

Physiotherapy and Barriers in Integration with Primary Health Care

Rawan Eltayeb¹, Maria Micheal², Tasneem Hassan¹, Hassan Abdelnour^{2,3}, Tarig Abdalmaged²

¹Physiotherapy Department, Aminu Kano Teaching Hospital. Kano, Nigeria.

²Physiotherapy Department, School of Health Sciences, Ahfad University for Women (AUW), Omdurman, Sudan.

³Physiotherapy Department, Faculty of Applied Medical Sciences, Jerash University (JU), Jerash, Jordan.

Corresponding author:

Dr. Hassan Abdelnour, Physiotherapy Department, Faculty of Applied Medical Sciences, Jerash University (JU), Jerash, Jordan. Physiotherapy Department, School of Health Sciences, Ahfad University for Women (AUW), Omdurman, Sudan. ORCID ID:

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Abstract

Introduction: Primary Health Care (PHC) is crucial for achieving universal and equitable health care, serving as the first contact point in the health system to address various health issues through preventive, curative, and rehabilitative services. Due to the low coverage of the integration of physiotherapy into PHC, lack of availability of data, the need of integrating physiotherapy is more glaring in Sudan. Aim of the study is to identify the specific barriers faced by physiotherapists in integrating physiotherapy into PHC in Sudan.

Methodology: A quantitative, descriptive, cross-sectional survey was used in this study. The data was collected using Google form questionnaire. A total of seventy physiotherapists participated in the study. The study was conducted during the period that extended from April to November 2024. The collected data was manually coded into an Excel sheet for analysis.

Result: There were 43% of the participants indicated that physiotherapy services were not available at PHC. There were 54% of participants strongly agree that a lack of community awareness poses a significant barrier to integrating physiotherapy into PHC. There were 54% of participants strongly agree that insufficient funding for rehabilitation services is a significant barrier to integrating physiotherapy into PHC. There were 50% of participants believe the inconsistency in transferred information is a significant barrier to integrating physiotherapy into PHC. There were 49% of participants indicated that equipment poses a barrier to integrating physiotherapy into PHC.

Conclusion: Substantial improvements are required to effectively integrate physiotherapy into PHC in Sudan. This involves enhancing various areas, including service delivery, community awareness, referral systems, financing, and infrastructure.

Keywords: Primary Health Care (PHC), Physiotherapy, Barriers, Facilitators, Sudan

1. Introduction

Primary Health Care (PHC) is necessary medical care that is made widely available to people and families in the community using methods that they find acceptable, with their full participation, and at a price that the nation and community can afford [1]. It is essential to the nation's health system, of which it is the core, as well as to the community's general social and economic advancement. Various studies have connected PHC to the quality of health systems in communities. For instance, Lal *et al* (2021) demonstrated that the COVID-19 pandemic has challenged health systems significantly, revealing critical deficiencies in public health infrastructure [2]. Certain countries were more equipped to handle the crisis due to the prioritization of PHC policies.

According to World Physiotherapy (2023), physiotherapy refers to the services that physiotherapists offer to individuals and populations in order to build, maintain, and recover maximum mobility and functional capacity throughout the lifespan [3]. Primary Health Care (PHC) involves physiotherapists as acting health providers in community settings, diagnosing and managing musculoskeletal, neurological, and chronic conditions, focusing on movement, function, self-management, and health promotion to improve overall well-being and reduce healthcare burdens [4]. In other words, by offering direct access for musculoskeletal problems, managing chronic conditions, lowering medication dependence, enhancing functional ability, and fostering wellness, physiotherapy greatly benefits PHC [4,5]. In the end, this reduces workloads, lowers costs, and improves patient outcomes through comprehensive, community-based care [4, 6].

Physiotherapy integration in PHC is challenged by several factors, including the system, providers, patient side problems, gaps in interprofessional collaboration, organizational factors, and policy [5,6]. Accessibility and efficient care delivery are hampered by systemic under-prioritization of physiotherapy within larger public health systems, insufficient infrastructure, financial limitations, and low physician awareness [6,7].

