# Burden of limitations of activities of daily living among geriatric Nigerians with musculoskeletal disorders in a resource-limited Nigerian primary care clinic in Eastern Nigeria

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**Abstract:** Background: Globally, there is emerging increase in the population of elderly. Despite the process of natural aging, elderly population in addition suffer musculoskeletal disorders (MSDs) which affect their activities of daily living (ADLs). Aim: The study was designed to determine the burden of limitations of activities of daily living among geriatric Nigerians with musculoskeletal disorders in a resource-limited Nigerian primary care clinic in Eastern Nigeria. Materials and Methods: A cross-sectional study carried out on 894 geriatric patients who were screened for MSDs and 130 of them who had diagnoses of MSDs were studied. Data was collected using a pretested, structured and interviewer administered questionnaire. Each ADL was scored on a four points Likert scale and assessed in the previous one month from the domains of physical, personal, domestic, instrumental and spiritual activities of daily living. Patients who scored 0 had no affectation of ADLs while those who scored 1-3 were variably affected. Results: The prevalence of MSDs was 14.5%. Three most common musculoskeletal disorders were low back pain (36.9%), osteoarthritis of weight bearing joints (30.0%) and spine curvature disorders (17.7%). Physical activity was most commonly affected (89.2%) and spiritual activity was least affected (8.5%). Conclusion: MSDs are common among geriatric Nigerians with the most common being low back pain. Physical ADL was predominantly affected while spiritual ADL was least affected. Strategies to improve ADLs should constitute targets for intervention during clinical encounter with geriatric patients with MSDs in primary care settings.

**Keywords**: Activities of Daily Living, Geriatrics, Musculoskeletal Disorders, Nigeria, Primary Care Clinic

## 1. Introduction

Musculoskeletal disorders (MSDs) are major cause of morbidity globally[1-4] with disproportionate occurrence among geriatric population in developing countries such as Nigeria.[4,5] As the world population ages, the geriatric population constitutes an important and integral part of the general population and MSDs will probably increase with its clinical and public health management challenges especially in resource-poor populations.[1-3]

Aging as a socio-biological process is a natural phenomenon.[6,7] Aging can be 'usual' aging which involves changes due to the aging process as well as the effects of diseases, environmental and host factors such as unhealthy lifestyle or 'successful' aging which refers to the aging process generally unaffected by diseases, environmental factors or lifestyle.[7,8] The geriatric populations are therefore challenged by biological and physiological changes in their musculoskeletal system that impact on their activities of daily living resulting from progressive decline in balance, kinetics and decrease in muscle mass and bone mass. The musculoskeletal dysfunctions are more pronounced in geriatric population who do not age successfully.[6,8] Aging whether active and

successful is associated with continuing involvement in physical, personal, instrumental, domestic, social and spiritual activities of daily living.[7,9]

Musculoskeletal disorders have been reported as common geriatric morbidities in Ibadan, Nigeria,[4,12] Botswana[13] and in other parts of the world such as India.[3,10] The prevalence of MSDs of 26.8% was reported in primary care setting in Ibadan, Western, Nigeria, 6.7% was reported in Idikan community in Ibadan, Nigeria,[12] 38.3% was reported in a rural community in India[3] and 48.8% was reported among elderly population in India.[10]

Although aging is associated with progressive decline in the structural and functional capacity of the musculoskeletal system, one of the principal concern is the degree of daily activities.[10,14] The degree of daily activities is influenced by multiple factors. [8,15] Some of these factors are predisposing factors such as the age, existing medical conditions like musculoskeletal disorders and enabling factors such as social insurance among others.

Activities of daily living is therefore one of the greatest challenges of geriatric patients with musculoskeletal disorders and refers to the activities that elderly persons normally do with focus on performance of self-care and societal activities.[10,16-18] Several methods of evaluation of activities of daily living(ADL) such as Katz ADL scale(Basic ADL),[9] Lawton-Brody instrumental ADL,[9,16] Global Assessment of Functioning(GAF),[9] modified Global Assessment of Functioning(mGAF-R),[9] Western Ontario and McMaster Universities Osteoarthritis Index(WOMAC)[19] and Community-Oriented Program for control of Rheumatic Diseases(COPCORD)[20] among others have been described. More so, numerous ADL indices at the point of care such as Barthex index have been described.[9] However, there is no universally accepted ADL scale or index that is applicable across all musculoskeletal disorders or specific to geriatric population in all socio-cultural environment. What constitutes a particular ADL in a specific environment for a particular population may vary. [10] These variations depend on socio-cultural and technological factors. In view of these socio-cultural and technological diversities, researches done on limitations of ADLs among geriatric population with musculoskeletal disorders in a particular environment cannot be generalized beyond the cultural boundaries of that society. A research tailored to the socio-cultural context of Nigerian nation is therefore needed particularly in primary care settings.

