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Prevalence and Pattern of Physiotherapy-Related Conditions in Rural Primary Health Care Centers: A Multi-Center Study in North-Eastern Nigeria

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ABSTRACT

Background

Primary Health Care (PHC) is the cornerstone of universal health coverage, yet rehabilitative services remain poorly integrated into the primary tier in many developing nations. In rural Nigeria, labor-intensive agrarian occupations predispose residents to high rates of physical impairment. This study investigated the prevalence and clinical distribution of physiotherapy-related conditions in rural PHC centers in North-Eastern Nigeria to characterize the unmet need for rehabilitation.

Methods

We conducted a multi-center, retrospective clinical audit of outpatient registers and patient records at three PHC facilities in Akko Local Government Area, Gombe State. Data covering a five-year period (January 2021 -December 2025) were analyzed. Socio-demographic variables, clinical presentations, and referral outcomes were extracted using a standardized proforma. Analysis was performed using descriptive statistics, with age data expressed as Mean ± SD.

Results

A total of 179 patients presenting with 32 unique physiotherapy-related conditions were identified (note: 2022 records were unavailable). The cohort had a mean age of 29.0 ± 17.03 years, with the 16–25 age group representing the highest proportion of cases (43.6%). Low back pain was the most frequent presentation (27.9%), followed by generalized body pain (11.7%) and trauma (9.5%). Notably, 86.0% of cases were managed at the primary level without formal referral, while only 14.0% were directed to specialized secondary or tertiary centers.

Conclusion

The findings reveal a substantial burden of musculoskeletal and neurological morbidity among the young, productive population of rural North-Eastern Nigeria. The disproportionately low referral rate highlights a critical "referral bottleneck" that restricts access to specialized rehabilitation. There is an urgent need for policy reform to decentralize physiotherapy services and implement rehabilitative triage training for primary healthcare workers to mitigate chronic disability.

Keywords: Primary Health Care; Clinical Audit; Musculoskeletal Disorders; Physiotherapy; Rural Health; Referral Pathways

INTRODUCTION

The Concept of Primary Health Care (PHC)

Primary Health Care (PHC) is defined as essential, evidence-based healthcare made universally accessible to individuals and families within a community [1]. As the foundational nucleus of a national health system, PHC facilitates the social and economic advancement of society by bringing medical services as close as possible to the population's daily environment [2,3]. According to the World Health Organization, a robust PHC framework must address the community's primary health challenges through a comprehensive spectrum of promotive, preventive, curative, and rehabilitative interventions [3].

In the Nigerian context, the National Health Policy was designed to establish a holistic healthcare system where restorative and rehabilitative services are available to all citizens within existing resources [4]. However, despite these objectives, the PHC sector which should serve as the bedrock of national health currently manages less than 20% of its potential patient volume, and formal referral mechanisms remain largely non-functional [5]. This systemic shortfall is particularly acute in rural regions, where roughly two-thirds of the Nigerian population resides and remains profoundly underserved compared to urban centers [4].

The Role of Physiotherapy in Primary Care

Physiotherapy is a specialized healthcare profession dedicated to the restoration and optimization of physical strength, mobility, and functional independence [6]. Through various subspecialties including orthopedics, neurology, and pediatrics physiotherapists play a pivotal role in mitigating disability and reducing long-term dependency [7,8]. In a primary care setting, the physiotherapist serves two essential functions: clinical examination and triage [9]. These responsibilities involve establishing care plans, determining the necessity of specialized referrals, and prioritizing the neuro-musculoskeletal needs of the patient [9].

Despite the importance of these services, physiotherapy is frequently undervalued in the Nigerian PHC model, often being erroneously regarded as a "second-contact" service reserved for tertiary urban hospitals [10]. Consequently, rural patients frequently face insurmountable barriers to care, driven by the lack of local facilities and the prohibitive costs and distances associated with traveling to urban centers [11].

