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Patient Satisfaction, Adherence, Functional Independence and Quality of Life following Telerehabilitation in Conservatively Managed Knee Pain and Patellofemoral Pain Syndrome: A Systematic Review of RCTs

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ABSTRACT

Introduction: Millions of people worldwide suffer from knee discomfort, which includes Osteoarthritis (OA) and Patellofemoral Pain Syndrome (PFPS). With potential benefits in terms of accessibility, affordability, and patient convenience, telerehabilitation has become a viable substitute for conventional in-person physical treatment. Nevertheless, there is still a lack of synthesis regarding the effects of telerehabilitation on patient-centred outcomes, particularly patient satisfaction, independence, compliance/adherence, and quality of life.

Aim: The purpose of this systematic review was to assess the impact of telerehabilitation-based physiotherapeutic therapies on these crucial patient-centred outcomes in populations with PFPS and non-surgical knee pain.

Materials and Methods: An extensive review of published articles was carried out across various databases, including Scopus, PubMed, PubMed Central, Google Scholar, and Science Direct, from January 2016 to December 2025. Search terms included telerehabilitation, knee pain/ PFPS, and patient-centred outcomes. Inclusion criteria specified to Randomised Controlled Trials (RCTs) evaluating digital physiotherapy interventions in non-surgical knee pain and non-athletic adults with knee pain reporting at least one of the outcomes: patient satisfaction, compliance/ adherence, independence or quality of life. In total, 708 records were screened, with 184 papers after the deduplication process. Full-text assessment was run on eligible studies. The quality assessment was run by using the PEDro Scale and Cochrane Risk of Bias 2.0 tool.

Results: From a total of 184 unique papers, title and abstract screening excluded almost 154 records (primarily, which were systematic reviews, meta-analyses, and other studies not meeting population or intervention criteria). 30 records underwent full text assessment, resulting in nine RCTs meeting all the inclusion criteria. The included studies enrolled a total of 1211 participants with knee OA or PFPS. Telerehabilitation modalities include telephonic coaching, video conferencing, and mobile applications-based physiotherapeutic interventions. Intervention durations ranged from 4 to 26 weeks. Quality of life outcomes were most reported (6 studies), with significant improvements observed in telerehabilitation groups compared to controls or usual care. Patient satisfaction was high across studies reporting this outcome (mean satisfaction of 8.2–9.2 out of 10). Compliance/adherence rates ranged from 70.7% to 82.7%, generally comparable to exceeding traditional face-to-face interventions. Functional independence measured via performance-based tests and self-reported disability scales showed a considerable improvement in the Telerehabilitation groups. The quality of the included studies, assessed using PEDro scores, ranged from 4 to 8 out of 10. Risk of bias assessment demonstrated low to moderate concerns across studies, with lack of participant blinding being the most common limitation due to the inherent nature of telerehabilitation interventions.

Conclusion: Telerehabilitation shows strong potential as an effective and patient-centred approach for managing non-surgical knee pain and patellofemoral pain syndrome. Across included studies, remote physiotherapy was associated with improvements in quality of life, high patient satisfaction, good adherence, and meaningful gains in functional independence, often comparable to conventional in-clinic care. However, variability in intervention design, outcome measures, and follow-up duration limits firm conclusions. Future research should emphasise standardised outcome reporting, longer-term follow-up, and evaluation of cost-effectiveness to support broader clinical adoption of telerehabilitation.

Keywords: Compliance, Digital health, Remote physiotherapy.

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