Although issues like role clarity and inter-professional collaboration need to be addressed through improved training and teamwork, integrating physiotherapy into PHC entails integrating qualified physiotherapists into front-line teams to provide early assessment, treatment, and prevention for musculoskeletal, chronic, and cardiorespiratory conditions, improving patient access, outcomes, and supporting self-management [8, 9]

Sudan is found in the northeastern part of Africa. It is the third biggest country on the continent and the sixteenth biggest in the whole world. Due to the ongoing conflict, Sudan's PHC

system, which is essential for basic health, is in grave danger [10]. It has experienced widespread closures, severe staff, medication, and supply shortages, disrupted infrastructure, and funding gaps, which have resulted in outbreaks of preventable diseases and jeopardized previous health gains. Displacement, a lack of resources, and attacks on medical institutions make it difficult for the system to deliver even basic care, despite committed healthcare professionals working under extreme risk and international assistance efforts [10].

The challenges of integrating physiotherapy into PHC in Sudan have been highlighted in certain studies related to Community-Based Education (CBE). Some physiotherapy students undertake their clinical placements in PHC centers [4,8]. Therefore, educational institutions need to serve as partners in PHC, developing strategic plans to address and overcome challenges effectively. For example, Ahfad University for Women (AUW) collaborates on the European Union (EU) funded consortium projects on Human Resources for Primary Care in Africa [9].

The aim of the study is to identify the specific barriers faced by physiotherapists in integrating physiotherapy into PHC in Sudan.

2. Methodology

This study adopted a quantitative, descriptive, cross-sectional study design. It included physiotherapists who have practiced or are currently practicing in Sudan. A purposive sampling approach was employed, with a convenient sample of 70 participants taking part in the study. Data collection was conducted through a structured questionnaire administered via Google Forms. The questionnaire consisted of two sections: Demographics Background, Barriers, and Facilitators to Integrating Physiotherapy into PHC. The barriers and the facilitators were further divided into 6 domains according to the World Health Organization (WHO) framework that describes health systems in terms of six core components; service delivery, health workforce, health information systems, access to essential medicines, financing, and leadership/governance [11]. Likert rating scale used to measure this qualitative data.

The collected data were manually coded into an Excel sheet for analysis. Descriptive analysis was carried out to calculate frequencies and percentages, with the findings presented in tables and charts for clarity.

At the beginning of the form, participants were provided with a brief introduction outlining the research purpose, confidentiality measures, and the informed consent process. Consent was digitally obtained through a checkbox, confirming that participation was voluntary and assuring that all information collected would remain anonymous and confidential.

3. Results

(Table 1) displays that the highest percentage of people taking part in the study, which is 64%, were aged 20 to 30 years old. In contrast, only a small fraction, just 1%, fell within the age group of 51 to 60.

Table 1 Age Distribution of participants

Age	Frequency	Percentage (%)
21- 30	45	64
31- 40	18	26
41- 50	4	6
51- 60	1	1
61 and above	2	3
Total	70	100

(Table 2) indicates that 21% of the people involved were male, while 79% were female.

