

Adopting Telerehabilitation in Albania: Evaluating Acceptance, Preferences, and Impediments Among Physiotherapists and the Public _____

_____ ***Dr. Sc. (c) Iva RRUGIA*** _____

EUROPEAN UNIVERSITY OF TIRANA, ALBANIA

CORRESPONDING AUTHOR

iva.rrugia@uet.edu.al

_____ ***PhD Jasemin TODRI*** _____

CATHOLIC UNIVERSITY OF SAN ANTONIO OF MURCIA, SPAIN

_____ ***Aden GRIPSHI*** _____

PHYSIOPRAXIS ADAMO HEIJDENRIJK CLINIC, GERMANY

Abstract

Background: COVID introduced a new approach to healthcare services. The pandemic showed that the need to rely on online services is very significant. Telerehabilitation, as the delivery of rehabilitation services via information and communication technologies, is a well-known concept for developed countries but not for Albania.

Objective: To investigate acceptability, preferences, and needs in telerehabilitation by Albanian physical therapists and the general population.

Methods: A cross-sectional observational study was conducted among physiotherapists and general population related to tele-rehabilitation in physiotherapy to verify how recognized and applied this field is today in Tirana, Albania

Results: *The study involved 57 professionals, mostly aged 25-34, with 43 participants working in the private sector. The focus was on musculoskeletal and orthopedic issues, with 18 participants in each category. Opinions on tele-rehabilitation were divided, with 42% of physiotherapists in favor and another 42% remaining neutral. Most physiotherapists had no prior tele-rehabilitation experience, but about one-third found technology integration beneficial.*

Health information and education were widely supported, with 86% of participants in favor. Self-management strategies were endorsed by 77%. Among 173 non-physiotherapists, the vast majority were females (94%) and mostly aged 25-34 (nearly half). About two-thirds had never used physiotherapy services. Attitudes towards tele-rehabilitation costs were uncertain for almost half of the participants. However, 58% recognized the potential of digital technology, with video conferencing seen as helpful by 52% and apps by 18%. Most participants preferred exercise prescriptions, self-management, and health information.

Conclusion: *The conclusion points towards the need for further education and infrastructural enhancements to fully realize telerehabilitation's capabilities in improving healthcare accessibility in Albania.*

Keywords: *Digital physical therapy, Perception, Rehabilitation, Telehealth*

Introduction

Telerehabilitation is the practice of delivering rehabilitation services remotely through telecommunications networks and the internet. This innovative healthcare approach utilizes technologies such as video conferencing, wearable sensors, and mobile health applications to provide therapeutic interventions, assessments, and consultations from a distance (Gupta, 2023).

Particularly beneficial for patients in remote locations or those with mobility issues, telerehabilitation breaks down geographical barriers, making essential rehabilitation services accessible to those who might otherwise face significant challenges in receiving care (Alexander, 2022).

The adaptation of telerehabilitation during the COVID-19 pandemic further emphasized its critical role in maintaining continuity of care while adhering to social distancing measures, showcasing its potential to transform traditional rehabilitation practices (Boldrini P, 2020).

Following its definition and initial introduction, it is essential to delve into the strategic importance of telerehabilitation, particularly as highlighted by World Physiotherapy (Physiotherapy, 2019).

This organization's position statement not only recognized telerehabilitation as a transformative approach in healthcare but also actively encouraged physiotherapists worldwide to adopt this technology-enhanced method of care delivery. The urgency and relevance of telerehabilitation became even more pronounced during the COVID-19 pandemic. As countries imposed lockdowns and social distancing became the norm, telerehabilitation emerged as a crucial solution, enabling the continuation of essential rehabilitation services without physical contact. This period underscored telerehabilitation's capacity to adapt to global health crises, offering a viable and effective alternative to traditional face-to-face therapy sessions, thus ensuring uninterrupted care for patients across various demographics (Buabbas AJ, 2022), (Boldrini P B. A., 2020).

