Influence of Balance on Physical Performance in Knee Osteoarthritis

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Abstract

Background: Patients with knee OA frequently have quadriceps muscle weakness or impaired proprioception within the joint. These disease-related limitations could be the cause of the poor balance. Knee OA subjects with balance deficits experience a progressive loss of function, becoming more dependent when walking, climbing stairs, and performing other lower extremity tasks.

Aim: To evaluate the influence of balance on physical performance in knee osteoarthritis.

Methods: A cross-sectional study was conducted at physiotherapy OPD, Sri Ramachandra Hospital, from July 2023 to April 2024. Twenty-one subjects with balance deficit and twenty-six without balance deficit KOA were included in the current study based on their kellgren-lawnrence grading system. Subjects were assessed for one-time balance measurement using single leg stance (static balance) and physical performance using the TUG test. Additionally, all subjects responded to self-reported disability measures (KOA outcome score- KOOS).

Results: An intergroup statistical difference was found in both groups. Physical performance was significantly lower in KOA subjects with balance deficits than in KOA subjects without balance deficits. KOA group with balance deficits has shown significance at $p < .05$ in the 30-sec chair stand test (0.0001), and TUG test (0.0043), but the stair climbing test has no importance (P- 0.3326).

Conclusion: Based on the findings, it has been concluded that subjects with balance deficit KOA have less physical performance than subjects without balance deficits. A significant difference exists between the KOA subjects with a balance deficit and those without a balance deficit. Hence, this study proves that a balance deficit will decrease physical performance.