Musculoskeletal disorders among geriatric age group therefore pose an important clinical and public health challenge especially to populations in socio-economic and demographic transition where there is lower level of clinical and social geriatric care.[21,22] As Nigerian population ages, the prevalence of musculoskeletal disorder is expected to increase unless effective interventional measures are designed and implemented to enable elderly citizens age 'successfully'. Musculoskeletal disorders are therefore one of the common causes of morbidity among geriatric Nigerians [4, 5, 12] and play important role in limiting their activities of daily living.

In Nigeria, limitations of activities daily living among geriatric patients with musculoskeletal disorders assume a relatively low priority and no data exists on their evaluation in primary care setting. Musculoskeletal disorders in geriatric patients lead to varying degrees of limitations of ADL. [10, 11, 18] This study is therefore anticipated to provoke inquiry by health providers and managers on the limitations of ADLs among geriatric Nigerians with MSDs. In order to provide a continuing, coordinated and comprehensive service aimed at improving ADLs among geriatric Nigerians with musculoskeletal disorders, health providers should primarily identify the magnitude of the limitations of ADLs imposed by the musculoskeletal disorders. This will enable geriatric Nigerians with musculoskeletal disorders benefit from remarkable increase in the quality of life reportedly observed among their counterparts in advanced countries. It is against this premise that the authors were motivated to study the burden of limitations of activities of daily living among geriatric Nigerians with musculoskeletal disorders in a resource-limited Nigerian primary care clinic in Eastern Nigeria.

## 2. Materials and Methods

### 2.1. Study Design

This was a clinic-based cross sectional study carried out on 130 geriatric Nigerians from August 2012 to December 2012 at the department of Family Medicine of Federal Medical Centre, Umuahia, a tertiary hospital in Umuahia, Abia state, Eastern, Nigeria.

### 2.2. Study Setting

Umuahia is the capital of Abia state, South-east Nigeria. The State is endowed with abundant mineral and agricultural resources with supply of professional, skilled, semi-skilled and unskilled manpower. Economic and social activities are low compared to industrial and commercial cities such as Onitsha, Port Harcourt and Lagos in Nigeria. Until recently, the capital city and its environ have witnessed an upsurge in the number of banks, hotels, schools, markets, industries, junk food restaurants in addition to the changing technological, dietary and social lifestyles.

Federal Medical Centre, Umuahia is located in the metropolitan city of Umuahia. It is a tertiary hospital established with the tripartite mandate of service delivery, training and research and serves as a referral centre for primary and secondary public health institutions as well as missionary and private hospitals in Abia state and neighbouring States of Imo, Ebonyi, Rivers and Akwa Ibom states of Nigeria. The department of Family Medicine serves as a primary care clinic within the tertiary

hospital setting of the Medical Centre. All adult patients excluding those who need emergency health care services, paediatric patients and antenatal women are first seen at the department of Family Medicine where diagnoses are made. Patients who need primary care are managed and followed up in the clinic while those who need other specialists care are referred to the respective core specialist clinics for further management. The clinic is run by consultant family physicians and postgraduate resident doctors in Family Medicine.

### 2.4. Inclusion and Exclusion Criteria

The inclusion criteria were patients with musculoskeletal disorders aged ≥60 years who gave informed consent for the study. The exclusion criterion included critically ill patients. The eligible patients were consecutively recruited for the study.

