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Efficacy of combined versus open and closed kinetic-chain exercises on selected physical performance indices and health-related quality of life of individuals with knee osteoarthritis

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Background: Effects of combined kinetic-chain exercises on physical performance and quality of life in knee osteoarthritis (OA) has not been reported. This study was designed to investigate and compare the effects open, closed and combined kinetic-chain exercises (OKCE, CKCE and CCE) on performance-based physical function and health-related quality of life (HRQoL) of patients with knee OA.

Method: The randomized clinical trial involved ninety-six consecutive patients with knee OA who were randomly assigned to one of OKCE, CKCE or CCE groups. Comfortable and fast pace walking time (CPWT, FPWT) and HRQoL were assessed using a stopwatch and Arthritis Impact Measurement respectively at baseline and at the end of weeks 4, 8 and 12.

Results: The groups were comparable regarding their demographic and dependent variables at baseline; there were no significant intergroup differences in CPWT, FPWT and HRQoL at the end of weeks 4, 8 and 12. CCE group (-2.38±2.52 s) however demonstrated significantly higher mean change in CPWT than either OKCE (-1.31±1.03 s) or CKCE group (-1.44±1.19 s) between baseline and week12. Walking times and HRQoL scores significantly reduced across all-time points of the study indicating improvement for all measures.

Conclusion: Combined kinetic-chain exercises are more effective than either OKCE or CKCE alone for improvement of physical performance in knee OA.

Biography

Oladapo M Olagbegi has completed his PhD from University of Ibadan, Nigeria. He is currently pursuing Post-doctoral studies at Rhodes University, Grahamstown, South Africa. He has published more than 10 papers in reputed journals.

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