

Feasibility and Efficacy of a Group Telerehabilitation Program for People with Knee Osteoarthritis in Sri Lanka – A Pilot Study

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Knee osteoarthritis (OA) causes pain and disability in older adults. The Physiotherapy Exercise and Physical Activity for Knee OA (PEAK) program provides evidence-based exercise therapy through education, strengthening, and physical activity, tailored to individual needs. Telerehabilitation supports adherence with home-based care and is as effective as in-person sessions, but its effectiveness remains unstudied in Sri Lanka. This study aimed to evaluate the feasibility and efficacy of telerehabilitation group consultation using PEAK program for people with knee OA in Sri Lanka. This single-arm pre-post pilot study involved knee OA patients attending 1-hour Zoom-based telerehabilitation sessions, three times weekly for eight weeks. Primary outcomes including feasibility, acceptance, and adherence were assessed through attrition rates, a 5-point Likert scale for satisfaction, and adverse event reports. Secondary outcomes, such as knee pain, stiffness, physical function, lower extremity strength, and dynamic balance, were measured using the Visual Analogue Scale (VAS), the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), and the 30-Second Chair Stand Test at baseline and post-intervention. 21 individuals screened, 14 (66.7%) enrolled and 12 (85.7%) completed the 8-week telerehabilitation. Most were female (75%) with a median age of 54.2 years (SD±6.5). Mean class attendance was 93.4% (SD±6.3), satisfaction was 100%, and no adverse events were reported. Significant improvements were seen in knee pain (VAS: $Z = -3.115$, $P = 0.002$; WOMAC pain MD = 3.67, 95% CI: 2.89–4.45, $P < 0.001$), stiffness (MD = 1.33, 95% CI: 1.02–1.65, $P < 0.001$), and function (MD = 12.58, 95% CI: 10.17–14.99, $P < 0.001$). Strength and balance also improved (30S CST MD = -3.17, $P < 0.01$). The telerehabilitation group consultation using the PEAK program may be feasible, safe, and effective in improving knee pain, stiffness, physical function, lower extremity strength, and dynamic balance in a pilot cohort of knee OA patients. Its efficacy should be confirmed through a randomized controlled trial before being implemented in clinical practice.

Keywords: Telerehabilitation, knee osteoarthritis, feasibility, adherence, acceptability