### 2.5. Sample Size Determination

The sample size (N) was calculated using the formula[23] $N= [(Z\alpha + Z\beta) \times 2pq]/d^2$ Where N = Desired sample size, Z= The standard normal deviate set at 1.96 which correspond to 95% confidence level P= Prevalence of the musculoskeletal disorders, q= 1.0 − p, and d=degree of precision desired set at 0.05 The level of significance was set at 5%($\alpha$=0.05) while the power of the study(1-$\beta$) was set at 80%. A prevalence of 26.8% was used based on previous study in Ibadan, Nigeria.[4] $N=[(1.96x0.05+1.96x0.20) \times 2x0.268x0.732]/0.05^2$  N = 76

The calculated minimum sample size was 76. However, to improve the precision of the study, the estimated sample size=Ns was determined considering an anticipated response rate of 90 %( 0.9). The estimated sample size (Ns) was determined by dividing the original calculated sample size (N) by the anticipated response rate] as follows, Ns= N/0.9, where N=Minimum calculated sample size, Ns=Selected sample size, anticipated response rate=0.9. Thus, the estimated sample size = 76/0.9= 84. However, a sample size of 140 patients was used based the proposed duration of the study.

### 2.6. Diagnostic Procedures

Diagnosis of MSDs was based on standard case definition used in primary care.[10,20,24] It is based on clinical method of medical clerkship: subjective complaints, objective findings and/or primary laboratory and radiological investigations.

### 2.7. Diagnostic Criteria for Musculoskeletal Disorders

Musculoskeletal disorders refer to the disorder of the muscles and skeletal system such as bones and joints. [10, 15] The commonly affected sites include the spine, lower extremities (hip, knee, ankle, feet, and toes) and upper extremities (shoulder, elbow, wrists, hands, fingers). The common musculoskeletal disorders in the primary care clinic were defined as follows: [10, 20, 24-26]

Chronic low back pain: Patient gave complaints of pain of more than six months duration localized to the lower back (lumbosacral region) with no history of trauma.

Osteoarthritis of weight bearing joints: Patient gave complaints of progressive pain, stiffness and limitation of function in weight bearing joints such as hips and knees; without history of trauma; with or without radiological evidence of osteophytosis or bone sclerosis.

Post traumatic musculoskeletal conditions: Patient gave complaints of pain, swelling of muscles, bones or joints with antecedent history of accident and injuries.

Rheumatoid arthritis: Patient gave complaints of morning stiffness, symmetrical pain and swelling in and around smaller peripheral joints such as hands, feet and wrist before extending to larger joints resulting eventually in varying degrees of deformity and associated muscle wasting with or without positive rheumatoid factor or radiological evidence or rheumatoid nodules.

Gout arthritis: Patient gave complaints of pain, swelling of toes especially the big toes with hyperuricaemia.

### 2.8. Data Collection Tool and Process

Data were collected using pretested, structured interviewer-administered questionnaires designed by the authorrom literature review and previous studies on activities of daily living [9-11,14,16,18-,20] The questionnaire tool contained information on basic demographic variables such as age, sex, marital status, education and occupation. The domains of activities of daily living assessed were physical, personal, domestic, instrumental and spiritual activities of daily living. Each ADL item was scored on a four (0-3) points Likert scale ordinal response as follows: no affectation of activities of daily living (no difficulty)= 0 point while 1-3 meant variable degrees of affectation of activities of daily living ranging from mild affectation of activities of daily living(some difficulty)=1, moderate affectation of activities of daily living(much difficulty)=2 and severe affectation of activities of daily living(unable to do)=3. Activities of daily living were assessed in the previous one month. Operationally, patients who scored 0 have no affectation of ADL while those who scored 1-3 were variably affected.

Ten adult patients with musculoskeletal disorders were used for the pre-testing of the questionnaire in the department of Family Medicine, Federal Medical Centre, Umuahia which lasted for two days. The pretesting was done to assess the applicability of the questionnaire tool internally. All the patients used for the pretesting of the questionnaire instrument gave valid and reliable responses confirming the clarity and applicability of the questionnaire tool and questions were interpreted with the same meaning as intended. The questionnaire was administered by the lead author and three postgraduate resident doctors in Family Medicine who were recruited and trained for the

study. The questionnaire was administered once to each eligible respondent.

### 2.9. Operational Definitions

The researchers defined geriatric patients as those age 60 years and above.[3,4] Primary care refers to the care provided by physicians specifically trained for comprehensive first contact and continuing care for undifferentiated patients including early detection, management of the patient, health promotion and maintenance.

