



Utilization of Healthcare Services by People Suffering from Osteoarthritis in Ogbaku Kingdom, Imo State, Nigeria

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Abstract

Osteoarthritis (OA) is a prevalent chronic disorder in the older population. While timely management is important to minimize the consequences of osteoarthritis, information on the utilization of healthcare services among this population remains limited. The objectives of this study were to investigate the utilization of healthcare services and its associated factors in people suffering from osteoarthritis in Ogbaku Kingdom, Imo State. To guide the study, three research questions were asked. This research is a cross-sectional study that focused on quantitative data collected through survey methods among adults living in Ogbaku Kingdom in Imo State. The area of study is Ogbaku kingdom in Imo State, Nigeria. The population of the study is 9796 adults of 50 years. A multi-stage cluster sampling technique was used to sample 1349 adults who are 50 years and above. Simple percentages were used to answer the research questions, while to identify factors that were associated with healthcare utilization in the population, a nonlinear correlation was carried out using Crammer's coefficient. P-value was used to test the hypotheses. There are 392 participants who were found to have osteoarthritis (OA), out of which 120 representing 30.61% utilize outpatient services, 83(21.17%) utilize inpatient care services, while 189(48.21%) use pharmacotherapy. Also, out of 392 participants with OA, 168 representing 42.86% have a high extent of utilization of healthcare services, while 224 representing 57.14% have low extent of utilization of healthcare services. Crammer's correlation analysis demonstrated that age ($V = 0.195$, $p = 0.002$), education ($V = 0.359$, $p = 0.001$), and occupation ($V = 0.356$, $p = 0.001$) were associated with the use of healthcare services. The moderate rate of healthcare utilization among older persons with osteoarthritis indicates the increased healthcare needs of this population, who are commonly assumed to suffer from a benign disease.

Keywords: Osteoarthritis (OA), health, healthcare services, Utilization, Ogbaku Kingdom, Imo State, Nigeria.

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INTRODUCTION

World Health Organization (WHO, 2020) defined health as a state of complete physical, mental and social well-being of an individual and not merely the absence of disease or infirmities. Health care service is one of the most important services provided by the government in every country of the world. In both the developed and developing nations, a significant proportion of the nation's wealth is devoted to health manpower training and development of functional health facilities (WHO, 2020). Thus, the provision and level of utilization of available health facilities in any population is an important determinant of health. Accordingly, optimum utilization of healthcare facilities has particular relevance, both as a public health and development issue.

According to Barbar and Hatcher (2004), studies carried out in different parts of the world to evaluate the level of utilization of health facilities reveal the problem of underutilization which is a condition wherein modern health facilities available are not being used to their fullest potential by the people. They asserted that underutilization of modern health facilities is however not a new phenomenon. To them, it is experienced especially in developing countries.

According to Buor (2005), the dwindling income and purchasing power of the rural dwellers coupled with the high cost of drugs and of treatment, combined to make government owned modern health facilities unattractive and out of reach of many. Unfortunately, the National Health Insurance Scheme is yet to make a significant impact in cushioning the cost of treatment on rural dwellers. Again, low level of education of the populace and shortage of trained health personnel among other factors have contributed immensely to poor utilization of few government owned healthcare facilities in their locality. For example, in a study conducted by Dias et al. (2008) in rural Kogi State, cited in Nwankwo (2012), they found that education is a major determinant of utilization of health services with 56.5% of households with tertiary education utilizing modern health facilities while 57.9% of households without access to formal education did not utilize health facilities.

The underutilization of modern healthcare facilities can be a problem among patients receiving care. Filmer, et al. (2020) enumerated major factors associated with underutilization to include attitude of health workers, lack of trained personnel, insufficient technological equipment, ignorance, cost of treatment/ lack of fund, gender and cultural beliefs and practices, status of women, location of health facilities/poor citing, preference for traditional healers, poor transportation, distance of health facilities, incessant and abrupt stoppage of services through strike at critical periods of care, and out-of-stock syndrome. These problems are substantially applicable to the study area.

Underutilization of modern health facilities is a great setback on national development; it is a chain reaction where one thing triggers another, such as loss of life, decline in agricultural production on account of ill health and deaths (Adebayo & Oladeji, 2006). The underutilization of modern health facilities in rural areas has led to prolonged state of illness thus reducing labour productivity from areas affected. It also leads to death, all of which negatively affect sustainable rural development.

