



Low back pain as seen in the physiotherapy clinic of a Nigerian Teaching Hospital: A retrospective cross-sectional study

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Abstract

Context: Low Back Pain (LBP) is a common cause of disability worldwide, affecting people of all ages. Despite its high and rising prevalence, limited hospital-based data exists on the specific patterns in Nigeria. This study retrospectively examined the prevalence and pattern of LBP among patients seen in the physiotherapy clinic at a tertiary hospital in Nigeria between January 2020 and May 2025.

Materials and Methods: A retrospective review of 367 Orthopaedic case files was conducted, out of which 61 were extracted and met the inclusion criteria for LBP. Data on socio-demographics, pattern such as clinical diagnosis, treatment pattern and interventions, pain intensity, and functional disability were extracted. Data were analysed using descriptive statistics of mean, standard deviation, frequency and percentages.

Results: The result shows that the prevalence of low back pain was 16.6% (n=61). The occupational group most affected were the non-civil servants (34, 55.7%). About 42 (68.9%) of the patients were females with a mean age of 51.59 ± 13.02 years. All of the patient had some level of functional disability with moderately severe level of pain. The most common diagnosis was lumbar spondylosis (95.1%). % and frequently administered physiotherapy treatments was exercise therapy (83.6%), manual therapy (68.9%), and electrotherapy (55.7%).

Conclusion: This study revealed a high prevalence of LBP among female and non-civil servant patients, with lumbar spondylosis being the dominant diagnosis and significant presence of functional disability. This pattern suggests that gender, type of work and functional disability status should be considered in the prevention and management of low back pain.

Keywords: Low back pain, Physiotherapy, Prevalence, Oswestry Disability Index (ODI)

Introduction

Low Back Pain (LBP) is one of the most prevalent musculoskeletal disorders (MSD), affecting people of all ages and occupations.¹ In 2020, LBP affected 619 million people globally, and it is estimated that the

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number of cases will rise to 843 million by 2050, primarily due to population growth and aging.¹ It is estimated that approximately 60-70% of individuals in industrialized countries will experience LBP at some point in their lifetime, with annual prevalence rates varying between 15% and 45%.^{2,3} In Nigeria, the prevalence of LBP varies

widely based on occupational and demographic factors with study reports indicating that prevalence rates range from 32.5% to 73.53% among working-age adults, with higher rates observed in occupations that involve physical strain or prolonged sitting.⁴ Lifetime prevalence rates of LBP are estimated to reach 84%, with differences influenced by geographic location, occupation, and lifestyle.⁵ In Africa, the prevalence of LBP ranges between 28% and 74%, with higher rates observed among manual labourers and individuals with sedentary habits.⁶

The serious level of its affectation made LBP a leading cause of disability worldwide and a major reason for absenteeism, healthcare visits, and reduced productivity.^{1,7} LBP describes pain between the lower edge of the ribs and the buttock.¹ LBP is either a dull, distant ache or a sudden, sharp feeling,^{8,9} affecting many individuals; and has profound effects on well-being.¹ In both developed and developing countries, sedentary lifestyles, improper ergonomics, and physical strain have contributed to the growing burden of LBP.¹⁰ The burden of LBP is such that it affects work performance and social responsibilities, such as family life,¹ and equally impacts both younger and older adults, and their quality of life (QoL).¹¹ The impact on quality of life of individuals have been shown to lead to disability and reduced productivity.^{1,11}

The patterns of LBP observed among patients are often very based on demographic, occupational, and lifestyle factors that contribute to its prevalence and presentation.^{8,10} The prevalence of LBP varies across different groups of patients, with the highest rates observed among adults aged 30–50 years, often due to peak physical activity and work-related stress.⁸ Older adults often experience LBP related to degenerative spinal changes such as osteoarthritis and spondylosis.⁸ Gender disparities have also been noted, with women more likely to report LBP due to hormonal changes, pregnancy, and ergonomic challenges.⁶ Common triggers for LBP among hospital patients are occupational factors, poor posture, and repetitive strain.¹²