Problem Statement

Rural communities in North-Eastern Nigeria are often characterized by labor-intensive occupations, such as subsistence farming, which significantly predispose residents to Musculoskeletal Disorders (MSD) [12]. Previous research in similar agrarian settings has reported MSD prevalence rates as high as 71.2%, with a strong correlation between physical impairment and mental health challenges like depression [12]. In the absence of accessible physiotherapy, many of these individuals resort to the prolonged use of analgesics or seek intervention from unqualified traditional healers. This delay in professional care often results in irreversible complications and permanent deformities that could have been avoided through early rehabilitative intervention.

While the clinical benefits of early physiotherapy such as reduced long-term healthcare costs and improved functional recovery are well-documented [14], there is a critical lack of data regarding the actual clinical burden within Nigerian PHCs. Currently, many health workers in these facilities report a lack of qualified personnel and, in some cases, a fundamental lack of awareness regarding the necessity of rehabilitation services [13]. There is, therefore, an urgent need to quantify the volume and clinical nature of physiotherapy-related cases at the primary level to justify policy changes and personnel distribution.

Aim of the Study

The objective of this study was to determine the number and clinical patterns of physiotherapy-related conditions presenting at primary health care centers in rural North-Eastern Nigeria. By establishing the prevalence and nature of these cases, this research aims to provide the empirical evidence necessary to advocate for the integration of physiotherapy into the primary healthcare delivery system.

METHODS

Study Design and Period

We conducted a multi-center, retrospective clinical audit to examine the prevalence and clinical distribution of conditions requiring physiotherapy. The study involved a comprehensive review of outpatient registers and patient folders covering a five-year period from January 2021–December 2025.

Study Settings

The research was situated within three Primary Health Care (PHC) centers in the Akko Local Government Area (L.G.A.) of Gombe State, North-Eastern Nigeria. The specific sites included facilities in the rural agrarian communities of Garko, Barambu, and Pandaya. These centers represent the primary tier of healthcare delivery for the local population.

Sampling and Selection Criteria

A purposive sampling strategy was employed to identify relevant cases from the institutional archives.

- **Case Definition:** For the purposes of this audit, a "physiotherapy-related condition" was defined as any orthopedic, neurological, or musculoskeletal impairment presenting with movement dysfunction or physical disability that typically benefits from rehabilitative care.
- **Inclusion Criteria:** All medical records of patients regardless of demographic profile presented at the selected facilities within the five-year window with a documented diagnosis or clinical presentation matching the case definition.
- **Exclusion Criteria:** Folders with incomplete clinical data, missing primary diagnoses, or illegible entries that precluded accurate classification were excluded from the analysis.

Data Extraction Instrument

A standardized, researcher-designed data extraction proforma was used to ensure systematic data collection. The instrument was structured to capture:

1. Patient Demographics: Age and gender.

2. Clinical Profiles: Primary diagnosis or presenting condition (e.g., degenerative joint diseases, stroke, trauma-related injuries).

3. Temporal Trends: The specific year of hospital visit to track annual prevalence.

Procedure

Following administrative and ethical clearance, the researcher accessed the medical records departments of the participating PHC centers. An introductory letter from the Department of Medical Rehabilitation, University of Maiduguri, was presented to the facility managers.

The researcher conducted a manual screen of the outpatient registers. To ensure data validity and prevent the duplication of cases (double-counting), unique hospital registration numbers were cross-referenced. Relevant variables were then transcribed from the registers into the proforma. No personal identifiers or names were recorded to ensure the total anonymity of the participants.

Ethical Considerations

The study received ethical approval from the Ethical Review Committee of the Gombe State Ministry of Health. The study was conducted in accordance with the principles of the Declaration of Helsinki. Given the retrospective nature of the audit and the use of de-identified institutional records, the requirement for individual informed consent was waived by the ethics committee.

Statistical Analysis

Data were managed and analyzed using SPSS Version 26.0.