Following the discussion of its strategic importance, it's crucial to explore the technological evolution of telerehabilitation, which has transitioned from primarily synchronous interactions to include asynchronous methods as well. Initially, telerehabilitation relied heavily on real-time communications, such as video calls, where the therapist and patient interacted live. This method mirrored traditional in-person sessions, providing immediate feedback and support.

However, as the field has matured, there has been a significant shift towards incorporating asynchronous techniques, where information, therapeutic exercises, and feedback are provided via platforms that do not require both parties to be present at the same time. This development was driven by the need to overcome various operational challenges, such as scheduling conflicts, varying time zones between patient and provider, and the limited availability of therapists (Parmato B, 2009) discusses these advancements, highlighting how technological innovations in telerehabilitation have been crafted to replicate the nuances of face-to-face interactions within a digital framework.

This evolution has broadened the accessibility of services, allowing patients to access therapeutic guidance and perform prescribed activities at their convenience. Additionally, it has enabled the storage and subsequent analysis of patient data, enhancing personalized treatment plans and ongoing monitoring without the continuous presence of a healthcare provider. This shift not only meets the operational needs of a growing patient base but also addresses the challenges posed by clinician shortages and the rising demand for rehabilitation services globally.

The efficacy of telerehabilitation is supported by robust research, demonstrating its effectiveness and cost-efficiency across a variety of conditions. For instance, studies on motor impairments have shown that telerehabilitation can provide outcomes that are equal to or even better than traditional face-to-face therapy (Nelson M, 2020). A landmark study by (Vellata C, 2021) highlighted that telerehabilitation significantly improved patient recovery rates and reduced costs associated with motor impairment therapies.

In the realm of chronic disease management, the “TeleCare North” project in Denmark serves as a compelling example of how telerehabilitation can transform care delivery. This cluster-randomized trial investigated the cost-effectiveness of telehealthcare for patients with chronic obstructive pulmonary disease (COPD). According to (Witt Udsen, 2017) the study found that telehealthcare dramatically reduced hospital visits and enhanced the overall management of COPD, improving patient quality of life while also cutting down the costs associated with traditional care methods. These findings suggest that telehealthcare systems are not only viable but also economically sustainable options for managing chronic conditions.

While telerehabilitation has demonstrated significant benefits, its implementation is not without challenges. These challenges can be categorized into technological barriers, user acceptance issues, and infrastructural deficiencies, each contributing to the complexity of deploying telerehabilitation services effectively. In a 2019 report by the Albanian Institute of Statistics (INSTAT), it was documented that internet access in Albania has seen a noticeable improvement, with 82.2% of households having internet access, up from 80.7% in the previous year. Notably, 88.9% of households reported access to mobile broadband, facilitating the use of internet services on mobile devices. Among individuals aged 16-74, 68.6% used the internet, with a significant 87.1% doing so daily. Furthermore, a high percentage (92.3%) of the same age group utilized internet-based communication tools such as Skype, Viber, and WhatsApp in the last three months of the year. This widespread adoption of internet and communication technologies underscores the potential for implementing digital health services such as telerehabilitation in Albania, which could significantly benefit from such technological engagement (Daci, 2020).

Acceptance of telerehabilitation by both patients and healthcare providers is crucial for its success. However, skepticism exists, particularly among those accustomed to traditional face-to-face interactions (Muñoz-Tomás, 2023), (Ramachandran, 2022). Concerns about the quality of care, privacy of data, and the impersonal nature of remote consultations can deter individuals from adopting this model. A systematic review by (Sulaj, 2022) collected data from various articles and research papers over the last five years, confirming that telerehabilitation is both a feasible and acceptable method for treating diverse conditions like osteoarthritis, low back pain, and cardiac and pulmonary issues.

Developing countries might prioritize other more immediate healthcare needs or infrastructure developments over the establishment of telehealth policies. Limited financial and human resources mean that telehealth may not be seen as an immediate priority in the face of other pressing healthcare challenges.