Patients commonly report varying patterns of pain, ranging from dull, intermittent aches to severe, radiating pain affecting the lower extremities.^{8,10} Chronic LBP, lasting more than 12 weeks, is the

most frequently encountered type in physiotherapy clinics and often require long-term management.⁴ Acute and sub-acute cases, lasting less than 6 and 12 weeks respectively, are often linked to recent injuries or sudden strain and are also commonly seen.⁴ At physiotherapy clinics, management of LBP focuses on individualized care tailored to the pattern and severity.⁸ Interventions include exercise therapy, manual therapy, and patient education on ergonomics and lifestyle modifications.¹

The patterns of LBP observed in the hospital are influenced by local factors such as occupational strain from physically demanding jobs, poor ergonomics, and limited public awareness about preventive measures.^{4,10} The physiotherapy clinic plays a critical role in addressing these challenges, offering comprehensive care tailored to the diverse needs of the patient population.^{4,8} By understanding the patterns of LBP among patients at Uniosun Teaching Hospital (UTH), Osogbo, Osun State, Nigeria, healthcare providers can develop targeted strategies to enhance treatment outcomes and reduce its impact on daily activities and productivity.^{1,4} This study examined the prevalence and pattern of LBP among patients seen in the physiotherapy clinic of Uniosun Teaching Hospital (UTH), Osogbo, Osun State, Nigeria.

Material and Methods

Study design and study area

The study used institutional-based, retrospective descriptive cross-sectionally study design and was conducted at the orthopaedic unit of the physiotherapy clinic of Uniosun Teaching Hospital (UTH), Osogbo, Osun State, Nigeria. The teaching hospital is situated in the southwestern part of Nigeria and is one of the many tertiary healthcare facilities in the state. UTH is a state-owned medical institution tasked with delivering tertiary healthcare services to the residents of Osun State and its surrounding areas. Additionally, it provides medical education and support for undergraduate health professional students from affiliate institutions.

Study population and Inclusion/Exclusion criteria

The study population were all clients with the diagnosis of low back pain who visited and received care from the physiotherapy clinic of the hospital

within the study period of January 2020 to May 2025. Those eligible for the study were the clients whose hospital records were available during the study period. Data on socio-demographics, pattern, clinical diagnosis, treatment pattern and interventions, pain intensity (Numerical Pain Rating scale), and functional disability status (Oswestry disability index [ODI]) were extracted. We excluded clients with missing, incomplete or inaccurate records.

Sample size calculation and sampling technique

All patient files that met the inclusion criteria were used. Purposive Sampling was used to select folders.

Data management and statistical analysis

The data sources were the client's case files obtained from the department's record officer. The data were collated at the record unit of the physiotherapy department and were entered into an excel sheet. Data cleaning was done to remove missing, incomplete, inaccurate and incomprehensible data. Descriptive Statistics of mean, standard deviation, frequency and percentages were used to summarize the quantitative normally distributed and categorical data respectively. The data was analysed using the Statistical Package for the Social Sciences (SPSS), version 26.

Ethical consideration

Ethical approval for the study was obtained from the Ethics and Research Committee of Redeemer's University (approval no: RUN/REC/2025/PHT/025) and UNIOSUN Teaching Hospital (approval no: UTH/REC/2025/06/1269). In addition, permission to use the data was obtained from the Head of department of physiotherapy. The data were anonymized to protect the client identity, saved in secure, and password protected computers.

Results

This study examined the prevalence and pattern of low back pain of patients who visited the orthopaedic unit of the physiotherapy clinic at Uniosun Teaching Hospital, Osogbo between the January 2020 and May 2025. A total number of 367

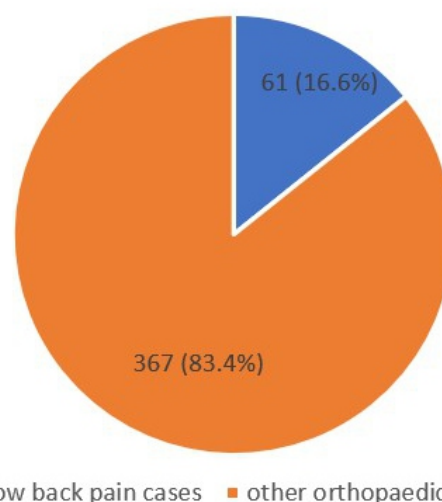


Figure 1 showing the prevalence rate of low back pain in the physiotherapy department of Uniosun Teaching Hospital, Osogbo, Osun State

patients were attended to in the orthopaedic unit of the physiotherapy clinic within the period under review. Sixty-one patients were found to have presented with diagnosis of Low Back Pain after careful data extraction from 367 case notes giving a prevalence rate of 16.6% (Figure 1).