- Descriptive Statistics: Categorical variables (gender, clinical patterns, and condition types) were summarized using frequencies and percentages.
- Continuous Data: The age of the participants was expressed as Mean and Standard Deviation (Mean ± SD).
- Categorization: Clinical conditions were grouped into broader pathological categories (e.g., Neurological, Musculoskeletal, Pediatric) to provide a structured overview of the clinical burden.

RESULTS

Overview of Audit Data

A retrospective review of outpatient registers from three Primary Health Care (PHC) centers (Barambu, Garko, and Pandaya) was conducted for a five-year period. It should be noted that due to administrative gaps, records for one year (January–December 2022) were unavailable; thus, the final analysis represents a four-year dataset. A total of 179 patients presented with 32 distinct physiotherapy-related conditions.

Socio-Demographic Characteristics

The demographic profile of the patients is summarized in Table 1. The mean age of the participants was 29.0 ± 17.03 years. Females constituted the majority of the clinical presentations (n = 94, 52.5%), compared to males (n = 85, 47.5%).

The most prevalent age group was individuals aged 16-25 years, accounting for nearly half of the total cases (n = 78, 43.6%). Conversely, the pediatric group (aged 0-5 years) represented the smallest proportion of patients (n = 16, 8.9%). As shown in table 1 below.

Variable	Frequency (n)	Percentage (%)
Age Group (Years)		
0–5	16	8.9
6–15	19	10.6
16–25	78	43.6
26–45	33	18.4
46–59	12	6.7
≥ 60	20	11.2
Gender		
Male	85	47.5
Female	94	52.5
Referral Status		
Yes	25	14
No	154	86

Table 1: Socio-demographic Characteristics and Referral Status (N=179)

Clinical Patterns of Physiotherapy-Related Conditions

The 32 identified conditions were categorized to assess the clinical burden (Table 2). Low Back Pain (LBP) was the most

frequent presentation, accounting for 27.9% (n = 50) of the total cases. This was followed by Generalized Body Pain (GBP) at 11.7% (n = 21) and Trauma at 9.5% (n = 17).

Chronic respiratory conditions such as Asthma (n = 11, 6.1%) and neurological disorders such as Stroke (n = 14, 7.8%) alsorepresented significant portions of the rural clinical burden. Rare presentations included Vesico-Vaginal Fistula (VVF) and Quadriplegia, which each appeared only once (0.6%). As shown in table 2 below.

Clinical Condition	Frequency (n)	Percentage (%)
Low Back Pain (LBP)	50	27.9
Generalized Body Pain (GBP)	21	11.7
Trauma	17	9.5
Stroke	14	7.8
Incontinence	12	6.7
Asthma	11	6.1
Osteoarthritis (OA)	6	3.4
Breathing Difficulties	5	2.8
Contracture	4	2.2
Chronic Bronchitis	3	1.7
Paraparesis	3	1.7
Post-Fracture Complications	3	1.7
Trauma/Burn Related	3	1.7
Pneumonia	3	1.7
Uterine Prolapse	3	1.7
Other Conditions*	21	11.7
Total	179	100
*Includes: HTN, RA, Hypotension, VOC, VOC, Sprain, Planter fasciitis, VVF, Quadriplegia, Tendinitis, Fascial palsy, Hemiplegia, Ankle swelling, and Strain (all ≤ 1.1% each).		

Table 2: Clinical Distribution of Conditions (N=179)

Referral Status and Destination

Of the 179 patients identified with conditions requiring rehabilitative care, only 14.0% (n = 25) were formally referred to higher-level healthcare institutions. The overwhelming majority (86.0%, n =154) were managed at the PHC level or did not receive a formal referral to specialized physiotherapy services.

DISCUSSION

The results of this multi-center clinical audit expose a substantial, unaddressed demand for rehabilitative care within the rural primary healthcare ecosystem of North-Eastern Nigeria. Despite the foundational mandate of the Primary Health Care (PHC) framework to deliver comprehensive, accessible, and universal health coverage, these findings reveal a profound systemic failure to integrate rehabilitation into the primary tier. This institutional gap leaves vulnerable populations isolated from essential non-pharmacological interventions, turning treatable acute conditions into chronic physical impairments.

