

## Prevalence of Musculoskeletal Disorders and Its Impact on Quality of Life Among the Elderly Attending Geriatric Clinic in A Nigeria Tertiary Health Institution

**Bolarinde Samuel Olufemi\***, Ajomale Bukunmi Oluwaseun, Ani Oluchi Emmanuella, Kayode-imoru Olutola Olutowo

Department of Physiotherapy, Federal Medical Centre, Owo. Ondo state. Nigeria.

\***Corresponding Author:** Bolarinde Samuel Olufemi, Department of Physiotherapy, Federal Medical Centre, Owo. Ondo state. Nigeria.

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### Abstract

**Background:** Musculoskeletal disorders are common complaints in the elderly. This study investigated the prevalence of musculoskeletal disorders and its impact on quality of life among the elderly seeking treatment at the Geriatric clinic of Federal Medical Center, Owo.

**Methods:** The survey recruited 93 elderly participants from the geriatric clinic of Federal Medical Centre, Owo, Ondo State, South-Western Nigeria. Ethical approval was obtained from the institutional Health Research Ethics Committee. Participants' informed consent was sought and brought before the commencement of the study. Nordic Musculoskeletal and Musculoskeletal Health Questionnaires were used to obtain information on prevalence and musculoskeletal symptoms.

**Results:** 37(37.1%) of the participants were males while 56(62.9%) were females. The result showed a high prevalence (95%) of musculoskeletal pain among participants. The body part with the highest musculoskeletal complaints was the knee joint (59.6%), followed by low back pain (58.4%) and neck pain (40.4%). 94.4% reported mild limitation in physical functions, 55.1% moderate Interference with daily activities, and 39.3% reported a high level of functional independence.

**Conclusion:** The prevalence of musculoskeletal disorders is high among the elderly. The knee joint was the body part with most musculoskeletal pain complaints. Musculoskeletal pain was found to have a moderate impact on the physical functions of older people.

**Keywords:** Prevalence, Musculoskeletal pain, Elderly.

### Introduction

The human race's limited lifespan has been blamed on normal aging. It is, therefore, critical for healthcare professionals who treat the elderly to distinguish between changes caused by normal aging and changes caused by disease. According to the United Nations (UN), the proportion of older people (aged 60 and over) will triple over the next 40 years and account for more than 20% of the world's population by 2050 [1]. Furthermore, it was estimated that one in five of the elderly population will be over 80 in 2050, primarily due to increased life expectancy, particularly in developing countries. The expected increase in human life expectancy is associated with an increased prevalence of non-communicable chronic diseases, leading to increased morbidity and disability [2].

Musculoskeletal pain affecting the lower back, neck, and shoulder joints is particularly prevalent in industrialized countries, affecting roughly 70% to 80% of adults at several points in their lives [3]. The resultant functional limitations and disability cause poor quality of life while increasing the amount of daily work absenteeism and the number of long-term disability claims [4]. Individuals affected often experience sleep disturbances, chronic fatigue, and nervousness, and many fall victim to prescription medication abuse. The scale of this

problem is anticipated to grow with the aging population and the increasing pace of industrialization in the developing world.

As the population ages, acute infectious diseases transition to chronic non-communicable diseases, such as chronic musculoskeletal conditions. Pain, however, remains the most common complaint among people with chronic musculoskeletal disorders and is prevalent mainly in the elderly due to its impact on their quality of life, personal autonomy, and involvement [5].

Musculoskeletal (MSK) pain has a massive economic impact, only second to cardiovascular disease [6]. In 2003, the WHO's Global Burden of Disease Study and the Bone and Joint Monitoring Project published an extensive report on the burden of MSK disorders based on existing data on the four primary MSK conditions (Osteoarthritis, Rheumatoid arthritis, Osteoporosis, and low back pain), the report shows that the burden of these significant conditions increases with age [7]. The high prevalence of chronic musculoskeletal disorders, combined with population aging, calls for concern among healthcare providers, especially in developing and low-income countries, where community and public health services are not yet adequately equipped to meet the demands of care [8]. The growing proportion and burden of older adults, therefore, necessitates that healthcare professionals

improve their understanding of the health and disability of this specific population [7].