Telerehabilitation's global and demographic impact is significant, especially as it addresses the unique challenges faced by rural areas, aging populations, and specific national concerns.

In rural regions, the scarcity of healthcare providers and facilities often means that residents receive less frequent and lower quality care. Telerehabilitation can bridge this gap by providing remote access to specialized care, thus overcoming geographical barriers.

As the global population ages, the demand for healthcare, particularly for chronic disease management and rehabilitation services, increases. Telerehabilitation offers a way to meet these needs without requiring elderly patients to travel, which can be both difficult and risky, especially for those with limited mobility. For example, in China, the surge in rehabilitation needs among the elderly by over 70% in the last three decades highlights the growing demand for accessible care services (Guo, 2022).

Telerehabilitation can provide continuous, personalized care to this demographic, helping them maintain independence and manage health conditions effectively from home.

Each country faces unique challenges that can be addressed through tailored telerehabilitation strategies. For instance, in Albania, projections indicate a significant increase in the elderly population needing care by 2050 (ILO, 2024) which will likely strain existing healthcare resources. Telerehabilitation can alleviate some of this pressure by offering an alternative means of delivering health services. Similarly, in low and middle-income countries, where the World Health Organization has flagged unmet rehabilitation needs as a significant health issue (Gimigliano, 2017), telerehabilitation could serve as a crucial strategy to enhance the healthcare system's capacity and outreach.

Addressing these demographic-specific challenges through telerehabilitation not only has the potential to improve individual health outcomes but also impacts broader health systems by reducing hospital stays and the associated healthcare costs. Effective implementation, however, requires consideration of local contexts, including cultural acceptance, regulation, and the existing healthcare infrastructure, to ensure that the interventions are appropriate and effective.

The necessity for telerehabilitation arises from its ability to provide equitable health service delivery across diverse populations and geographical locations. By customizing its application to meet the specific needs of each demographic, telerehabilitation stands as a pivotal solution in the global strategy to improve healthcare accessibility and efficiency (Borges, 2021), (Stephenson, 2022).

Objectives

1. **Evaluate Acceptance:** Assess the current level of acceptance of telerehabilitation among physiotherapists and the general public in Albania.
2. **Determine Preferences:** Identify the specific technological preferences for telerehabilitation among both physiotherapists and non-physiotherapist participants.
3. **Identify Needs:** Investigate the needs for resources, training, and infrastructure required to implement effective telerehabilitation services.
4. **Analyze Barriers and Facilitators:** Explore the barriers to and facilitators for the adoption of telerehabilitation, focusing on aspects such as cost concerns and technological advantages.

Methods

Participant Selection and Data Collection: We conducted a cross-sectional observational study among physiotherapists and the general population in Tirana, Albania, utilizing two tailored online questionnaires. Physiotherapists were reached via the National Association of Physiotherapists, and the general population through a social media platform with a predominantly female audience. This approach unintentionally skewed the gender balance of respondents, predominantly attracting female participants, which is acknowledged as a limitation of the study.

Questionnaire Design, Ethical Considerations, and Limitations: The questionnaires, derived from the validated work of (Fernandes LG, 2022) gauged perceptions of telerehabilitation's acceptability, preferences, and needs. Ethical approval was obtained, and participants consented to anonymity, ensuring the ethical integrity of data collection. However, the study faced limitations such as the potential bias introduced by the predominant use of a social media platform favored by females, and the challenges of generalizing findings across a more diverse population.

Data Analysis and Presentation: Data were analyzed descriptively to summarize key findings and inferentially to explore relationships between variables. The results were visualized through graphs to illustrate the distribution and trends clearly, facilitating an easier interpretation of how perceptions and preferences are aligned with the current state of telerehabilitation in Albania.