Activities of daily living refer to activities that elderly persons normally do and focus on performance of daily self-care activities within the place of residence or outdoor environment. What specifically constitutes particular activities of daily living in a particular environment for a particular person may vary. The following definitions in Nigerian context are used. Physical activities of daily living refer to ambulation activities such as walking with or without the use of assistance devices such as walker, cane or crutches. Personal activities of daily living involved dressing or undressing and bathing activities. Domestic activities refer to task such as cooking or washing. Instrumental activities of daily living refer to driving or cycling or mode of transportation within the community. Instrumental ADLs are not necessary for fundamental functioning, but they help geriatric population live independently in a society. Spiritual activities involves praying, going to church or other places of worship.

### 2.10. Ethical Imperatives

Ethical certificate was obtained from the Ethics Committee of the hospital. Informed consent was also obtained from respondents included in the study.

### 2.11. Statistical Analysis

The results generated were analyzed using software Statistical Package for Social Sciences (SPSS) version 13.0, Microsoft coperation Inc. Chicago, IL, USA for the calculation of mean, frequencies and percentages.

## 3. Results

A total of 894 geriatric patients were seen during the study period. Out of these one hundred and thirty (14.5%) had various types of musculoskeletal disorders. The age ranged from 60 years to 88 years with mean age of 66±4.7 years. There were 52 males and 78 females with male to female ratio of 1: 1.5 Ninety-seven (74.6%) of the study population were widows and widowers, eighty-two (63.1%) had secondary education and more; and thirty-nine (30.0%) retired from primary occupation and were not engaged in secondary occupation [Table1]. The most common MSDs was low back pain(36.9%), followed by osteoarthritis of weight bearing joints(30.0%) and spine curvature

disorders(17.7%). Others included post-traumatic MSDs (16.2%) and rheumatoid arthritis (7.7%) [Table 2]. Physical activities of daily living were most commonly affected (89.2%). Others included personal ADLs (53.8%), domestic ADLs (48.5%), instrumental ADLs (36.2%) and spiritual ADLs (8.5%) [Table 3]

*Table 1. Basic demographic characteristics of the patients*

| Parameter | Number(% |
|---|---|
| Age(years) | |
| 60-69 | 64(49.2) |
| 70-79 | 46(35.4) |
| ≥80 | 20(15.4) |
| Total | 130(100.0) |
| Sex | |
| Male | 52(40.0) |
| Female | 78(60.0) |
| Total | 130(100.0) |
| Marital status | |
| Married | 33(25.4) |
| Widowed | 97(74.6) |
| Total | 130(100.0) |
| Education | |
| Primary & less | 48(36.9) |
| Secondary & more | 82(63.1) |
| Total | 130(100.0) |
| Occupation | |
| Retired with no secondary occupation | 39(30.0) |
| Retired and engaged in secondary occupation | 27(20.8) |
| Farming | 20(15.4) |
| Trading | 36(27.7) |
| Clergy | 8(6.1) |
| Total | 130(100.0) |

*Table 2. Common MSDs among the study population*

| Types of MSDs | Number Percentage |
|---|---|
| Low back pain | 48 |
| | 36.9 |
| Osteoarthritis(weight bearing joints) | 39 |
| | 30.0 |
| Spinal curvature disorders | 23 |
| | 17.7 |
| Post-traumatic MSDs | 21 |
| | 16.2 |
| Rheumatoid arthritis | 10 |
| | 7.7 |

**\***Multiple diagnoses were recorded for some patients.**\***Percentages represent proportion of the study population

*Table 3. Distribution of the patients based on the limitations of ADLs*

| Activities of daily living | Affected Total | Not affected |
|---|---|---|
| Number(%) | Number(%) | Number(%) |
| Physical activities | 116(89.2) | 14(10.8) |
| | 130(100.0) | |
| Personal activities | 70(53.8) | 60(46.2) |

| | | |
|---|---|---|
| | 130(100.0) | |
| Domestic activities | 63(48.5) | 67(51.5) |
| | 130(100.0) | |
| Instrumental activities | 47(36.2) | 53(40.8) |
| | 130(100.0) | |
| Spiritual activities | 11(8.5) | 119(91.5) |
| | 130(100.0) | |