Table 2 Gender Distribution of participants

Gender	Frequency	Percentage (%)
Male	15	21
Female	55	79
Total	70	100

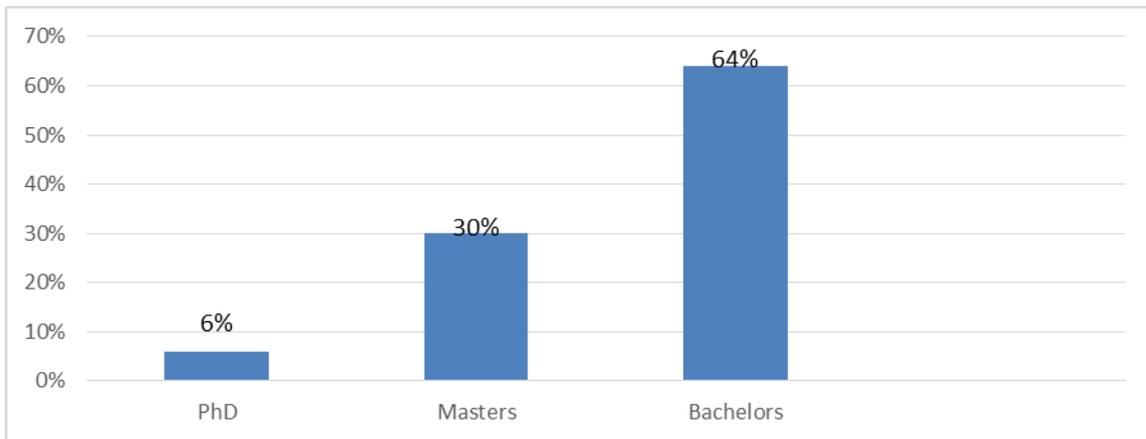


Figure 1 Level of education

(Figure 1) shows that 64% of the participants hold a bachelor's degree, 30% possess a master's degree, and 6% have earned a PhD.

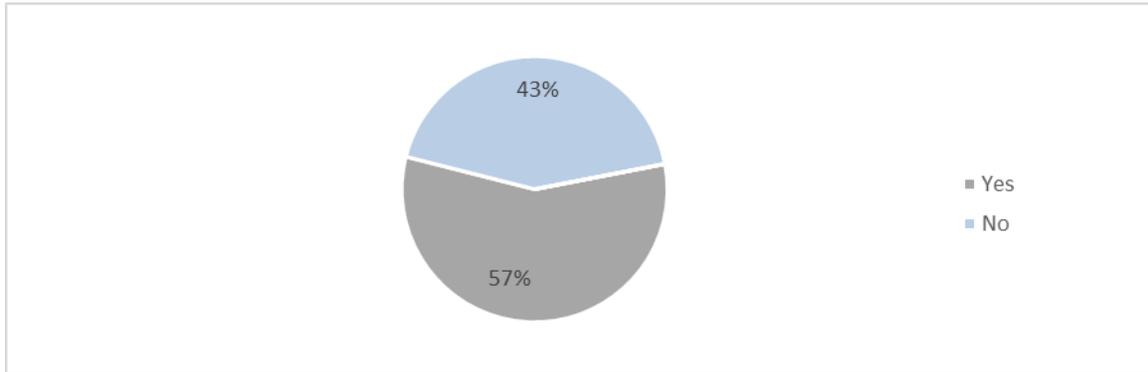


Figure 2 Availability of physiotherapy services in PHC

(Figure 2) illustrates that 57% confirmed the availability of physiotherapy services in the PHC of their locality or state of employment, while 43% indicated that these services were not available.