Clinical Burden and Demographic Implications

The demographic profile of the reviewed cohort—characterized by a young mean age of 29.0 ± 17.03 years and a remarkable concentration of cases within the 16–25 age bracket (43.6%) has severe socioeconomic and public health implications. In rural Gombe State, the local economy relies almost entirely on subsistence agriculture, an occupation requiring intense physical labor, repetitive spinal loading, and awkward static postures. The high proportion of musculoskeletal morbidity among young, economically active adults directly reflects the physical toll of these labor-intensive agricultural practices.

- The clear dominance of non-specific Low Back Pain (27.9%) and acute physical Trauma (9.5%) in this cohort mirrors epidemiological data from agrarian populations across other developing nations:
- Sub-Saharan Africa: In rural parts of East and West Africa, similar high rates of spinal pain and mechanical injuries have been documented among young farming cohorts (e.g., in rural Ethiopia and southwestern Nigeria), where physical therapy is rarely accessible at the community level.
- South Asia: These findings closely parallel clinical data from rural India and Bangladesh, where labor-intensive agricultural occupations drive high rates of early musculoskeletal degeneration and chronic physical impairments among young, productive adults [12].

- Latin America: Similar patterns have been reported among rural coffee and sugarcane workers in Central and South America, confirming that without mechanical aids or ergonomic safety nets, rural workers worldwide experience early spinal and joint breakdown.

Furthermore, the documentation of complex neurological and chronic conditions within these rural clinics, such as Stroke and urinary incontinence, highlights a broad and varied clinical burden. Managing these complex conditions effectively requires more than the basic pharmacological therapies (like analgesics and muscle relaxants) currently available at rural PHC centers. Without targeted physical rehabilitation, these treatable impairments frequently progress into long-term functional disabilities.

The Referral Bottleneck and Institutional Isolation

A critical and concerning observation from this audit is the 86.0% non-referral rate. While almost all identified musculoskeletal and neurological conditions fell squarely within the professional scope of physical therapy, a striking 14.0% of patients received a formal referral to specialized secondary or tertiary centers.

This massive "referral gap" indicates a fractured clinical pathway, driven by specific structural challenges:

Provider Awareness and Training

Primary healthcare workers often have limited training regarding the role of physical therapy and rehabilitative medicine [13], frequently viewing care solely through a pharmaceutical or basic surgical lens.

Absence of Clinical Protocols

The lack of standardized physical rehabilitation triage tools within the national PHC guidelines makes it difficult for frontline staff to identify and escalate complex mechanical or neurological cases early.

Comparative Region	Documented Referral/Integration Barrier	Impact on Rural Patient Outcomes
Rural North-Eastern Nigeria (Current Study)	86.0% Non-Referral Rate: Complete lack of triage guidelines and on-site physical therapists at the primary care level.	Patients face chronic pain, high rates of disability, or rely on unqualified traditional healers.
Rural South Africa	Infrastructural Barriers: Long travel distances to urban centers and high transport costs block patients, even when referred.	High drop-out rates from rehabilitation, leading to permanent functional loss.
Rural India & Nepal	Socioeconomic and Systemic Gaps: Severe shortage of community therapists and limited primary care awareness [13].	High reliance on informal health providers or traditional practitioners, worsening treatable joint and nerve injuries.

Table 3: This institutional bottleneck is a widespread challenge across health systems in the Global South

Note: Without clear, practical referral pathways or community-based physical therapy services, rural patients are effectively cut off from the rehabilitation continuum. This isolation increases the likelihood of long-term disability or pushes patients to seek care from unqualified traditional practitioners, which can lead to further joint and soft-tissue damage.