In Nigeria, older people spend their days in the tender care and support of their extended families, with no notable support from the national level. However, the situation changes as the family pattern shifts toward the nuclear type due to their offspring's evolving values, migratory tendencies, and poverty [9]. Geriatric issues are largely ignored in medical education and practice. The health sector needs more information and research on older people. There is room for improvement in older people's health and musculoskeletal problems. As a result, there is a need to know better the present magnitude and effect of MSK conditions in this growing population. This study was therefore designed to investigate the prevalence of musculoskeletal disorders and their impact on the quality of life among the elderly seeking treatment in the Geriatric unit at Federal Medical Center, Owo. Ondo state. Nigeria

### Materials and Methods

This cross-sectional study recruited 93 elderly individuals between the ages of 60 and 80 years attending the Federal Medical Center, Owo Geriatric Clinic: Ondo State, Nigeria. Ethical approval of the Health Research Ethics Committee, Federal Medical Centre, Owo, was obtained before the commencement of the study. Participants' informed consent was also sought and obtained. Data was obtained through a self-administered questionnaire. The main questionnaire for data collection is the Nordic Musculoskeletal questionnaire which

asses the prevalence of musculoskeletal disorders, and the Musculoskeletal Health Questionnaire (MSK-HQ). The MSK-HQ is a short questionnaire that allows people with musculoskeletal conditions to report their symptoms and quality of life in a standardized way. It was developed jointly by the Arthritis Research UK Primary Care Sciences Research Centre at Keele University and the University of Oxford, co-produced with active participation and feedback from people with arthritis and musculoskeletal conditions, clinicians, and academics [10]. In addition to the main questionnaire, demographic data, and physical examination to ascertain the musculoskeletal complaint were carried out on the participants. Data obtained were entered into Microsoft Office Excel before being transferred into the IBM Statistical Package for Social Sciences (SPSS) version 25 spreadsheet for statistical analysis. Data was summarized using descriptive statistics, frequency, and percentages.

### Results

A total of 93 elderly participated in this study. 33 (37.1%) were male and 56 (62.9%) were female. 38 (42.7%) had ages ranging between 60-64 years, 22 (24.8%) between 65-69 years, 21 (23.5%) between 70-74 years, and 8 (9.0%) between 75- 79 years. Only 77 (86.5%) were Yoruba, 12 (13.5%) were Igbo. 73(82%) are married while 16(18%) are divorced. 18 (20.2%) of the participants are employed, 27 (30.3%) are self-employed and 44(49.5%) are unemployed. (see **Table 1**)

**Table 1:** Demographic Characteristics of Respondents

	<b>Variables</b>	<b>Frequency (n %)</b>
<b>Gender</b>	Male	<b>37(37.1)</b>
	Female	<b>56(62.9)</b>
<b>Age</b>	60-64	<b>39(42.7)</b>
	65-69	<b>23(24.8)</b>
	70-74	<b>22(23.5)</b>
	75-79	<b>9(9.0)</b>
<b>Tribe</b>	Yoruba	<b>79(86.5)</b>
	Igbo	<b>14(13.5)</b>
	Hausa	<b>0(0.0)</b>
<b>Marital status</b>	Married	<b>73(82)</b>
	Widowed	<b>20(18)</b>
<b>Work status</b>	Employed	<b>19(20.2)</b>
	Self employed	<b>29(30.3)</b>
	Unemployed	<b>45(49.5)</b>

Table 2 shows the frequency of musculoskeletal discomfort among participants. Knee pain (59.6%) and Low back pain (58.4%) have the highest frequency while the ankle pain (10.1%) was the least reported musculoskeletal pain among the participants in this study.

**Table 2:** Prevalence of Musculoskeletal Disorders

	<b>Musculoskeletal Discomfort</b>	<b>Frequency (n%)</b>
<b>Neck Pain</b>	Absent	<b>53(59.6)</b>
	Present	<b>36(40.4)</b>
<b>Shoulder Pain</b>	Absent	<b>59(66.3)</b>
	Present	<b>30(33.7)</b>
<b>Upper back pain</b>	Absent	<b>59(66.3)</b>
	Present	<b>30(33.7)</b>
<b>Low back pain</b>	Absent	<b>37(41.6)</b>
	Present	<b>52(58.4)</b>
<b>Hip pain</b>	Absent	<b>68(76.4)</b>
	Present	<b>21(23.6)</b>
<b>Knee pain</b>	Absent	<b>36(40.4)</b>
	Present	<b>53(59.6)</b>
<b>Ankle Pain</b>	Absent	<b>80(89.9)</b>
	Present	<b>9(10.1)</b>

Presented in Table 3 is the result analysis of the Musculoskeletal Health Questionnaire. The result is shown in the MSK HQ's seven major domains: pain severity, physical function, physical activity level, pain interference, functional Independence, difficulty and fatigue, and emotional well-being.

For pain severity, the results show that more than half of the participant's pain level was mild (62.9%). Almost all the participants

reported the level of impact on physical function to be benign (94.4%), while 41.6% of the participants reported a moderate level of physical activity, being the level with the highest frequency. Similarly, the pain Interference with exercise was mild for more than half of the participants (55.1%).

Furthermore, the result shows that the level of Independence among the participants was high (39.3%).