For Adebayo and Oladeji (2006), the major consequences of high cost of modern health facilities and their resultant underutilization in the rural areas include: shift to alternative medical treatment, low patronage to modern health facilities, spread of diseases, increase in self-medication, proliferation of quacks in medical matters, increased rate of untimely death, recourse to superstitions and reduced life span.

Underutilization of health care services is manifested behaviourally as not seeking medical care when feeling ill or suspecting they should go (AlKuwaity et al., 2018), which has been considered as a significant contributing factor to substantial cases in terms of both avoidable morbidity and mortality (Cho et al., 2015). Based on the current literature, most of the studies focused on investigating various factors associated with health services underutilization were targeted at specific types of population groups, such as pregnant women, dental patients, men receiving fertility evaluation, randomly selected household members, and hospice patients (Postler et al., 2018). However, the present study investigated factors associated with health services underutilization among people suffering from osteoarthritis.

Osteoarthritis is the most frequent musculoskeletal disease and leads to functional decline and loss in quality of life. Clinically, the condition is characterized by joint pain, tenderness, crepitus, stiffness and limitation of movement with occasional effusion and variable degrees of local inflammation (Nwankwo, 2012). The pain in osteoarthritis is frequently activity related; constant pain frequently becomes a feature later in the disease, (Hochberg, et al. 2012). Pain in osteoarthritis is not simply attributable to the structural changes in the affected joint, but the result of interplay between structural change, peripheral and central pain processing mechanisms.

Osteoarthritis is the most common type of arthritis. It is often caused by wear and tear on a joint over a lifetime. It is mostly found in the knee, spine, hip and hand. OA causes cartilage to undergo a slow damage due to stiffness developed by losing the elasticity, thereby causing gradual erosion. This erosion causes ligaments to experience stretching that initiates the pain, therefore, it no longer can act as a proper shock absorber. The outcome is that the bones start rubbing with each other adding agony and suffering. Initially, the symptoms advance slowly but worsen with time causing inflammation and creating more harm to the joint. Patients feel pain during and after the joint- movement. There is an aching sensation at the joints if the patient tries to move suddenly which usually occurs when patients wake up in the morning. In most cases the development of stiffness is a common indication (Kamsan et al., 2020).

Osteoarthritis is the most common disease of joints in adults around the world (Felson & Zhang, 1998). Felson and Zhang reported that about one-third of all adults have radiological signs of osteoarthritis, although Akinpelu et al. (2007), in an epidemiological study, Zhang et al. (2020) found clinically significant osteoarthritis of the knee, hand, or hip in only 8.9% of the adult population. Knee osteoarthritis was the most common type (6% of all adults). The likelihood of developing osteoarthritis increases with age. Studies have shown that knee osteoarthritis in men aged 60 to 64 is more commonly found in the right knee (23%) than in the left knee (16.3%), while its distribution seems to be more evenly balanced in women (right knee, 24.2%; left knee, 24.7%). The prevalence of osteoarthritis of the knee is higher among 70- to 74-year-olds, rising as high as 40%. When the diagnosis is based on clinical signs and symptoms alone, the prevalence among adults is found to be lower, at 10%. The radiological demonstration of typical signs of osteoarthritis of the knee is not correlated with symptoms: Only about 15% of patients with radiological demonstrated knee osteoarthritis complain of knee pain. The incidence of the disorder among persons over 70 is estimated at 1% per year.

Osteoarthritis is usually classified as primary or idiopathic when there is no obvious predisposing cause, and secondary when there is some clearly defined predisposing pathology (Hochberg, et al, 2012). Idiopathic OA is the most common form of arthritis and is a debilitating progressive disease that affects 60% of men and 70% of women over the age of with enormous socioeconomic costs, rivalling those of ischemic heart disease.

As the Baby Boomers reach middle age and obesity is on the increase in the general population, OA will have an even greater impact on society in the future. Primary OA is a frustrating disease for both patient and clinician, because neither cause nor cure is known and, once started, the disease cannot be halted, even though individual rates of joint degradation can vary considerably. Understanding of the various aspects of the disease has advanced sufficiently, however, to give rise to cautious optimism that other treatments besides joint replacement may become available.