Table I reveals the general characteristics of the patients; the majority 42 (68.9%) of the patients were females and ages ranged between 29 and 90 years with a mean age of 51.59 ± 13.02 years. Most of the patient's job description were categorized as non-civil servant (such as Engineers, Tailors, Traders, and Farmers) representing 55.7% of the population. The mean intensity of LBP at presentation was 6.66 ± 1.55 with most patients 35 (57.4%) having severe level of pain. The mean

Table I: General characteristics of participants

Characteristics	Frequency	Percentage
Age (years)		
Minimum-29.0		
Maximum-90.0		
Mean $\pm$ SD: 51.59 $\pm$ 13.0		
Gender		
Female	42	68.9
Male	19	31.1
Occupation		
Civil servants	20	32.8
Non-civil servants	34	55.7
Retiree	7	11.5

duration of LBP at presentation was 19.43 ± 17.41 weeks. The cases of LBP were categorized as acute 9 (14.8%), subacute 25 (41.0%), and chronic 27 (44.3%) patients. The ODI assessment showed that 14 (23.0%) had minimal disability, 23 (37.7%) had moderate disability, 23 (37.7%) had severe disability while 1 (1.6%) was bedbound. Table II shows the clinical characteristics of the study patients.

Table II: Clinical characteristics of the study population

Characteristics	Frequency	Percentage
Pain Intensity (NPRS)		
Minimum =4.0		
Maximum=9.0		
Mean $\pm$ SD : 6.66 ± 1.55		
Pain intensity Level		
Moderate (4 – 6)	23	42.6
Severe (7 – 10)	35	57.4
Oswestry Disability Index		
Minimal disability (0 – 20%)	14	23
Moderate disability (21 – 40%)	23	37.7
Severe disability (41 – 60%)	23	37.7
Bedbound disability (81-100%)	1	1.6
NPRS= Numerical Pain Rating scale		

Table III shows the patients' pattern of low back pain with respect to clinical diagnosis, physiotherapy treatment intervention; lumbar spondylosis was the commonest clinical diagnosis 58 (95.1%), exercise was the commonest treatment intervention (83.6%) given to all the patients followed by manual therapy (68.9%), and electrotherapy (55.7%);

Table III: Pattern of Low Back Pain among Patients Who Visited the Orthopaedic Unit of the Physiotherapy Department, UNIOSUN Teaching Hospital

Characteristics	No/Yes	Frequency	Percentage
Clinical diagnosis			
Lumbar spondylosis		58	95.1
Lumbosacral spondylosis		3	4.9
Treatment Intervention			
Education	No	23	37.7
	Yes	38	62.3
Manual therapy	No	19	31.1
	Yes	42	68.9
Medication	No	42	68.9
	Yes	19	31.1
Exercise therapy	No	10	16.4
	Yes	51	83.6
Thermotherapy	No	36	59
	Yes	25	41
Orthotic device	No	55	90.2
	Yes	6	9.8
Electrotherapy	No	27	44.3
	Yes	34	55.7

Discussion

This study investigated the prevalence and pattern of low back pain seen in a Nigerian tertiary hospital physiotherapy clinic. The prevalence of LBP is on a steady increase, affecting both the young and the old and becoming an important public health concern. The prevalence of LBP varies across different studies owing to different factors such as study population, methodologies, social and economic dynamics.⁴ In this study, LBP prevalence was 16.6%, which is lower than those reported in previous studies in Nigeria.^{13,14} The global prevalence of LBP as reported by Wu et al.¹⁵ was 7.5%. This prevalence underscores the clinical significance of LBP as a common condition and pose a significant public health concern. The result of this study indicates a significant gender bias with a male to female ratio of 1:2.2 comprising 19 (31.1%) males, and 42 (68.9%) females. This aligns with previous studies which showed that gender play a role with female predominantly affected with low back pain.^{13,16,17,18}