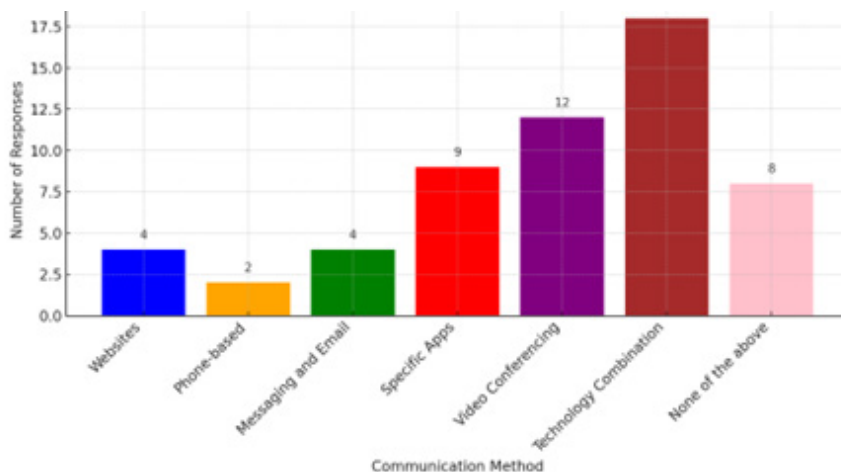
Results

The study included a total of 57 professionals, with 65% being female and nearly half aged 25-34. Among them, approximately one-third had 5-10 years of experience, and 60% held a master's degree. The majority, around 75%, were employed in the private sector. The focus areas were evenly split, with 18 participants each in musculoskeletal problems and orthopedics.

For non-physiotherapist professionals, the study involved 173 participants, with an overwhelming 94% being female. Nearly half were in the 25-34 age group, and over half had a master's degree. Two-thirds had never used physiotherapy services. Attitudes towards telerehabilitation were varied, with 44% remaining neutral and about 25% in agreement with its benefits.

Regarding telerehabilitation, opinions were evenly split, with 24 physiotherapists approving and 24 remaining neutral. Most physiotherapists reported no prior experience with telerehabilitation services. When discussing the integration of technology in therapy, 18 therapists believed that combining physical treatments with technology would be beneficial. A detailed breakdown of the types of technologies considered beneficial is depicted in Figure 1.

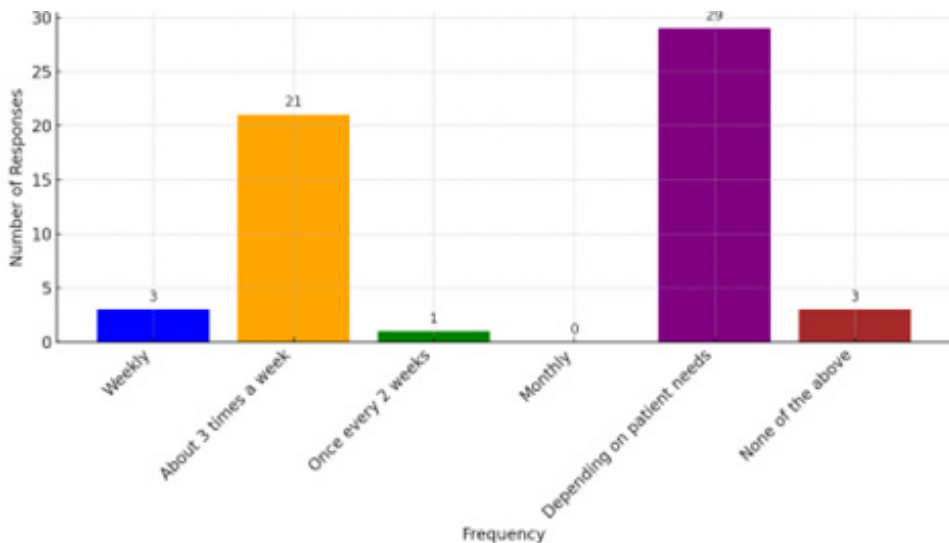
FIGURE 1. Types of Therapeutic Communication Related to Technology as Reported by Physiotherapists



Frequency of Rehabilitation Sessions

The study revealed varying preferences for the frequency of rehabilitation sessions among physiotherapists. Specifically, 29 physiotherapists emphasized the need for tailoring the frequency of sessions to individual patient contexts, indicating a flexible approach to rehabilitation schedules. Conversely, 21 therapists suggested that thrice-weekly sessions would suffice for effective patient management, showcasing a preference for a structured routine (Figure 2).