## 4. Discussion

The prevalence of MSDs of 14.5% in this study is higher than 6.7% reported in Idikan community in Ibadan, Nigeria [12] and 6% reported in a general practice clinic in Jharkhand State, India. [27] However, the prevalence in this study is lower than 26.8% reported in a primary care clinic at Ibadan, South-west Nigeria,[4] 38.3% reported among elderly patients in Maharashtra, India[3] and 48.8% reported among retired elderly population in Pimpri-Pune, India.[10] These reports have buttressed the fact that MSDs are issues of serious medical importance in geriatric patients globally[1,2] and presently escalating in Nigeria as an important component of non-communicable diseases burden in the country.[4,5,12] The magnitude of this burden of MSDs among the elderly patients is clinically relevant and informative especially in an environment where attendance to hospitals depends on the severity of the medical ailment. Given the inadequacy of primary care data on distribution, determinants and deterrents factors on geriatric MSDs in Nigeria, the most effective clinician intervention is early diagnosis and treatment.[28] Although the management of MSDs in geriatric patients can be achieved with medications, the ultimate goal in general is primary prevention aimed at reducing the risk of early onset. [22] The earlier the primary prevention is started, the more likely it is to be effective. Clinicians should therefore inquire of their elderly patients of symptoms of MSDs and use optimally clinical methods for the diagnosis of musculoskeletal disorders.[28] The finding of this study therefore predicates the urgent need for geriatric musculoskeletal health education, promotion and counselling during clinical encounter with these patients in primary care settings.[29] These primary prevention strategies will improve their quality of life and reduce subsequent morbid demand on the health delivery system as regards expensive surgical interventions and use of orthopaedics prosthetic devices for severe disability from MSDs.

This study has shown that the most common MSD was low back pain. This finding is similar to the reports from Prune, India [10] and the global perspective of MSDs in aging population.[20,26,30] Studies have shown that about 60 – 80% of the population develop low back pain at some time in their life.[30,31] However, there is increased prevalence in the elderly population.[29] Apart from the non-modifiable age-related changes especially in the axial musculoskeletal system, the modifiable physical inactivity of the elderly is contributory. The impact of low back pain include reduction or loss of physical function, social function, decrease leisure activity and low quality of life generally. [32] While the resources and political will for the development of curative and rehabilitative services for the elderly with MSDs in Nigeria are limited. It may be rational to give relevance to preventive and promotive health services for the elderly at the primary care levels. This will help to delay disability associated with MSDs and ensure optimal quality of life of the elder citizens.

Osteoarthritis of the weight bearing joints was the second most common MSD in this study. This finding is similar to the reports from Nigeria [4], India[3,10,] and the general cluster of MSDs in aging population.[20,26,30] This finding has corroborated the reports that osteoarthritis is common in geriatric patients.[3,4,11,17] Although osteoarthritis increases with age, aging is associated with the reduction or cessation of the production of glucosamine, chondroitin and other molecules essential for the formation of proteoglycans (part of connective tissue matrix) and nourishment of the synovial fluid which interact with collagen fibres to allow resilient compression and re-expansion within the cartilage. The cartilage is hardened, destroyed and forms bone spurs.[33] The end of the bones rubs together with its associated inflammatory reactions. This results in bone deformity and subsequent disability which affects the activities of daily living. Aetio-pathophysiologically, osteoarthritis may not have an abrupt onset among the study population. However, it may be influenced by the interplay of epidemiological and social factors. [1, 26, 29] The health seeking behaviour and illness-related practices are key socio-epidemiological factors that impacts on progression from mild osteoarthritis to severe forms with its attendant risk of chronic immobility. [11, 17] The chronic immobility of osteoarthritis therefore compromises their activities of daily living making the affected elderly patients depend on their family members for most of their physical, instrumental and domestic activities of daily living in addition to economic dependency. The implication of this in a resource-poor setting is better imagined than seen.