Epidemiological studies have revealed that there are both endogenous and exogenous risk factors for osteoarthritis. Genetic factors unquestionably play a role. In a clinical study involving female twins, Spector, Cicuttinni et al. (1996) showed an effect of heredity on the development of osteoarthritis of the hip and knee. In only very few cases, however, can osteoarthritis be attributed to the effect of a single gene. Its development and progression are more likely due to an interaction among multiple genes, in combination with further risk factors. Cross-sectional studies have shown that the risk of knee osteoarthritis is 1.9 to 13.0 times higher among underground coal miners than in a control population; presumably, the main risk factor in this occupational group is frequent work in the kneeling or squatting position. Construction workers, too, particularly floorers, have a significantly elevated prevalence of knee osteoarthritis. In another epidemiological study, Zhang et al. (2020) found a significant dose-effect relationship for overweight (BMI >30) as a risk factor for knee osteoarthritis, but not for hip osteoarthritis.

It has been ascertained that the disease advances with age (Arden & Nevitt, 2006). Along with its progression, patients lose flexibility and feel an irritating sensation while flexing the joints. As a symptom, hard lumps or bone spikes appear at the joints under attack (Cameron & Chrubasik, 2014). OA, though most often found in the knees, is also found in the hands, hips and spine. OA is an enduring illness, though it can be managed but does not have a permanent cure as such not everybody living with OA reports its incidence in the hospital.

However, few studies from previous literature managed to investigate the factors related to health services underutilization among chronic disease patients, especially for economically disadvantaged population groups living in poverty-stricken regions in both low and middle-income countries. According to Ibrahim et al. (2014) poor accessibility to medical services remains a critical issue in impoverished areas where evenly distributed healthcare resource allocations are difficult to be achieved due to underdeveloped economic development status. In addition, compared with people residing in economically developed regions, residents living in impoverished areas typically have different cultural backgrounds and are at lower educational levels, thus leading to other region-specific characteristics that would potentially compromise efficient utilization of health care services. As various factors potentially related to health services underutilization in impoverished regions remain poorly understood, while few studies have explored residents' self-reported reasons for health care services underutilization in economically disadvantaged areas, the investigation of the underutilization of health care services among people living with osteoarthritis remains a challenging issue to be addressed through proper research work.

Objective of the Study

This study investigated the underutilization of health care services by people suffering from osteoarthritis in Ogbaku Kingdom. Specifically, the study sought for:

- The prevalence of osteoarthritis among people of Ogbaku Kingdom in Imo State, Nigeria;
- Utilization of health care services among people suffering from osteoarthritis in Ogbaku Kingdom; and
- Relationship between some socio-demographic characteristics and utilization of health care services among people suffering from osteoarthritis in Ogbaku Kingdom.

Research Questions

The following research questions guided the study:

- What is the prevalence of osteoarthritis among people of Ogbaku Kingdom in Imo State?
- What is the extent of utilization of health care services among people suffering from osteoarthritis in Ogbaku Kingdom?
- What is the relationship between some socio-demographic characteristics and utilization of health care services among people suffering from osteoarthritis in Ogbaku Kingdom?

LITERATURE REVIEW

Osteoarthritis (OA) is one of the most chronic and degenerative joint diseases and a major cause of pain in the elderly (Loeser, 2011). It is a leading cause of disability, affecting 60-70% of the population older than 60 years. The worldwide prevalence estimate for symptomatic OA is 9.6% among men and 18% among women (Felson, 2009). Although OA occurs all over the world, the pattern and prevalence of the disease vary among populations.

Many hospital-based studies have shown that OA is common in Nigeria. A female preponderance (ratio 3.5-5:1) has been reported and the knee has been found to be the most commonly affected joint among Nigerians, accounting for 65%-78% of cases. It has also been reported that multiple joint affectations and involvement of joints of the extremities are uncommon among Nigerian patients (Ibrahim, et al, 2014). Neither the prevalence nor the real burden of OA in Nigeria is truly reflected by these studies because they were hospital-based.

