and falls and fall-related injuries are common manifestations of this degradation. Despite physical activity being known to reduce fall risks, there are challenges like high drop-out rates and limited exercise types in existing studies. The Lebed Method, a dance programme initially developed for breast cancer survivors by Sherry Lebed Davis, could potentially improve physical and emotional well-being. This study aimed to explore its effectiveness in improving physical fitness (PF) among the elderly in Kakamega County, Kenya. The study involved a community-based randomised control trial with 30 participants aged 60 and older, selected based on low social support scores. They were divided into intervention and control groups, after meeting specific inclusion criteria. Baseline PF measures included activity levels, handgrip and leg press strength, and the 6-minute walk test (6MWT). An intention-to-treat analysis approach was used, and participants were evaluated based on their assigned groups irrespective of the intervention received. To ensure the study's reliability, biases like selection, performance, detection, attrition, and reporting biases were addressed. Between group changes in PF were assessed using the analysis of covariance (ANCOVA), in which the baseline scores were used as covariates. The intervention group improved significantly compared to the control group in PF as they had superior IPAQ (International physical activity questionnaire) scores ($p < .001$, $\eta p^2 = 0.50$, $d=1.97$), handgrip strength ($p < .001$, $\eta p^2 = 0.64$, $d=2.95$), leg press strength ($p < .001$, $\eta p^2 = 0.51$, $d=1.76$) and functional capacity as measured by the 6MWT performance ($p < .001$, $\eta p^2 = 0.59$, $d=1.85$). The Lebed Method significantly improved PF in participants highlighting the intervention's effectiveness in boosting fitness and strength in the elderly. The long-term sustainability of the functional improvements observed post-intervention requires further investigation.

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