Spine curvature disorder was the third most common MSD among the study population. The finding of this study is similar to the report from India.[3] Accordingly, a healthy spine has a gentle curve which helps the spine to absorb stress from body movement and gravity. Aging is associated with changes in the vertebral bones which may be a prominent factor in determining the susceptibility of the elderly to spine curvature disorders. Spinal curvature disorders lead to incorrect biomechanics, abnormal posture and postural reflexes, impaired mobility and increase the risk of developing muscular reconditioning.[25,29,33] Of great

concern in Nigeria is that spinal curvature disorders in elderly persons is not always perceived as a health risk.[4] The local perception of spinal curvature disorders as a feature of senescence is common. To challenge such socio-cultural belief is difficult. However, international organizations like World Health Organization have approached aging as a part of life cycle that should not be left to chance.[1,34] Spinal curvature disorders should therefore be an important part of geriatric musculoskeletal disorders management consultations especially in resource-constrained environment where there is low level of geriatric socio-medical care.

This study has shown that physical activity of daily living was most commonly affected by musculoskeletal disorders. This finding is similar to previous reports. [10, 11, 17, 35] According to these reports the detrimental impact of musculoskeletal disorders is in relation to locomotor disability. Although MSDs occur to a varying proportions in geriatric population worldwide,[30] but it occurs disproportionately in the elderly population in under-resourced countries such as Nigeria. [4, 5, 12] This is probably due to the quality of general and specific geriatric care among other factors like social, political, economic and environmental factors that adversely affect health of elderly population.  Aging is associated with inactivity and inactivity is on its own associated with chronic medical conditions like MSDs.  Affectation of physical activity of daily living by MSDs is therefore an important clinical and public health problems and the burden will probably increase in future due to changes in age structure with increasing life expectancy resulting in increase geriatric population.  [29,30]     Effective promotive and health maintenance care for this population of elder citizens will help them lead a socially productive and disability free life. The care of the elderly patients with MSDs should be a major health and social problem in Nigeria where aging in addition is associated with poverty and limited options for living arrangement. This study therefore provides primary care data required for effective planning of musculoskeletal disorders health services for the rapidly growing population of elder citizens in the study area.

Spiritual activity of daily living was least affected by the MSDs among the study population. Although, the bio-pathophysiological basis of MSDs in geriatric patients and its management modalities have been elucidated in medical literature [6-8, 25, 33] but the interwoven nature of body, spirit and soul as regards some medical conditions like MSDs need to be de-medicalized. [36,37] However, spirituality has been shown to have effects on medical care and one's spirituality and certain religious practices associated with being a spiritual person can be a source of strength and comfort in some medical conditions. [18, 38] In addition, being part of an organized religion or spiritual community could constitute a component of internal and external support system.[37] This could also be attributed to spiritual biofeedback in management of pain that may be associated

with MSDs. More so, spiritual practices which has been used as a means of healing promotes coping skills, healthy behaviour and social support such as participation in religious activities and outreach group programs. The finding of this study therefore calls for consideration of spiritual factors during clinical care of geriatric patients with MSDs in the study area. However, the role of spiritual dimension of physician-patient encounter during consultation with geriatric patients with MSDs needs to be exclusively explored further in prospective studies in the study area. This will help to refine the measurements.

### 4.1. Study Implications

Aging process has been described as 'usual' or 'successful' aging. Aging, whether 'usual' or 'successful' brings to the front burner variable health problems. These variable health problems associated with aging are sometimes attributed to the degree of activities of daily living amongst others which can be modified. Among the chronic medical problems of the geriatric population are musculoskeletal disorders. These musculoskeletal disorders can therefore compromise their activities of daily living.

With increasing elderly population in Nigeria, documentation of the activity profile of the high risk geriatric patients with musculoskeletal disorders is needed especially in this era of geriatric wellness, risk reduction and health maintenance. The overall aim is to inform the need for geriatric musculoskeletal health promotion and diverse resource requirements.

### 4.2. Study Limitations

The limitations of this study are recognized by the authors. First and foremost, the sample for the study was drawn from Family Medicine clinic of the hospital.  Hence, the findings of this study may not be general conclusions regarding geriatric patients with musculoskeletal disorders attending other outpatient clinics of the hospital.

The findings of this study is not a general conclusion regarding some aspects of  activities of daily living such as religious activities due to religious and socio-cultural diversities in the country; for example among the Nigerians Muslims activities of daily living could involve a lot of squatting, sitting on the floor cross-legged for meals or religious rites. These socio-religious disposition can cause more limitations of activities in case of involvement of lower extremities when compared with what is obtained among the Eastern Nigerians of Ibo and Christian extraction with Western socio-cultural customs and religious practices.

