

Comparing the Effectiveness of Closed Kinetic Chain Exercise and Resistance Training Exercise on OA Knee Population with Sarcopenia - A Quasi-Experimental Study

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Abstract

Background: Osteoarthritis is a major global health concern causing chronic joint pain, reduced function, and lower quality of life. Sarcopenia, the age-related decline in muscle mass and strength, contributes to muscle weakness. Closed Kinetic Chain exercises and Resistance Training are effective in reducing pain, improving function, and enhancing muscle mass, strength, and overall health to combat aging effects in patients with OA Knee with Sarcopenia. Objective: To compare the effectiveness of closed kinetic chain exercise and resistance training exercise on the OA knee population with sarcopenia.

Methodology: 36 participants were recruited who fulfilled the inclusion criterion and were divided into two groups and given intervention for six weeks, where the Closed Kinetic Chain exercise was given to Group A and the Resistance Training exercise was given to Group B for 6 weeks, 3 days per week. Pre and post-outcomes were measured using SARC-F, VAS, 5 times CS test, TUG test, and LEFS. The data was analyzed statistically.

Result: A paired t-test was used to assess the difference in SARC-F, VAS, 5 times CS test, TUG test, and LEFS within Group A and Group B which revealed a statistically significant difference of ($p < 0.05$). There was a clinically significant difference on Group B.

Conclusion: Both Closed kinetic Chain and Resistance Training exercises have shown significant improvement in pain, physical and functional outcomes after 6 weeks. When comparing both the groups Resistance Training showed clinically significant improvement for patients with OA with sarcopenia.

Keywords: Closed Kinetic Chain Exercise; Lower Extremity Functional Scale; Osteoarthritis Knee; Resistance Training; Sarcopenia