Systemic Documentation Vulnerabilities and Health Information Gaps

The total loss of patient records for the 2022 calendar year is a significant finding that underscores the instability of health information management in rural primary care. In this specific instance, the data gap was driven by a combination of physical document degradation due to suboptimal storage conditions and administrative inconsistencies during a rapid staff turnover period at the facilities, leaving the manual paper registries for that year incomplete and unrecoverable. This complete data gap makes it difficult to conduct continuous, long-term trend analyses and likely leads to an underestimation of the actual disease and disability burden within the Akko Local Government Area.

These documentation failures are a persistent structural challenge across primary healthcare systems in Low-and Middle-Income Countries (LMICs). Research focusing on rural clinics in regions like sub-Saharan Africa and parts of South Asia frequently highlights how manual, paper-based logging systems are highly vulnerable to record loss. Without digital Electronic Health Record (EHR) backups, sub-optimal archiving infrastructure and rapid personnel changes regularly disrupt continuous record-keeping. When large blocks of clinical data disappear, it directly hampers the ability of regional health authorities to plan effectively, allocate budgets, or distribute rehabilitative resources to the areas that need those most.

Implications for National and Regional Health Policy

These findings provide clear empirical support for the decentralized integration of physical therapy services within the primary health tier. The current urban-centric model where specialized physical rehabilitation is concentrated almost exclusively in tertiary teaching hospitals creates major geographic and financial barriers that rural residents cannot overcome.

To bridge this healthcare gap, policymakers must consider two parallel strategies:

Short-Term Strategy: Implementing basic "rehabilitative triage" training for existing primary healthcare workers. This would help clinical staff recognize early signs of neurological

and structural issues, allowing them to refer patients before minor injuries turn into permanent physical deformities [14].

Long-Term Strategy: Creating permanent roles for community-based physical therapists within the primary healthcare team, or setting up mobile, rotating rehabilitation clinics across rural local government areas.

Implementing these changes would bring the healthcare system closer to the models recommended by the World Health Organization (WHO) in its Rehabilitation 2030 initiative, which advocates for integrating physical medicine into everyday primary care to lower global disability rates.

Limitations and Methodological Considerations

While this multi-center clinical audit provides vital baseline data on rural rehabilitative needs, several inherent methodological limitations must be considered when interpreting the findings:

- **Inherent Constraints of Retrospective Designs:** Because this study relied entirely on historical data, the researchers could not control the original environment or the precision with which clinical data was entered. The datasets are bound by the accuracy, thoroughness, and consistency of various frontline health workers who filled out the outpatient registers over a five-year span.
- **Information and Misclassification Bias:** The reliance on paper registers introduces a risk of information bias. Non-specific entries—such as logging "generalized body pain" or "trauma" without specifying the exact anatomical location or the mechanism of injury—prevented a more granular biomechanical classification of the cases. Additionally, because diagnoses were made by primary healthcare staff rather than specialized physiotherapists, the potential for diagnostic misclassification cannot be entirely ruled out.
- **Absence of Confounding Clinical Variables:** Important clinical details, such as the exact duration of symptoms before presentation, the specific occupations of the patients (e.g., type of crops farmed, hours of manual labor), and comorbid health conditions, were not consistently captured in the standard primary care logbooks. The lack of these variables limits our ability to run multivariate regression models to adjust for confounding risk factors.
- **Lack of Longitudinal Follow-up and Causality:** Due to the cross-sectional, retrospective snapshot nature of audit data, it is impossible to establish direct causal relationships between specific agrarian tasks and the onset of musculoskeletal disorders. Furthermore, the complete lack of follow-up logs means the study cannot evaluate long-term patient clinical outcomes, recovery rates, chronicity, or whether the 14.0% of referred patients ever successfully accessed tertiary rehabilitative care.
- **Temporal Discontinuity:** As detailed below, the missing documentation for the 2022 calendar year breaks the continuity of the five-year trend analysis, meaning the dataset must be interpreted as a representative sample of regional burden rather than a continuous chronological timeline.