This study was designed to describe the activities of daily living in relation to musculoskeletal disorders rather than association with specific musculoskeletal disorder or demographic geography. Musculoskeletal disorder is a vast medical problem. However, operational definitions of common musculoskeletal disorder in the primary care

clinic in the study area are provided. Thus extrapolation of the findings to specific musculoskeletal disorder should be done with caution. Furthermore, the limitations imposed by the self-reported measure of activities of daily living among the respondents are recognized by the researcher and since some respondents couldn't clinically and socially give acceptable and true responses in questions related to health practices and lifestyle.   In addition, the sample size for the study was relatively small, but this was the number of patients seen within the proposed duration of the study. More so, this study was not on degree of affectation of the activities of daily living as regards the scoring system because of the clinical relevance of mild(some difficulty), moderate(much difficulty) and severe affectation(unable to do) of the activities of daily living in relation to MSDs.

# 5. Conclusion

Musculoskeletal disorders exist among the study population with the most common being low back pain followed by osteoarthritis of weight bearing joints and spinal curvature disorders. Physical ADL was predominantly affected while spiritual ADL was least affected.   Strategies to improve ADL should constitute primary target for intervention during clinical encounter with geriatric patients in primary care.

# References

[1]  WHO. The burden of musculoskeletal conditions at the start of the new millennium. World Health Organization Technical Report Series. Report of a WHO Scientific Group, Geneva. WHO 2003 p. 218.

[2]  Tsou IY, Ching HH. The bone and joint decade 2000-2010 for prevention and treatment of musculoskeletal disease. Ann Acad Med Singapore 2002; 31: 69-70.

[3]  Agrawal S, Deo J, Verma AK, Kotwal A. Geriatric health: Need to make it an essential element of primary health care. India J Public Health 2011; 55: 25 – 9.

[4]  Adebusoye LA, Ladipo MM, Owoaje ET, Ogunbode AM. Morbidity pattern amongst elderly patients presenting at a primary care clinic in Nigeria. Afr J Prm Health Care Fam Med 2011; 3(1), Art ≠211.

[5]  Abdulraheem IS, Abdulrahman AG. Morbidity pattern among the elderly population in a Nigerian tertiary health care institution: analysis of a retrospective study. Niger Med Pract 2008; 54: 32-8.

[6]  Mobbs C. Biology of aging. In: Beers MH, Berkow R editors. The Merck Manual of Geriatrics, 3rd ed. New Jersey(USA) Merck and Co Inc White house station 2001: p. 25.

[7]  Abanobi OC. Active theory of aging. Core Concepts in Epidemiology & Public Health Practice. A Quick Reference Manual Owerri, Opinion Research Communications Inc 2010; p.4.

[8]  Abanobi OC. Health: Wellness and iIlness states. Biological, Social, Cultural, Environmental, Nutritional, Behavioural and Health System Factors. Owerri, Opinion Research Communications Inc 2005; p. 57-65.

[9]  'Activities of Daily Living Evaluation' Encyclopedia of Nursing & Allied Health. Ed. Kristine Krapp. Vol 1. Gale Cengage, 2002.   eNotes.com.   19   Aug,   2012 <http://www.enotes.com/activities_daily_living_evaluation_reference/>

[10]  Benerjee A, Jahdhav SL, Bhawalkar  JS. Limitations of activities in patients with musculoskeletal disorders. Ann Med  Health Sci Res 2012; 2: 5-9.

[11]  van Dijk GM, Veenhof C, Lankhorst GJ, Dekker J. Limitations of activities in patients with osteoarthritis of the hip or knee: The relationship with body functions, co-morbidity and cognitive functioning. Disabil Rehabil  2009; 31: 1685 – 91.

[12]  Ogunniyi A, Baiyewu O, Gureje O. Morbidity pattern in a sample of elderly Nigerians resident in Idikan community, Ibadan. West Afr J Med 2001; 20: 227 – 31.

[13]  Clausen F, Sandberg E, Ingstaad B, Hjortdan P. Morbidity and healthcare utilization among the elderly people in Mmankgodi village. J Epidemiol Community Health 2000; 54: 58 – 63.

[14]  Joshi K, Kumar  R, Avasthi  A. Morbidity profile and its relationship with disability ans psychological distress among elderly people in Northern India. Int J Epidemiol 2003; 32: 978-87.