According to Zhang et al, (2020), the majority of individuals with OA resign to fate, seeking no medical care at all based on their belief that OA is an unavoidable disorder of old age for which nothing or little could be done. Therefore, people with OA in this category may elude hospital-based data. Community based studies on the prevalence and pattern of OA in Nigeria are few. A study by Akinpelu et al. (2007) reported the point prevalence of symptomatic knee OA to be 19.6% and a female preponderance in the ratio of 1.2:1 for a rural community in South-Western Nigeria.

Nwankwo and Eze (2016) found that there is a high rate of underutilization of government owned health facilities in Mbaukwu community in Anambra State, Nigeria, occasioned by preference of private clinics among other factors. The consequences of underutilization of government owned health facilities in the area include illness and loss of life, low income and reduced productivity.

This study was based on the theory of planned behaviour (TPB). The TPB suggests that the strongest determinant of behaviour is intention or motive. Intention is guided by three independent variables; attitudes, subjective norms and perceived behavioural control. Attitude refers to positive or negative evaluation of the behaviour; subjective norm refers to perceptions

of other people's pressure to perform the behaviour; and perceived behavioural control refers to perceptions of the ease or complexity of executing the behaviour of interest. The TPB's belief base proposes that attitudes are determined from the individual's beliefs about the advantages/disadvantages of performing the behaviour. For instance, regarding this study, the attitude of people towards the utilization of health care services are determined by the individual's belief about the advantages/disadvantages of the services.

Subjective norms regarding this study are determined by a person's beliefs about whether important referents approve/disapprove of his/her performing the behaviour (i.e. perceived normative expectation). For example, is how respected people around (health care workers, family members, etc) view health care services. Perceived behavioural control is based on the person's belief as to whether internal and/or external factors may prevent or assist in the utilization of health care services (control beliefs; e.g. cost of government health facilities, cost drugs).

METHODOLOGY

This research is a cross-sectional study that focused on quantitative data collected through survey methods among adults living in Ogbaku Kingdom in Imo State. The researchers chose to use a cross-sectional method of approach for this research because the study focused on the utilization of health care services among people which does not require data to be collected over a period of time (Creswell, 2014). The area of study is Ogbaku kingdom in Imo State, Nigeria. Ogbaku is an ancient kingdom with 18 villages in Mbaitoli Local Government Area of Imo State, South-east Nigeria, dating back to the 18th century and most likely beyond it. The kingdom has a population of 24,478, with 9796 adults of 40 years and above constituting 40% of the population. A multi-stage cluster sampling technique was used to sample 1349 adults who are 40 years and above. Hence, those below 40 years were excluded from the study because osteoarthritis has been shown to be common among people that are above 40 years. Two health workers from the area were recruited to serve as research assistants and were helpful in identifying boundaries. Body weight and height of the individuals were measured and recorded using weighing scale and meter rule respectively.

The participants were asked if they had knee and joint pain and for how long they experienced the pain. Those who reported having pains that persisted for days were then physically examined, using the clinical criteria of the American College of Rheumatology (ACR) for the diagnosis of knee osteoarthritis. The physical examination included among others the assessment of bony enlargement, joint crepitus, joint line tenderness, effusion, superficial joint tenderness, local warmth and patellofemoral joint compression. Participants who fulfilled the ACR clinical criteria for knee osteoarthritis were interviewed to collect information on clinical history of knee osteoarthritis, using a pretested questionnaire. The number of participants identified as having osteoarthritis (OA) and those not identified as having OA were recorded. The proportion of older persons with knee OA who had a history of using healthcare services over the past one year was determined. A comparison of healthcare usage among older persons with and without knee OA was conducted. To identify factors that were associated with healthcare utilization in this population, a nonlinear correlation was carried out using Cramer's coefficient.

RESULTS

Table 1 contains the characteristics of the participants of this study. The table shows that a total of 1349 persons participated in the study, of which 529 are male, while 820 are female. 526 participants were between the ages 50 and 59 years, 468 were 60 to 69 years, 269 were 70 to 79 years old, while 86 participants aged 80 years and above. Out of these participants, 75 are single (were never married), 1084 are married, 29 are divorced, while 161 are widowed. On the other hand, 223 do not have formal education, 309 have only primary education, 539 have secondary education, while 278 have tertiary education. Also, 69 of the participants are teaching, 196 are artisans, 94 are retired, 149 participants are civil servants, 100 are unemployed, 529 participants are farmers, while 212 are traders.