FIGURE 2. Ideal Time Frequency According to Physiotherapists



Communication and Support through Telerehabilitation

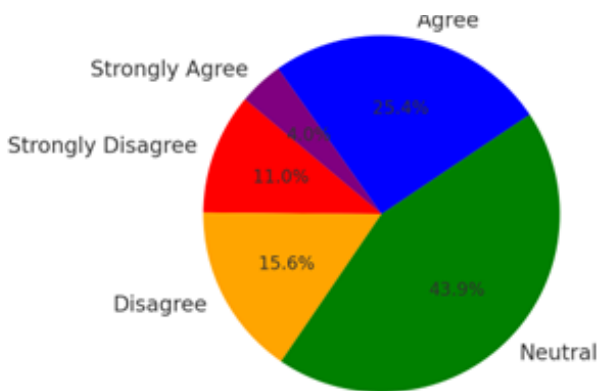
The preferred methods of communication with patients in the telerehabilitation context were found to be via real-time video conferencing (21 participants) and a combination of pre-recorded and scheduled sessions (26 participants). The survey highlighted a strong endorsement for providing additional health information and education during therapeutic sessions, with 49 therapists in favor. Self-management strategies were also supported by 44 therapists, underscoring their value in the telerehabilitation framework. Moreover, the role of third-party support from family, friends, and caregivers was recognized by 40 therapists as crucial in facilitating therapeutic outcomes. The opportunity

for patients to interact through telerehabilitation was deemed valuable by 34 respondents.

Non-Physiotherapist Perspectives on Telerehabilitation

Among the non-physiotherapists surveyed (n=173), primarily females aged 25-34 (n=84 with master’s degrees dominating at 93 participants), a significant portion (113) had never previously utilized physiotherapy services. Attitudes toward telerehabilitation were mixed, with 76 expressing neutrality and 44 showing agreement with the service (Figure 3). This diversity in perspectives indicates varying levels of readiness and acceptance towards adopting telerehabilitation among the general population.

FIGURE 3. Agreement with Participation in Tele-Rehabilitation According to the Population



Adaptability and Acceptance of Telerehabilitation Programs

Regarding adaptation to telerehabilitation programs, a significant portion of respondents (n=68) were uncertain if they could adjust to such programs, with opinions equally split between agreement and disagreement (n=43 each). Concerning the availability of necessary equipment for telerehabilitation, 71 participants indicated a lack of proper infrastructure to follow such programs effectively.