[15]  Ettinger W. Aging and osteoarthritis In Beers MH, Berkow R eds. The Merck Manual of Geriatrics, 3rd edn. NJ(USA) Merck & Co Inc White house station 2001:p. 467-472.

[16]  Graf C. The Lawton instrumental activities of daily living scale. Am J Nurs 2008; 108: 52 – 62.

[17]  Sadosky AB, Bushmakin AG, Cappelleri JC, Lionberger DR. Relationship between patient-reported disease severity in osteoarthritis and self-reported pain, function and work productivity. Arthritis Research & Therapy 2010; 12: R162.

[18]  Bourne PA. Activities of daily living, instrumental activities of daily living and predictors of functional capacity of older men in Jamaica. North Am J Med Sci 2009; 1: 184 – 92.

[19]  McConnell S, Kolopack P, Davis AM. The Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC): a review of its utility and measurement properties. Arthritis Rheum 2001; 45: 453 – 61.

[20]  Chopra A, Patil J, Billempelly V, Relwani J, Tandale HS. Prevalence of rheumatic diseases in a rural population in western India.  A WHO-ILAR COCORD Study. J Assoc Physicians India 2001; 49: 240-46.

[21]  Nnebue CC. The epidemiologic transition: Policy and planning implications for developing countries. Niger J Med 2010; 19: 250-56.

[22]  Iyaniwura CA. Health promotion in general medical practice in Osun state. Niger  Med Pract 2004; 45: 29 – 32.

[23]  Ibrahim T. Sample size determination. In: Research Methodology and Dissertation writing for Health and Allied

Health Professionals. Abuja, Nigeria Cress Global Link Limited; 2009: 70-75.

[24] Graeme M, Helena B. ICPC-2-E: The Electronic Version ICPC-2. Fam Pract 2000; 17: 448.

[25] Webb CW, O'Connor FG. Low back pain in primary care: An evidence-based approach. In: South-Paul JE, Matheny SC, Lewis EL editors. Current Medical Diagnosis and Treatment in Family Medicine, 3rd edition, New York. Lange Medical Books 2011. p. 257 - 265.

[26] Woolf AD, Pfleger B. Burden of major musculoskeletal conditions. Bull World Health Organ 2003; 81: 646 – 56.

[27] Mukhopadhyay K, Singh R. Common Geriatric Cases Seen by a General Practitioner in an Urban Area of Jharkhand State, India. J Fam Med Primary Care 2012;1: 164 – 5.

[28] Akesson K, Dreinofer KE, Woolf AD. Improved education in musculoskeletal conditions is necessary for all doctors. Bull World Health Organ 2003; 81: 677 - 83.

[29] Leveille SG. Musculoskeletal aging. Curr Opin Rheumatol 2004; 16: 114 – 8.

[30] Brooks PM. The burden of musculoskeletal disease-a global perspective. Clin Rheumatol 2006; 25: 778 – 81.

[31] Weiss HR, Werkmann M. Unspecific chronic low back pain- a simple functional classification tested in a case series of patients with spinal deformities. Scoliosis 2009; 4: 4.

[32] Tavafian SS, Jamshidi A, Mohammad K, Montazeri A. LOW back pain education and short term quality of life: a randomized trial. BMC Musculoskeletal Disord 2007; 8: 21.

[33] Brandt KD, Dieppe P, Radin E. Etiopathogenesis of osteoarthritis. Med Clin N Am 2009; 93: 1 – 24.

[34] WHO. The Global Embrace, Aging and life course. In: The Global Embrace Handbook. Geneva. World Health Organization 2001.

[35] Gregg EW, Cauley JA, Stone K, Thompson TJ, Bauer DC, Cummings SR, et al. The Study of Osteoporotic Fractures Resaearch Group: Relationship of changes in physical activity and mortality among older women. JAMA 2003; 289: 2379 – 86.

[36] Milestein JM. Introducing spirituality in medical care. JAMA 2008; 299: 2440 – 41.

[37] Swarajyalakshmi B. Health and spirituality: An attempt to understand the scope. Indian J Public Health 2010; 54: 65 – 70.

[38] Byock IR. The nature of suffering and the nature of opportunity at the end of life. Clinics in Geriatric.