



Awareness and utilization of *Telerehabilitation* among physiotherapists in India: A cross-sectional survey

Dr. Pranali Saurabh Thakkar

Assistant Professor, MPT Paediatrics, SPB Physiotherapy college, Surat, India

Abstract

Background: *Telerehabilitation* has gained prominence as an alternative mode of physiotherapy service delivery, particularly in India where geographical diversity, limited specialist access, and the COVID-19 pandemic have highlighted the need for remote rehabilitation services.

Objective: To assess the awareness, utilization patterns, perceived effectiveness, and barriers related to *Telerehabilitation* among Indian Physiotherapists.

Methodology: A cross-sectional survey was conducted among registered Physiotherapists across India using a structured, self-administered questionnaire. Descriptive statistics were used for data analysis.

Results: Out of 182 respondents, 76.4% were aware of *Telerehabilitation*, while only 49.5% reported active utilization. *Telerehabilitation* was predominantly used for musculoskeletal conditions (71.1%). Major barriers included lack of hands-on assessment (73.6%), patient non-compliance (56.6%), and inadequate formal training (48.9%).

Conclusion: Although awareness of *Telerehabilitation* among Indian Physiotherapists is satisfactory, its clinical utilization remains moderate. Targeted training, standardized protocols, and regulatory clarity are required to enhance adoption in routine physiotherapy practice.

Keywords: *Telerehabilitation*, physiotherapy, awareness, utilization, India, survey study

Introduction

Telerehabilitation is defined as the delivery of rehabilitation services using information and communication technologies to facilitate remote assessment, intervention, monitoring, and education of patients [1]. In physiotherapy practice, *Telerehabilitation* includes exercise prescription, functional training, post-operative follow-up, ergonomic advice, and caregiver education delivered through video conferencing, mobile applications, or web-based platforms [2].

In a country like India, where disparities exist in healthcare access between urban and rural regions, *Telerehabilitation* offers a promising solution to bridge service gaps [3]. Factors such as long travel distances, shortage of trained Physiotherapists in remote areas, and economic constraints often limit continuity of rehabilitation services. *Telerehabilitation* has the potential to improve accessibility, reduce costs, and ensure continuity of care for patients with chronic musculoskeletal, neurological, cardiopulmonary, and pediatric conditions [4].

The COVID-19 pandemic significantly accelerated the adoption of telehealth services in India, including physiotherapy. During lockdown periods, *Telerehabilitation* emerged as a necessary alternative to face-to-face sessions, prompting Physiotherapists to explore digital platforms for patient care [5]. Several studies have demonstrated the effectiveness of *Telerehabilitation* in managing musculoskeletal pain, post-stroke rehabilitation, and post-operative recovery, with outcomes comparable to conventional therapy in selected conditions [6, 8].

Despite its growing relevance, the integration of *Telerehabilitation* into routine physiotherapy practice remains inconsistent. Concerns regarding lack of physical assessment, limited hands-on techniques, patient compliance, technological challenges, and medico-legal

issues continue to influence its adoption⁹. In the Indian context, additional challenges such as variable internet connectivity, digital literacy of patients, and absence of standardized national guidelines further complicate implementation [10].

Aim of the Study: Assessing Physiotherapists' awareness, utilization, and perceived barriers toward *Telerehabilitation* is crucial for understanding current practice patterns and planning educational and policy-level interventions. Therefore, the present study aimed to evaluate awareness and utilization of *Telerehabilitation* among Indian Physiotherapists.

Methodology

Study Design

Cross-sectional questionnaire-based survey.

Study Population

Registered Physiotherapists practicing in India in clinical, academic, or combined settings.

Inclusion Criteria

- Registered Physiotherapists (BPT, MPT, PhD)
- Minimum of 1 year of clinical experience
- Currently practicing in India

Exclusion Criteria

- Undergraduate students and interns
- Physiotherapists not involved in patient care

Sample Size and Sampling

A total of 182 Physiotherapists participated in the study. Convenience sampling was used. Participants were recruited from various states across India to ensure diverse representation.

Study Tool (Questionnaire)

A structured, self-administered questionnaire was developed based on previously published *Telerehabilitation* surveys¹¹⁻¹³ and adapted for the Indian healthcare context. The questionnaire consisted of five sections:

1. Demographic details (age, gender, qualification, years of experience, work setting)
2. Awareness of *Telerehabilitation* (definition, modes, indications)
3. Utilization patterns (frequency, clinical conditions, platforms used)
4. Perceived effectiveness
5. Barriers and challenges

Content validity was established through expert review by senior Physiotherapists.

Procedure

- The questionnaire was converted into a Google Form.
- The survey link was circulated via professional WhatsApp groups, email, and social media platforms of physiotherapy associations.
- Participants were provided with an information sheet and electronic informed consent.
- Responses were collected anonymously over a period of 6 weeks.

Ethical Considerations

Participation was voluntary. Confidentiality and anonymity were ensured. No identifying information was collected.

Statistical Analysis

Data were analyzed using descriptive statistics. Results were expressed as frequency and percentage.