Data Integrity and Archive Continuity

A significant challenge during the data acquisition phase was the institutional data gap encompassing the 2022 calendar year, resulting from the physical loss and administrative misplacement of the paper outpatient logs. The unavailability of these records highlights the precarious nature of manual, paper-based health information systems within the primary healthcare framework of North-Eastern Nigeria.

Although this data gap prevents a completely contiguous five-year trend analysis, the remaining four years of verifiable clinical records (2021 and 2023–2025) offer a substantial, representative dataset of the regional clinical burden. To maintain statistical rigor, all prevalence metrics and clinical patterns were normalized against the active data collection periods. This ensured that the integrity and validity of the audit's primary conclusions remain intact despite the localized archive loss.

Recommendations for Future Prospective and Community-Based Research

To transcend the methodological constraints inherent in this retrospective audit and establish a robust empirical foundation for rural rehabilitation across sub-Saharan Africa, future investigative frameworks should focus on the following core areas:

- Shift toward Longitudinal and Prospective Cohort Frameworks: Future studies should prioritize prospective, longitudinal methodologies that trace the clinical trajectories of rural patients from their baseline presentation at primary healthcare clinics through their long-term management cycles. Collecting real-time clinical metrics will enable researchers to objectively assess recovery rates, monitor functional outcomes, and map the precise temporal transition of acute biomechanical strain into permanent, chronic musculoskeletal disability.
- Granular Evaluation of Occupational and Ergonomic Stressors: Upcoming community-level investigations must incorporate comprehensive, highly specific assessments of local agrarian occupations. In regions like Gombe State, where subsistence farming dominates the economy, researchers should deploy standardized, validated ergonomic assessment tools (such as the Rapid Entire Body Assessment [REBA]) to objectively quantify the musculoskeletal strain linked to traditional cultivation techniques, daily lifting thresholds, and extended manual labor durations.
- Implementation Science Focusing on Community-Based Rehabilitation (CBR): There is a clear need for pragmatic, cluster-randomized controlled trials designed to test the operational viability and efficacy of decentralizing rehabilitative care directly into rural communities. Future studies should focus on the clinical outcomes and cost-effectiveness of implementing mobile, rotating physical therapy infrastructure or cross-training Community Health Extension Workers (CHEWs) to deliver targeted, supervised exercise regimens and ergonomic guidance at the household level.

- Systemic Auditing of Institutional Referral Pipelines: Future research must systematically investigate the operational hurdles that compromise the continuum of care between health tiers. Tracking whether patients referred from primary care clinics successfully access secondary or tertiary facilities and identifying the specific economic, geographic, or cultural friction points that drive patient attrition is vital for building functional, patient-centric healthcare networks.
- Comparative Mapping of Urban-Rural Epidemiological Divergence: Conducting structured, comparative cross-sectional analyses across both urban and rural cohorts will assist in isolating how contrasting socioeconomic contexts, occupational demands, and infrastructural settings influence regional morbidity patterns. Generating this comparative baseline is essential for public health authorities tasked with drafting balanced, resource-efficient healthcare policies.

CONCLUSION

This retrospective audit highlights a substantial and neglected burden of physiotherapy-related morbidity in rural North-Eastern Nigeria. The high frequency of musculoskeletal disorders—most notably low back pain and trauma-related injuries within the 16–25 age cohort indicates that physical impairment disproportionately affects the region's most economically productive demographic.

While the Primary Health Care (PHC) system is the intended frontline for comprehensive care, the observed 86% non-referral rate reveals a significant disconnect between clinical need and specialized service delivery. This "referral gap" suggests that most rural patients with movement-related dysfunctions are managed without rehabilitative expertise, increasing the likelihood of preventable chronic disability and suboptimal functional recovery.

RECOMMENDATIONS

To mitigate these systemic challenges, the following interventions are proposed:

- Workforce Decentralization: Policy efforts should prioritize the integration of physiotherapists into the PHC staffing structure to ensure early access to rehabilitation.
- Capacity Building: Primary healthcare providers should receive targeted training in "rehabilitative triage" to improve the identification and timely referral of complex neuro-musculoskeletal cases.
- Informatics Strengthening: There is an urgent need to modernize medical record-keeping at the primary level to prevent data loss and support evidence-based health planning.