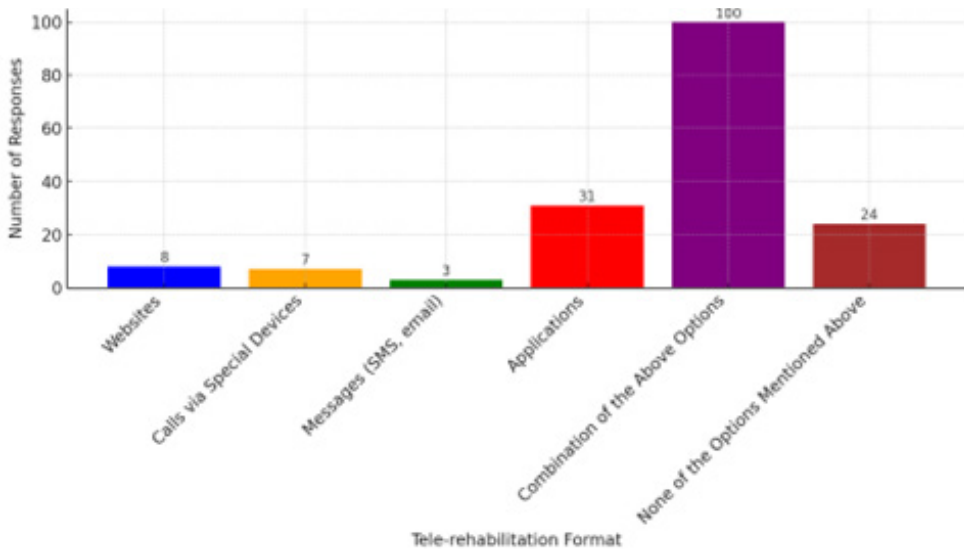
Effectiveness and Cost Concerns of Telerehabilitation vs. Physical Therapy

Participants expressed mixed feelings about the effectiveness of telerehabilitation compared to traditional physical therapy. While 72 participants endorsed the effectiveness of physical therapy, 52 were strongly against replacing it with telerehabilitation, highlighting skepticism about its efficacy. Cost considerations also revealed uncertainty, with 46% (n=80) unable to specify their stance and 30% (n=52) believing telerehabilitation to be costly. Furthermore, when asked if they were willing to pay the same amount for telerehabilitation as for in-person services, 42% (n=72) disagreed, and 38% (n=65) were not in favor.

Technological Support and Communication Preferences

Regarding the technological aspects of telerehabilitation, 100 participants felt that all available digital technologies could aid their treatment, and 31 believed that apps specifically could be helpful. These responses underscore the need for enhanced digital tools and applications to support telerehabilitation practices effectively.

FIGURE 4. Most Suitable Formats of Tele-rehabilitation to Assist Patients

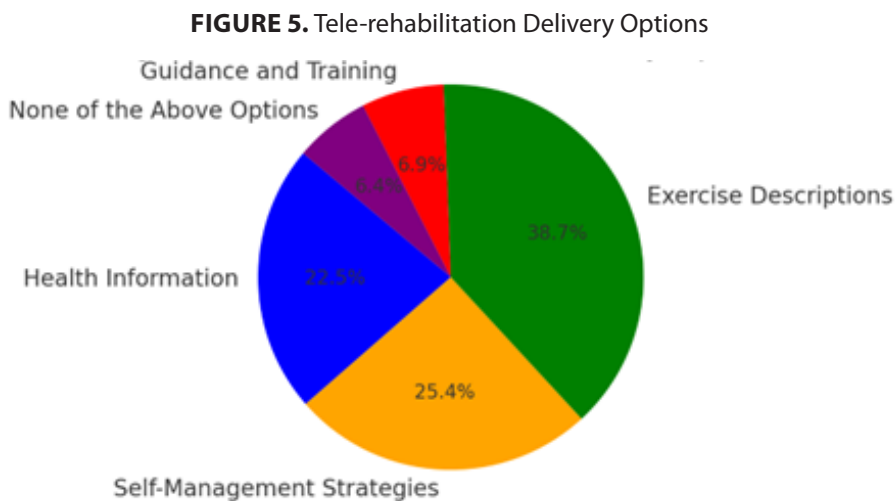


Customization and Preferences in Telerehabilitation

A significant number of participants (n=134) emphasized that the frequency of rehabilitation sessions should be tailored to individual needs. Additionally, the ideal form of contact with therapists was identified as a combination of telerehabilitation with recorded and live video conferences (n=90), indicating a preference for flexible and interactive communication methods.

Preferred Telerehabilitation Features

Participants expressed specific preferences for telerehabilitation features that would enhance their experience. The most favored option was following exercise prescriptions (n=67), followed by self-management strategies (n=44) and health information access (n=39). This suggests a strong demand for comprehensive and supportive digital tools that facilitate active patient engagement and education during the rehabilitation process (Figure 5).