The higher prevalence among women has been linked to several factors such as anatomical differences, pregnancy-related changes, hormonal influence, occupational stressors and physical demands of domestic activities.^{6,21}

The patients' ages ranged between 29 and 90 years with a mean age of 51.59 ± 13.02 years. This is similar to the mean age reported in other previous studies and aligns with assertion that LBP is more prevalent among individuals between aged 51 and 60 years.^{13,19,20,21}

The reason for this could be bodily changes associated with aging, sedentary behaviour and work-related activities. The patients' occupation was classified into 3 groups, as Civil Servants, Non-Civil Servants, and Retired, with Non-Civil Servants (55.7%), which formed the largest group, which aligns with Buntanus et al.²² and Jia et al.²³, suggesting that people in physically demanding or informal jobs may be prone to LBP due to poor ergonomics, prolonged standing or lifting tasks

The dominance of mechanical low back pain as the only category seen in the physiotherapy clinic, with Lumbar spondylosis (95.1%) accounting as the main clinical diagnosis is similar to previous findings,²⁴ indicating a high rate of degenerative conditions amongst the patients. This pattern aligns with prior studies like Vincent-Onabajo et al.²⁵, that

identifies lumbar spondylosis as a leading cause of LBP in older adults due to age-related disc degeneration, poor posture etc. On the treatment modalities, the most commonly administered physiotherapy interventions were Exercise therapy (83.6%), Manual therapy (68.9%), and Electrotherapy (55.7%). These findings align with evidence-based standard physiotherapy approaches which recommend combinations of active and passive modalities in managing Mechanical LBP.^{8,26,27,28} Education was also emphasized (62.3%), supporting the biopsychosocial model of care, which includes patient self-management, and reflecting patient-centered approaches. A similar retrospective study work by Ogwumike et al.²⁹, found that Exercise Therapy and Patient Education were core strategies in managing chronic LBP in Nigerian physiotherapy clinics. The reason for these treatment patterns may be due to availability, affordability, and evidence of approaches in addressing chronic mechanical LBP symptoms and improving long-term functions.^{26,27} In addition, these interventions are accessible, non-invasive and align with clinical guidelines.

The average intensity of LBP in this study reveals a moderate level of pain felt by most patients. In the same vein, this study recorded a high rate of chronic LBP, with the pain lasting an average of 19 months. This aligns with other findings where most LBP managed in the physiotherapy clinic are chronic in nature.^{13,24} The possible explanation could be due to delayed hospital visit by patients as a result of financial constraints, self-medication, poor accessibility to healthcare facilities and repeated nature of physiotherapy treatment sessions.²⁴

This present study showed that all of the patients had some level of functional disability. This aligns with previous studies where level of functional disabilities was reported to be high ranging between 40% to 85.3%.^{13,18,30} This high rate showed the debilitating impact of LBP on the society. The number of treatment sessions administered to patients varied, depending on the severity and chronicity of their low back pain (LBP) reflecting individual treatment needs and clinical presentations. In this study, the most commonly employed physiotherapy techniques received by patients included exercise therapy, manual therapy, and electrotherapy, with a focus on patient

education and posture correction to enhance long-term outcomes.

Study limitations

Given the retrospective descriptive nature of the study, there exist problem of incomplete record documentation or occasional absence of files. This lack of uniform documentation may limit the depth of our clinical variables. Also, being an hospital-based study, the data may not be a true representation of the general population. Consequently, the generalizability of these findings to the general population is limited, and the results should be interpreted with caution.

Conclusion

This study revealed a high prevalence of LBP among female and non-civil servant patients, with lumbar spondylosis being the dominant diagnosis and significant presence of functional disability. This pattern suggests that gender, type of work and functional disability status should be considered in the prevention and management of low back pain.

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Conflict of interest

The authors declare no conflict of interest in this study

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