Research Question One: What is the prevalence of osteoarthritis among people of Ogbaku Kingdom in Imo State?

Table 1: Prevalence of Osteoarthritis along the Demographic Variables

Variables	Total Sample	OA Group	Non OA Group	Cramer's V	p-Value
	N	F(%)	F(%)		
	1349	392(29.06)	957(70.94)		
Gender					
Male	529(39.21)	106(20.04)	423(79.96)	0.160	0.001*
Female	820(60.79)	286(34.88)	534(65.12)		
Age					
50 – 59	526(38.99)	97(18.44)	429(81.56)	0.236	0.001**
60 – 69	468(34.69)	137(29.27)	331(70.73)		
70 – 79	269(19.94)	128(47.58)	141(52.42)		
≥80	86(6.38)	30(34.88)	56(65.12)		
Marital Status					
Single	75(5.56)	27(36.00)	48(68.00)	0.161	0.001*
Married	1084(80.36)	319(29.43)	765(70.57)		
Divorced	29(2.15)	9(31.03)	20(68.97)		
Widowed	161(11.93)	67(41.61)	94(58.39)		
Education Level					
No formal edu.	223(16.53)	73(32.74)	150(67.26)	0.117	0.001*
Primary	309(22.91)	107(34.63)	202(65.37)		
Secondary	539(39.96)	122(22.63)	417(77.37)		
Tertiary	278(20.61)	90(32.37)	188(67.63)		
Occupation					
Teaching	69(5.11)	19(27.54)	50(72.46)	0.093	0.067
Artisan	196(14.53)	38(19.39)	158(80.61)		
Retiree	94(6.97)	32(34.04)	62(65.96)		
Civil servant	149(11.05)	48(32.21)	101(67.79)		
Unemployed	100(7.41)	32(32.00)	68(68.00)		
Farmer	529(39.21)	157(29.68)	372(70.32)		
Trader	212(15.72)	66(31.13)	146(68.87)		

Out of the 1349 participants in this study, 392 representing 29.06% have osteoarthritis. The results show that 20.04% of the males have OA, 34.88% of females have OA. Also, 18.44% of those within the age 50 to 59 have OA, 29.27% of those aged 60 to 69 have OA, 47.58% of those aged 70 to 79 years have OA, while 34.88% of those 80 years and above have osteoarthritis.

Osteoarthritis was found to associate significantly with gender ($V = 0.160$, $p = 0.001$), age ($V = 0.236$, $p = 0.001$), marital status ($V = 0.161$, $p = 0.001$), and education ($V = 0.117$, $p = 0.001$). However, there was no significant association between osteoarthritis and occupation of the participants ($V = 0.093$, $p = 0.067$).

Research Question Two: What is the extent of utilization of health care services among people suffering from osteoarthritis in Ogbaku Kingdom?

Table 2: Extent of Utilization of Healthcare Services by People with Osteoarthritis (OA) in Ogbaku Kingdom

	Total number of people with OA	High Extent of Utilization of Healthcare Services	Low Extent of Utilization of Healthcare Services
Extent of Utilization of OA	392	168(42.86)	224(57.14)
Types of Services Used			
Outpatient Visit	120(30.61)	55(45.83)	65(54.17)
Inpatient Care	83(21.17)	50(60.24)	33(39.76)
Pharmacotherapy	189(48.21)	63(33.33)	126(66.67)

The summary results on the extent of utilization of healthcare services by people with osteoarthritis (OA) are presented in Table 2. There are 392 participants who were found to have osteoarthritis (OA), out of which 120 representing 30.61% utilize outpatient services, 83(21.17%) utilize inpatient care services, while 189(48.21%) use pharmacotherapy. Also, out of 392 participants with OA, 168 representing 42.86% have a high extent of utilization of healthcare services, while 224 representing 57.14% have low extent of utilization of healthcare services.

Research Question Three: What is the relationship between some socio-demographic characteristics and utilization of health care services among people suffering from osteoarthritis in Ogbaku Kingdom?