**Table 3:** Respondents Musculoskeletal Health Status

<b>MSK-HQ Dormain</b>	<b>Responses</b>	<b>Frequency (n %)</b>
<b>Pain Severity</b>	Mild (6-8)	56(62.9)
	Moderate (4-5)	29(32.6)
	Severe (0-3)	4(4.5)
<b>Physical Function</b>	Mild (6-8)	84(94.4)
	Moderate (4-5)	5(5.6)
	Severe (0-3)	0(0.0)
<b>Physical Activity Level</b>	High (3-4)	35(39.3)
	Moderate (2)	37(41.6)
	Low (0-1)	17(8.1)
<b>Pain Interference</b>	Mild (6-8)	16(18)
	Moderate (4-5)	49(55.1)
	Severe (0-3)	24(26.9)
<b>Independence</b>	High (3-4)	35(39.3)
	Moderate (2)	26(29.2)
	Low (0-1)	28(31.5)
<b>Difficulty/Fatigue</b>	Mild (6-8)	56(62.9)
	Moderate (4-5)	33(37.1)
	Severe (0-3)	0(0.0)
<b>Emotional Well-being</b>	High (3-4)	81(91)
	Moderate (2)	8(9)
	Low (0-1)	0(0.0)

## Discussion

This study investigated the prevalence of musculoskeletal pain among older people. This study found a high prevalence (95%) of musculoskeletal disorders among the elderly. This finding received support from similar research by Tamanna Mir et al.,[11] that reported an 80% prevalence of musculoskeletal disorders among the elderly. The 15% difference in the prevalence value could be attributed to the small population of elderly involved in the present study, where almost half (49.5%) of the participants were not engaged in any vocations other than a daily sedentary lifestyle.

Knee pain (59.6%), followed by Low back pain (58.4%), was the most common type of pain experienced by the participants in this study, while ankle pain (19.6%) was the most minor joint pain. Several previous studies have reported similar results on knee and lower back pain prevalence among older people. For instance, Tamanna Mir et al.,[11] said 63.8% prevalence of Knee pain and 61.5% Low back pain; Fejer and Ruhe [12] reported a 40% to 57% prevalence of knee osteoarthritis (OA) in 60 years old elderly and between 54% and 74% in their seventies furthermore, overall, higher OA estimates were reported with increasing age [13]. Similarly, studies on lumbar spine radiographic OA in older people using a higher Kellgren-Lawrence (K-L) grade ( $\geq 3$ ) reported a point prevalence of 40%-75% in the 60–69-year-olds to 80%-90% in the 80+ age group. The high majority of knee and lower back pain observed in this study could, therefore, be attributed to the effects of aging on the musculoskeletal systems, resulting in articular degeneration in joints, muscle weakness, and low levels of physical activity commonly found in the elderly.

Most participants in this study had mild pain severity (62.9%), which supports the result of a similar survey by Koley et al.,[15] that reported mild pain severity (56.8%) as the most common pain severity. The observed level of pain severity may be ascribed to increased tolerance to pain and adaptation to pain with increasing age and probably due to the use of analgesics already prescribed before the assessment of participants in this study.

Observations from the present study showed that the majority of the respondents in this study had mild limitations in physical function (94.4%). This observation was at variance with the findings of Tamanna Mir et al.,[11], who reported severe restriction (52.1%) in

physical function. Therefore, this study's observed mild level of bodily functions could be attributed to frequent clinic visits and improvement in the patient's health conditions.

Most older adults in this study had a moderate 41.6% level of physical activity. This finding was in contrast to the conclusion from the survey by Gilligan et al.,[16], which reported low physical activity (62.8%). This may be due to participants' understanding of the condition and the awareness created during clinic hours about the importance of physical activity in improving their musculoskeletal pain.

Similarly, there was moderate pain interference with physical activities (55.1%) among older people in this study. This finding supported Tamanna Mir et al.,[11], who reported mild pain interference (60.8%) in their results. The observed level of pain interference could be attributed to the development of chronic pain among older people and changes in physical activity levels to accommodate pain.

Furthermore, one-third of older people in this study reported a high level of independence in carrying out activities of daily living. This finding was, however, in contrast to the results of Tamanna Mir et al.,[11], where a low level of independence (49.2%) was observed among older people. The observed high level of autonomy was reported. In the present study, this may be due to the participant's improved health status following good compliance with clinical appointments and rehabilitation programs.

## Conclusion

The prevalence of musculoskeletal disorders was high in the study population. Knee and lower back pain are the most common complaint among others. However, the impact of the diseases on pain intensity, limitation of functional activities, physical activity, and level of independence in activities of daily living were mild. Further studies comparing the effects of musculoskeletal disorders on bodily functions, level of physical activities, and functional autonomy between elderly in the community (non-clinic attendees) and those visiting the geriatric clinic are encouraged.

**Conflict of Interest:** The authors declare no conflict of Interest.

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