



## EFFECTIVENESS OF TELEREHABILITATION IN PATIENTS WITH OSTEOARTHRITIS OF THE KNEE: A SYSTEMATIC REVIEW

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### Abstract

Osteoarthritis (OA) of the knee leads to pain, restricted mobility, and reduced quality of life. Traditional physiotherapy is effective but often inaccessible due to geographical and logistical constraints. This systematic review assesses the efficacy of telerehabilitation in managing OA knee. A PRISMA-guided search was conducted across PubMed, PEDro, Google Scholar, and ResearchGate using keywords including “Osteoarthritis of knee,” “Telerehabilitation,” and “Exercises in OA knee.” Out of 220 identified studies, 6 met the inclusion criteria. These randomized controlled trials (RCTs) involved 331 participants and implemented various telerehabilitation strategies, such as mobile apps and video conferencing. Findings reveal telerehabilitation is as effective as conventional physiotherapy in improving pain, function, flexibility, and quality of life. It offers added benefits of cost-efficiency, convenience, and increased accessibility. The results support telerehabilitation as a viable and effective alternative or adjunct to in-person therapy for OA knee management.

**Keywords:** Knee Osteoarthritis, Randomized Controlled Trial, Systematic Review, Telerehabilitation, Telephysiotherapy

### Introduction

Osteoarthritis of the knee is a degenerative joint disease commonly affecting adults over 45 years. It involves structural and functional impairments such as cartilage degradation, osteophyte formation, and muscle weakness. Rehabilitation is key to restoring function and reducing pain. However, barriers like distance, cost, and limited healthcare availability can limit access to therapy. Telerehabilitation—delivering therapy via digital means—has gained attention as a practical solution to these barriers, especially during the COVID-19 pandemic.

### Research Methods

This systematic review followed PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. Studies were retrieved using keywords: “Osteoarthritis of knee,” “Telerehabilitation,” and “Exercises in OA knee.” Databases searched included PubMed, PEDro, Google Scholar, and ResearchGate.

### Inclusion Criteria:

- Female participants with OA knee
- Interventional RCTs published in English
- Telerehabilitation as the primary intervention

**Exclusion Criteria:**

- Non-English articles
- Non-full-text studies
- Conference abstracts and non-interventional studies

From 220 screened articles, 6 were included for final review. Outcome measures assessed included WOMAC, KOOS, VAS, NPRS, functional scales, and patient satisfaction.

**Results**

The 6 included studies featured 331 participants and implemented diverse telerehabilitation modalities: Zoom-based sessions, mobile applications, instructional DVDs, and web platforms. Key findings:

- All interventions demonstrated statistically significant improvements in pain, flexibility, and function.
- Telerehabilitation showed comparable outcomes to face-to-face physiotherapy across all measured domains.
- Additional advantages included lower costs, greater convenience, and enhanced adherence.
- Circuit training, mobile-app interventions, and blended video consultations proved highly effective.

**Conclusion**

Telerehabilitation emerges as a reliable and effective alternative to traditional therapy for knee OA. It delivers meaningful improvements in clinical outcomes, while also overcoming barriers to access and reducing healthcare costs. Future implementation should focus on enhancing digital literacy and infrastructure to maximize its reach, especially in underserved populations.

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