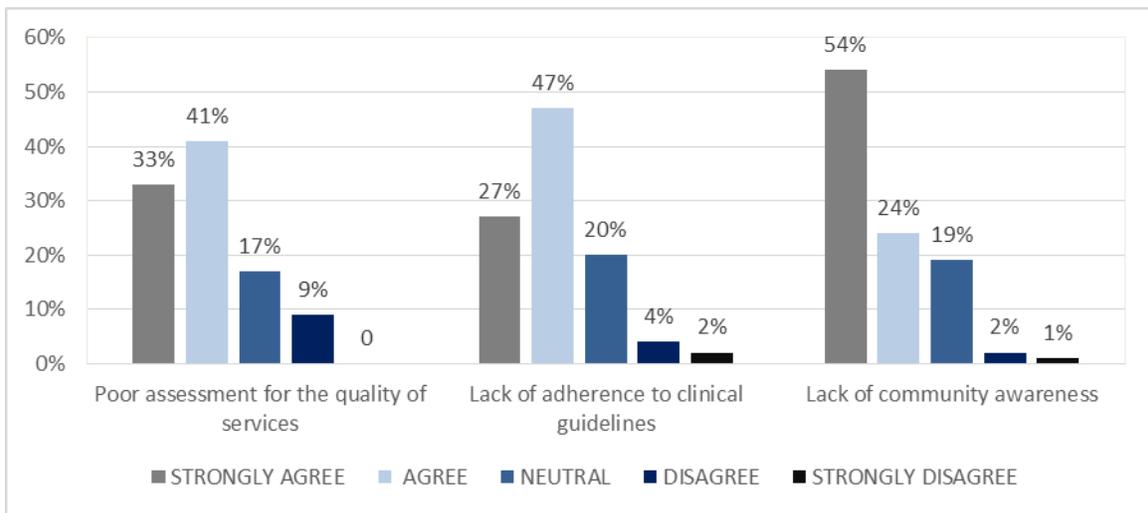


Figure 3 Service delivery

(Figure 3) indicates that 54% of participants strongly agree that a lack of community awareness poses a significant barrier to integrating physiotherapy into PHC, particularly in terms of service delivery. In contrast, only 1% strongly disagrees with this view. Additionally, 33% strongly agree that inadequate assessment of service quality serves as a barrier, while 9% express disagreement. Regarding adherence to clinical guidelines, 27% of participants strongly agree that a lack of adherence creates a barrier, whereas 2% strongly disagree.

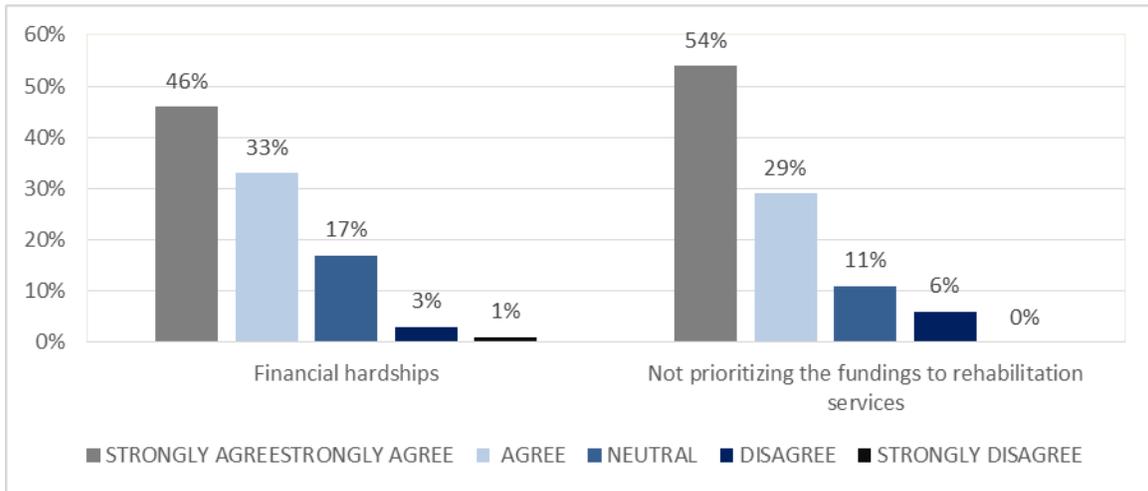


Figure 4 Finance

(Figure 4) shows that 54% of participants strongly agree that insufficient funding for rehabilitation services is a significant barrier to integrating physiotherapy into PHC, while 6% disagree. Additionally, 46% of participants strongly agree that financial hardships pose a challenge, whereas only 1% disagrees.