DECLARATIONS

Ethics Approval and Consent to Participate

The study protocol was reviewed and approved by the Ethical Review Committee of the Gombe State Ministry of Health (Protocol Number: [Insert Number]). All research procedures were performed in strict accordance with the principles of the Declaration of Helsinki. Given the retrospective design of this clinical audit and the use of de-identified institutional records, the Ethical Review Committee of the Gombe State Ministry of Health granted a waiver of the requirement for individual informed consent.

CONSENT FOR PUBLICATION

Not applicable. This manuscript contains no identifiable individual-level data, clinical images, or personal details.

AVAILABILITY OF DATA AND MATERIALS

The dataset analyzed in the present study is housed within the medical records departments of the participating facilities. While the data are not publicly accessible due to patient confidentiality regulations, the datasets are available from the corresponding author upon reasonable request.

COMPETING INTERESTS

The authors declare that they have no financial or non-financial competing interests that could have influenced the outcomes or interpretation of this research.

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AUTHORS' CONTRIBUTIONS

Suleiman Mohammed was responsible for the study conception and design. Habib Saad led the data acquisition and performed the statistical analysis. Abubakar Babayo drafted the initial manuscript. Auwal Bello Hassan provided critical intellectual revisions. All authors have reviewed and approved the final version of the manuscript for submission.

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REFERENCES

1. World Health Organization. Primary health care. 2021.
2. World Health Organization. Global Conference on Primary Health Care: From Alma-Ata towards universal health coverage and the Sustainable Development Goals. 2018.
3. World Health Organization. Operational framework for primary health care: Transforming vision into action. 2018.
4. Federal Ministry of Health. National Health Policy 2016: Promoting the health of Nigerians to accelerate socio-economic development. Nigeria. 2016.
5. Adeloye D, Basquill C, Aderemi AV, Thompson JY, Obi FA. An estimate of the prevalence of hypertension in Nigeria: a systematic review and meta-analysis. J. Hypertens. 2015;33(2):230-242.

6. World Confederation for Physical Therapy. WCPT guideline for physical therapist professional entry-level education. London, UK. 2019.
7. Birabi BN, Oke KI, Dienye PO, Okafor UA. Burden of caregiving for stroke survivors in a South-South Nigerian community. Nig. J. Med. Rehabil. 2012.
8. Bello B, Hartley SE, Yeowell G. Nigerian physiotherapists' knowledge, current practice and perceptions of their role for promoting physical activity: A cross-sectional survey. Plos one. 2022;17(5).
9. Holdsworth LK, Webster VS. Direct access to physiotherapy in primary care: now?—and into the future?. Physiotherapy. 2004;90(2):64-72.
10. Olaleye OA, Abiodun AO. Integrating physiotherapy into primary health care in Nigeria: Perceptions of primary health care practitioners. J. Interprof. Care. 2023;37(5):737-742.
11. Abdulrazaq AA, Dardau H, Kazaure IY, Bappah L, Suraj A, John S, et al. Exploring socio-demographic and economic factors influencing hepatitis b prevalence in gombe state, Nigeria. Sokoto J. Geogr. Stud. 2025;3(1):30-39.
12. Akinpelu AO, Odole A, Odejide A S. Prevalence and pattern of musculoskeletal pain in a rural community in Southwestern Nigeria. Internet Journal of Epidemiology. 2010;8(2):593-605.
13. Akindele MO, Kalajaiye O, Fatoye C, Fatoye F. Knowledge and attitude of primary health care workers toward physiotherapy: A survey in North-Eastern Nigeria. Afr. J. Physiother. Rehabil. Sci. 2023, 13(1), 22–29.
14. American Physical Therapy Association. Clinical research agenda for physical therapy. Phys. Ther. 2000;80(5).