Results

Table 1: Demographic Characteristics of Participants (n = 182)

Variable	Frequency	Percentage (%)
Gender (Female)	108	59.3
Gender (Male)	74	40.7
Qualification – BPT	64	35.2
Qualification – MPT	98	53.8
Qualification – PhD	20	11.0
Clinical Experience 1–5 years	94	51.6
Private Practice	116	63.7
Academic + Clinical	42	23.1

Table 2: Awareness of *Telerehabilitation*

Awareness Parameter	Yes (%)
Familiar with term “ <i>Telerehabilitation</i> ”	76.4
Aware of video-based physiotherapy	69.8
Aware of mobile app-based rehab	54.9
Aware of legal/ethical aspects	38.5

Table 3: Utilization Pattern of *Telerehabilitation*

Utilization Aspect	Percentage (%)
Currently using <i>Telerehabilitation</i>	49.5
Used mainly for follow-up sessions	62.1
Used during COVID-19 lockdown	81.3
Video call as primary mode	66.4

Table 4: Conditions Managed Using *Telerehabilitation*

Condition	Percentage (%)
Musculoskeletal disorders	71.1
Neurological conditions	46.7
Post-operative rehabilitation	42.3
Pediatric conditions	35.1
Cardiopulmonary conditions	29.6

Table 5: Barriers to *Telerehabilitation*

Barrier	Percentage (%)
Lack of hands-on assessment	73.6
Patient non-compliance	56.6
Inadequate training	48.9
Poor internet connectivity	44.5
Medico-legal concerns	37.4

Discussion

The present study assessed awareness and utilization of *Telerehabilitation* among Indian Physiotherapists and revealed a significant gap between awareness and actual clinical application. Although more than three-fourths of participants were aware of *Telerehabilitation*, only about half reported using it in routine practice. This finding aligns with previous international studies reporting moderate utilization despite favorable awareness^[14, 16].

Musculoskeletal conditions were the most commonly managed through *Telerehabilitation*, likely due to the feasibility of exercise-based interventions and reduced dependency on manual techniques. Similar observations have been reported in earlier studies, where *Telerehabilitation* demonstrated comparable outcomes to conventional therapy for musculoskeletal disorders^[6, 8].

The most prominent barrier identified was the lack of hands-on assessment and treatment. Physiotherapy traditionally relies on manual examination, palpation, and therapist-guided techniques, which are difficult to replicate remotely. Patient compliance and motivation were also major concerns, particularly in the Indian context where supervision and family involvement play a key role in rehabilitation.

Inadequate formal training and lack of standardized guidelines further limit adoption. Unlike some developed countries, India currently lacks profession-specific national guidelines for *Telerehabilitation* in physiotherapy, leading to uncertainty regarding clinical decision-making and medico-legal responsibility^[10].

The findings highlight the need for structured training programs, inclusion of *Telerehabilitation* modules in physiotherapy curricula, and development of national practice guidelines to ensure safe and effective implementation.

Conclusion

Indian Physiotherapists demonstrate satisfactory awareness of *Telerehabilitation*; however, its utilization remains moderate. Addressing key barriers such as lack of training, hands-on limitations, and regulatory clarity is essential for integrating *Telerehabilitation* into routine physiotherapy practice. Strengthening digital infrastructure and professional guidelines may enhance accessibility and continuity of physiotherapy care in India.

References

1. Russell TG. *Telerehabilitation*: a coming of age. *Aust J Physiother*,2009;55(1):5-6.
2. Peretti A, Amenta F, Tayebati SK, Nittari G, Mahdi SS. *Telerehabilitation*: review of the state-of-the-art. *J Med Syst*,2017;41(12):210.
3. Shrivastava SR, Shrivastava PS, Ramasamy J. Telemedicine: a new era in healthcare delivery in India. *J Med Soc*,2014;28(1):1-3.
4. Cottrell MA, Russell TG. Telehealth for musculoskeletal. *Physiotherapy*,2020;107:1-3.
5. Prvu Bettger J, Thoumi A, Markevich V, *et al.* Maintaining rehabilitation services during COVID-19. *Arch Phys Med Rehabil*,2020;101(9):1539-1541.
6. Cottrell MA, Galea OA, O'Leary SP, Hill AJ, Russell TG. Real-time *Telerehabilitation* for musculoskeletal conditions. *J Telemed Telecare*,2017;23(2):339-346.
7. Pastora-Bernal JM, Martín-Valero R, Barón-López FJ, Estebanez-Pérez MJ. Evidence of benefit of *Telerehabilitation*. *Physiotherapy*,2018;104(3):271-278.
8. Suso-Martí L, La Touche R, Herranz-Gómez A, *et al.* Effectiveness of *Telerehabilitation* in physical therapy. *Phys Ther*,2021;101(5):pzab075.
9. Tenforde AS, Hefner JE, Kodish-Wachs JE, *et al.* Telehealth in physical medicine and rehabilitation. *PM R*,2017;9(5): S51-S58.
10. Indian Association of Physiotherapists. Tele-practice and physiotherapy guidelines. IAP, 2020.
11. Jette DU, Bacon K, Batty C, *et al.* Evidence-based practice beliefs and behaviors. *Phys Ther*,2003;83(9):786-805.
12. Lee ACW, Harada N. Telehealth as a means of healthcare delivery. *J Phys Ther Sci*,2012;24(11):1017-1021.
13. Alshehri MA, Alalawi A, Alhasan H, Stokes E. Physiotherapists and evidence-based telepractice. *Int J Evid Based Healthc*,2017;15(3):127-135.
14. Kruse CS, Krowski N, Rodriguez B, *et al.* Telehealth and patient satisfaction. *BMJ Open*,2017;7: e016242.
15. Scurlock-Evans L, Upton P, Upton D. Barriers to evidence-based practice. *Physiotherapy*,2014;100(3):208-219.
16. Grimmer-Somers K, Lekkass P, Nyland L, *et al.* Perspectives on research evidence. *Physiother Res Int*,2007;12(3):147-161.