Community Interaction in Telerehabilitation

The study revealed mixed opinions regarding the integration of community interaction within telerehabilitation programs. While 72 participants found the idea of engaging in group communications and forums interesting, another 69

expressed skepticism about the necessity or usefulness of patient interaction within these platforms. This split highlights varying preferences for social features in telerehabilitation, indicating that while some patients see value in community support, others may prefer a more focused, individual approach to their rehabilitation.

Discussion

The findings indicate a divided opinion among physiotherapists regarding the adoption of telerehabilitation, reflecting a broader hesitation possibly rooted in a lack of familiarity and experience with this service modality. While half of the physiotherapists surveyed were neutral, those in favor recognized the potential benefits of integrating technology into rehabilitation practices. This polarization underscores the need for further education and hands-on exposure to telerehabilitation technologies, similar to the challenges and recommendations identified by previous research, which emphasizes that enhancing user comfort with technology is crucial for adoption (Pramuka M, 2009). Furthermore, the preference for traditional physical therapy among a significant portion of respondents highlights a critical barrier to telehealth—resistance due to perceived effectiveness of face-to-face interactions, as discussed in studies like (Moulaei, 2023), which found that personal interaction remains highly valued by both patients and providers. In contrast, studies that measure attitudes before and after direct experience with telerehabilitation often show a shift towards more favorable views of its efficacy and acceptability. This indicates that direct experience with telerehabilitation can significantly alter perceptions, potentially overcoming initial resistance. It highlights the importance of integrating trial periods or pilot programs into the introduction of telerehabilitation services, allowing both patients and providers to experience the benefits firsthand before forming a concrete opinion (Cramer SC, 2019). Such findings suggest that an effective strategy to promote telerehabilitation in settings like Albania might involve not only educational campaigns but also opportunities for trial uses of the service. This approach would help bridge the gap between traditional perceptions and the potential advantages of telehealth, easing the transition for both healthcare providers and their patients.

The study also highlights a substantial interest in specific features of telerehabilitation, such as video conferencing and pre-scheduled programming, suggesting that a hybrid model of service delivery could be more acceptable. This preference aligns with recent advancements in telehealth that advocate for flexible models accommodating both remote and in-person care components (Pramuka M,

2009). Moreover, the significant support for health education and self-management strategies through telerehabilitation platforms points to an opportunity to enhance patient engagement and autonomy in managing their health, which has been shown to improve outcomes in chronic disease management , (Cox, 2023), (Matamala-Gomez M, 2020). The readiness for adopting such models, however, is contingent upon addressing infrastructural deficiencies, notably in internet connectivity and technological literacy, which mirrors global challenges in telehealth expansion (Palombini, 2023).

Conclusions

The study underscores the potential of telerehabilitation to enhance healthcare accessibility in Albania, highlighting the need for increased awareness and experience among both physiotherapists and the general public. The findings advocate for educational initiatives and pilot programs to familiarize potential users with telerehabilitation's benefits, aiming to reduce skepticism and resistance. Ultimately, the successful integration of telerehabilitation in Albania hinges on strategic efforts to bridge the gap between traditional healthcare practices and innovative telehealth solutions, ensuring equitable healthcare access across diverse populations.