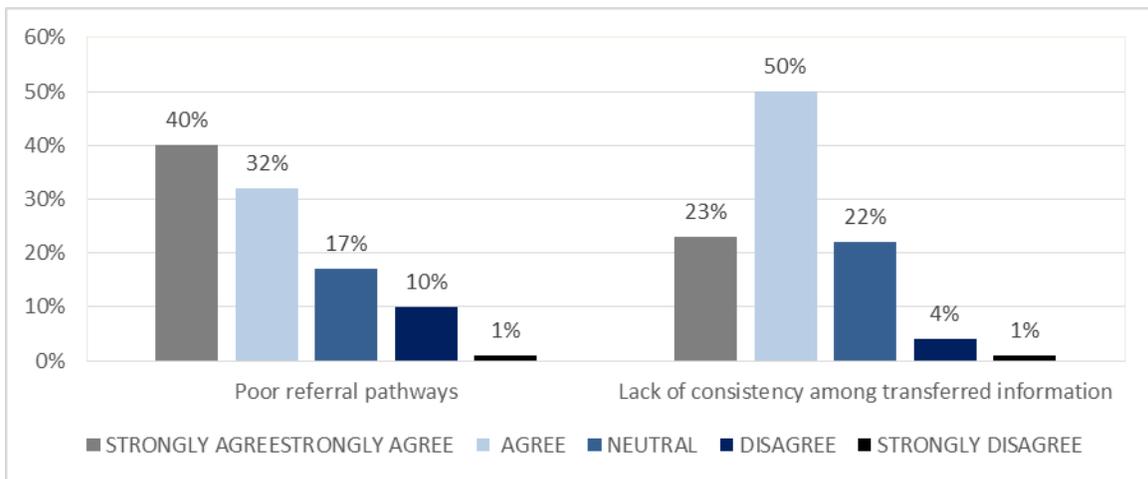


Figure 5 Health information system

(Figure 5) illustrates that 50% of participants believe the inconsistency in transferred information is a significant barrier to integrating physiotherapy into PHC, while only 1% strongly disagree. Additionally, 32% of participants agree that poor referral pathways pose a barrier, with just 1% strongly disagreeing on this point.

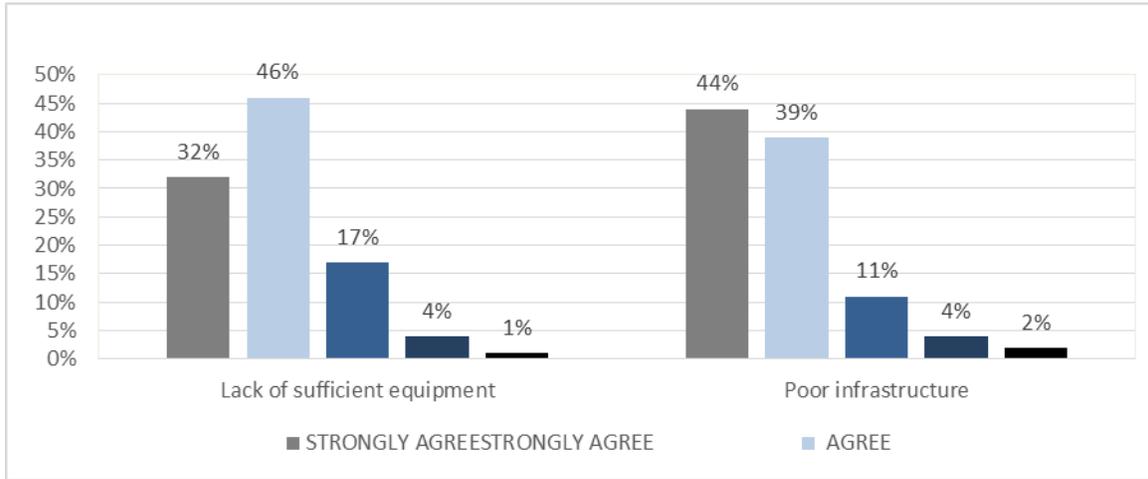


Figure 6 Infrastructures and Technology

(Figure 6) highlights that inadequate equipment poses a barrier to integrating physiotherapy into PHC, with 46% of participants agreeing and 1% strongly disagreeing. Additionally, 39% of respondents consider poor infrastructure a hindrance, while 2% disagree.

4. Discussion

Most physiotherapists surveyed fell within the age range of 21 to 30 years, consistent with earlier studies showing that the primary age group for practicing physiotherapists is between 25 and 30 years [12]. The majority of participants in this study were females, aligning with the research by Almalty *et al.* (2024), which revealed that more than 93% of physiotherapists in Sudan are females [13]. Alkhazaaleh *et al.* (2025) examined the underlying factors contributing to the shortage of postgraduate degree holders in Sudan, highlighting issues such as the limited availability of postgraduate educational programs [14]. This study found that the majority of participants had attained a Bachelor’s degree in physiotherapy.