Table 3: Associated Factors of Healthcare Utilization among People with Osteoarthritis

Variables	Total Sample	HE of Healthcare Utilization	LE of Healthcare Utilization	Cramer's V	p-Value
	N	F(%)	F(%)		
	392	168(42.86)	224(57.14)		
Gender					
Male	106(27.04)	49(46.23)	57(53.77)	0.040	0.412
Female	286(72.96)	119(41.61)	167(58.39)		
Age					
50 – 59	97(24.74)	37(38.14)	60(61.86)	0.195	0.002*
60 – 69	137(34.95)	68(49.64)	69(50.36)		
70 – 79	128(32.65)	43(33.59)	85(66.41)		
≥80	30(7.65)	20(66.67)	10(33.33)		
Marital Status					
Single	27(6.89)	8(29.63)	19(70.37)	0.087	0.400
Married	289(73.72)	128(44.29)	161(55.71)		

Divorced	9(2.30)	5(55.56)	4(44.44)		
Widowed	67(17.09)	27(40.30)	40(59.70)		
Education					
Level					
No formal edu.	73(18.62)	13(17.81)	60(82.19)		
Primary	107(27.30)	34(31.78)	73(68.22)		
Secondary	122(31.12)	59(48.36)	63(51.64)	0.359	0.001*
Tertiary	90(22.96)	62(68.89)	28(31.11)		
Occupation					
Teaching	19(4.85)	12(63.16)	7(36.84)		
Artisan	38(9.69)	22(57.89)	16(42.11)		
Retiree	32(8.16)	20(62.50)	12(37.50)	0.356	0.001*
Civil servant	48(12.24)	35(72.92)	13(27.08)		
Unemployed	32(8.16)	16(50.00)	16(50.00)		
Farmer	157(40.05)	43(27.39)	114(72.61)		
Trader	66(16.84)	20(30.30)	46(69.70)		

Crammer's correlation analysis demonstrated that age ($V = 0.195$, $p = 0.002$), education ($V = 0.359$, $p = 0.001$), and occupation ($V = 0.356$, $p = 0.001$) were associated with the use of healthcare services, as shown in Table 3. Based on these findings, 49.64% of those within the age range 60 to 69 use healthcare services, 33.59% aged 70 to 79, while 66.67% aged 80 and above utilize healthcare services.

DISCUSSION

The objectives of this study were to determine the healthcare utilization of people with osteoarthritis in Ogbaku kingdom. Based on our study findings, many of the persons with OA had utilized healthcare services in the past one year (42.86%), regardless of the types of services. However, the majority of the persons with osteoarthritis (57.14) had not utilized the healthcare services. The reason for this majority not accessing healthcare services is unknown. Though the utilization of healthcare services is associated with some factors such as age, education and occupation.

The finding shows that the utilization of healthcare services is higher in older people than in younger people. The perception that osteoarthritis (OA) is a normal condition with aging may also have led to ignorance of seeking appropriate treatment and care. This finding is consistent with the findings of Menon and Mishra (2018); Wang et al. (2017); and Kamsan et al. (2021). Previous studies also reported that financial issues or geographical factors could be one of the main barriers to accessing the healthcare services (Ackerman et al., 2016; Choojaturu et al., 2019).

Among the three types of healthcare services, pharmacotherapy services had the highest rate of utilization, followed by outpatient care and inpatient care. This finding is contrary to recent findings by Kamsan et al. (2021) who found that outpatient care had the highest rate of utilization, followed by pharmacotherapy and inpatient care. This finding could be explained by the fact that most of the OA symptoms such as pains are successfully managed using drugs purchased from local pharmacy stores, and people with knee OA are frequently referred to outpatient care facilities for comprehensive management and care.

CONCLUSION

In conclusion, moderate healthcare usage was demonstrated among older persons with osteoarthritis (OA). Pharmacotherapy services were significantly more frequently used in comparison to outpatient and inpatient care services among people with osteoarthritis. Age, education and occupation were significantly associated with usage of healthcare services among people with osteoarthritis. Our study findings provide information regarding the pattern of healthcare utilization and health needs in persons with OA. This information is important for healthcare management teams for efficient healthcare delivery, resources, and policy planning. There may also be a need to promote evidence-based practice among healthcare providers and to provide self-management education to older persons with knee OA.

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