References

- Alexander, M. &. (2022). Telerehabilitation. Elsevier.
- Boldrini P, B. A. (2020). Impact of Covid-19 outbreak on rehabilitation services and Physical and Rehabilitation Medicine (PRM) Physicians' activity in Italy: On official document of the Italian PRM society. *Eur J Phys Rehabil Med*.
- Boldrini P, B. A. (2020). Impact of Covid-19 outbreak on rehabilitation services and Physical and Rehabilitation Medicine Physicians' activities in Italy. *Eur J Phys Rehabil Med.*, 316-318.
- Borges, P. R. (2021). Telerehabilitation program for older adults on a waiting list for physical therapy after hospital discharge: study protocol for a pragmatic randomized trial protocol. *Trials* 22, 445.
- Buabbas AJ, A. S. (2022). Telerehabilitation during the COVID-19 Pandemic: Patients and Physical Therapists' Experiences. *Med Princ Pract.*, 156-164.
- Cox, N. L. (2023). Perceived Autonomy Support in Telerehabilitation by People with chronic respiratory disease: a mixed methods study. *Chest*,163 (6), 1410-1424.
- Cramer SC, D. L. (2019). Efficacy of Home-Based Telerehabilitation vs In-Clinic Therapy for Adults after stroke: A randomized Clinical Trial. *JAMA Neurol*.
- Daci, M. (2020, April 16). 98% E Shqiptarëve Kanë Celular, po internet?. . Retrieved from *Faktoje.al*. : <https://faktoje.al/98-e-familjeve-shqiptare-kane-celular-po-internet/>

- Fernandes LG, O. R. (2022). Physical therapists and public perceptions of telerehabilitation: An online open survey on acceptability, preferences, and needs. . *Braz J Phys Ther.*
- Gimigliano, F. N. (2017). The world Health Organization” rehabilitation 2030: a call for action. *Eur J Phys Rehabil Med.*
- Guo, X. H. (2022). Current state and challenges of rehabilitation needs among elderly-China 1990-2019. *China CDC weekly.*
- Gupta, M. B. (2023). In *Modern Intervetion Tools for Rehabilitation.* Academic Press, 1-12.
- ILO. (2024, February 1). Albania faces a growing need of long- term care for its elderly population. Retrieved from International Labour Organization: https://www.ilo.org/budapest/whats-new/WCMS_847680/lang--en/index.htm
- Matamala-Gomez M, M. M. (2020). The Role of Engagement in Teleneurorehabilitation:A systematic review . *Front Neurol.* .
- Moulaei, K. S. (2023). Patients’ perspectives and preferences toward telemedicine versus in-person visits: a mixed-methods study on 1226 patients. . *BMC Med Inform Decis Mak .*
- Muñoz-Tomás, M. T.-L.-P.-R.-S.-R.-S. (2023). Telerehabilitation as a therapeutic exercise tool versus face-to-face physiotherapy: A systematic review.
- Nelson M, B. M. (2020). Telerehabilitation is non- inferior to usual care following total hip replacement- a randomized controlled non- inferiority trial. *Physiotherapy.*
- Palombini, M. V. (2023). Building a framework for a more inclusive healthcare system. *Telehealth and Medicine Today, .*
- Parmato B, S. (2009). Telerehabilitation: State of the art from an Informatics Prespective. *Int J telerehabil.*
- Physiotherapy, W. (2019). Report of the World Physiotherapy/ INPTRA digital physical therapy practice task force. .
- Pramuka M, v. R. (2009). Telerehabilitation technologies: accessibility and usability. . *Int J Telerehabil. , 85-98.*
- Ramachandran, H. J. (2022). Technology acceptance of home-based cardiac telerehabilitation programs in patients with coronary heart disease: Systematic scoping review. *Journal of Medical Internet Research.*
- Stephenson, A. H. (2022). Factors influencing the delivery of telerehabilitation for stroke: A systematic review. *PLOS ONE.*
- Sulaj, A. L. (2022). The acceptance of telerehabilitation in physical therapy: A systematic review. *UBT international conference.*
- Vellata C, B. S. (2021). Effectiveness of Telerehabilitaion on Motor Impairments, Non-motor Symptomos and Compliance in Patients With Parkinson’s Disease: A Systematic Review. *Front Neurol.*
- Witt Udsen, F. L. (2017). Cost-effectiveness of telehealthcare to patients with chronic obstructive pulmonary disease: results from the Danish “TeleCare North” cluster- randomised trail. *BMJ Open.*