In this study, 43% of participants reported that physiotherapy services were not available at PHC facilities. Tamang and Dorji (2021), explain that physiotherapy is frequently excluded from public healthcare systems due to systemic challenges, including inadequate funding, a shortage of physiotherapists, policy constraints, and limited resources within primary care settings [15]. These issues result in restricted access, prolonged waiting times, and elevated costs for patients. Additionally, the lack of awareness about physiotherapy has been highlighted in several studies, indicating its negative impact on PHC [6,16]. This issue calls for attention through interprofessional education and professional advocacy.

Financial difficulties are widely identified by most participants in this study as a significant obstacle to incorporating physiotherapy into PHC. Consequently, the majority also agree that rehabilitation is not prioritized within the national funding policies. To effectively integrate physiotherapy services into PHC, it is essential for national policies to incorporate physiotherapy

rehabilitation into health financing systems [17,18]. This includes ensuring coverage under insurance plans, allocating funds for workforce training, and strategically investing in these services [19]. Such measures can help lower long-term costs, such as hospitalizations, while positioning physiotherapy as a priority alongside other critical health services [17].

An ineffective referral system significantly hampers the integration of physiotherapy within public healthcare [14,20]. It leads to disjointed patient care, limited access, treatment delays, and underutilized services. These issues often arise due to unclear referral pathways, insufficient awareness among general practitioners about the role of physiotherapists, poor communication between healthcare professionals, and systemic challenges such as heavy workloads and resource constraints [16,20]. Collectively, these factors contribute to suboptimal patient outcomes and place additional strain on other parts of the healthcare system [11,20]. In this study, participants perceive an inadequate referral system as a key factor contributing to inconsistencies in the transfer of information, posing a significant obstacle to the integration of physiotherapy into PHC.

Participants of this study emphasized that inadequate infrastructure and insufficient equipment are major obstacles to integrating physiotherapy into PHC. The study conducted in Nepal by Shakya *et al* (2024), discussed the shortage of essential resources, including equipment and sufficient workspace. The study underlined the importance of addressing these challenges and enhancing supportive factors at various levels to improve physiotherapy services [21]. The study recommended the development of clear policy guidelines by the Ministry of Health, formally recognizing physiotherapy as a mandatory service within PHC.

5. Conclusion

The study highlighted the distinct challenges physiotherapists encounter when incorporating physiotherapy into PHC in Sudan. Significant advancements are necessary to successfully achieve this integration. Key areas requiring improvement include service delivery, community awareness, referral mechanisms, funding, and infrastructure development.

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Authors profile

1. Miss. Rawan Eltayeb:

Physiotherapy Department. Aminu Kano Teaching Hospital. Kano, Nigeria. Email: rawaneltayeb0@gmail.com. ORCID ID: <https://orcid.org/0009-0004-0607-6505>

2. Miss. Maria Micheal:



Physiotherapy Department, School of Health Sciences, Ahfad University for Women (AUW), Omdurman, Sudan. Email: Mariakilzi2001@gmail.com. ORCID ID: <https://orcid.org/0009-0009-0042-5221>

3. Miss. Tasneem Hassan:

Physiotherapy Department. Aminu Kano Teaching Hospital. Kano, Nigeria. Email: tnoor014@gmail.com. ORCID ID: <https://orcid.org/0000-0003-1950-2767>

4. Dr. Hassan Abdelnour:



Physiotherapy Department, Faculty of Applied Medical Sciences, Jerash University (JU), Jerash, Jordan. Physiotherapy Department, School of Health Sciences, Ahfad University for Women (AUW), Omdurman, Sudan. Email: hasphysio@gmail.com. ORCID ID: <https://orcid.org/0009-0001-9873-5966>

5. Mr. Tariq Abdalmaged:



Physiotherapy Department, School of Health Sciences, Ahfad University for Women (AUW), Omdurman, Sudan. Email: tariqa18@gmail.com. ORCID ID: <https://orcid.org/0009-0007-2670-4785>