Epidemiology and Pattern of Osteoarthritis at Ogbaku, Imo State University Teaching Hospital Annex, Mbaitoli Local Government Area, Imo State, Southeast, Nigeria

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Authors' contributions

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ABSTRACT

Background: Osteoarthritis is a major cause of disability and incapacitation Worldwide.
Aim: To evaluate the epidemiology and pattern of osteoarthritis at Ogbaku, Imo State University Teaching Hospital annex, Mbaitoli Local Government Area, Imo State, South-east Nigeria.
Study Design: A retrospective epidemiological study.
Methodology: One hundred and six case notes of patients managed for osteoarthritis between January 2009 and October 2010 were studied. Simple statistical methods like percentages were used for data analysis.
Results: Out of 106 cases studied, 72(67.9%) were females while 43(32.1%) were males. The highest percentage of cases (34%) occurred in people aged 65-74 years followed by people aged 55-64 years (24.5%). Younger people (45-54 years) were the least affected. Farmers (24.5%) were the most affected occupational group followed by athletes (18.9%) and then traders (17%). Civil servants were the least affected. The knee (41.5%) was the most frequently affected joint followed by the hip (22.6%). The least affected joints were the wrist (1.9%) and the elbow (1.9%).
Conclusion: The study shows that osteoarthritis occurred most in people aged 65-74 yrs and the knee was the most frequently affected joint in the body.

1. INTRODUCTION

Osteoarthritis (OA) has been defined as a degenerative, non-inflammatory joint disease characterized by destruction of articular cartilage and formation of new bone at the joint surfaces and margins. It is often associated with pains and restriction of joint movement. Osteoarthritis is a leading cause of disability and loss of human labour in the society often requiring the use of orthotics for rehabilitation. This takes a significant chunk of scarce economic resources which could have been channeled to other productive areas. OA is generally regarded as a disease of the elderly and the middle aged people [1-3] even though it occasionally affects people below the age of 40 [3]. Osteoarthritis has been widely investigated in the Asian countries [3-8]. Most authors agree that OA is a disease of the middle aged and elderly people and occurs in both sexes with female preponderance. Previous studies in Nigeria [1,2] revealed that OA occurs in both males and females but is commoner in females especially after the age of menopause. Akinpelu et al. [1] noted that below the age of 50years OA was commoner among blacks especially Nigerians than Caucasians.

The prevalence and pattern of joint involvement in OA has varied from place to place. In Nigeria, Akinpelu et al. [1] reported a point prevalence of 21.4% in females and 19.6% in males. Many joints of the body were involved with the knee being the most frequently affected. Other investigators documented similar reports [2,9,10].

Higher prevalence figures have been reported in studies elsewhere [3,12]. Risk factors for OA have been listed to include previous trauma [11], obesity [3,4,6,11], occupation [3,4,12] and previous injury to the joint [1,13] and bone deformities [1,14]. Trauma and valgus deformities are common occurrences in the study area. This study was therefore designed to evaluate the epidemiology and pattern of osteoarthritis in a rural teaching hospital setting in Imo State, Southeast, Nigeria.

2. MATERIALS AND METHODS

2.1 Study Area

The study was conducted at Ogbaku, a rural hospital setting and annex of Imo State University Teaching Hospital (IMSUTH), Mbaitoli Local Government area of Imo State, South-east, Nigeria. The catchment areas include Owerri, Orlu, Onitsha and Ihiala.

2.2 Sample Population

A total of 106 cases of OA managed at Ogbaku, IMSUTH, between January 2009 and October 2010(2-year period) were studied.

3. METHODS OF SAMPLE COLLECTION

After due clearance had been obtained from the Chief Medical Director of Imo State University Teaching Hospital, Orlu campus, case notes of patients who had presented with OA were

retrieved from the medical records department. Relevant information such as age, gender, occupation, and joint involved were extracted from the records.

3.1 Inclusion and Exclusion Factors

All patients who presented with OA at the given period were included.

3.2 Statistical Analysis

Simple Statistical terms such as percentages and ratios were used to analyze the data collected.

4. RESULTS

Fig. 2. (Pie chart) shows that out of 106 patients studied, 72 (67.9%) were females while 34 (32.1%) were males. Fig. 1. (Bar chart) shows that the highest percentage of cases (34%) occurred in people aged 64-74 years followed by people aged 55-65 years (24.5%). Younger people (45-55) were the least affected (7.5%).

Table 1. Shows that the most affected occupational group were farmers (24.5%). This was followed by athletes (18.9%) and then traders (17%). Civil servants were the least affected.

Table 2. Shows that the knee was the most frequently affected joint of the body (41.5%) followed by the hip (22.6%). The least affected joints were the wrist and elbow (1.9% each).

5. DISCUSSION

This study shows that females were more prone to osteoarthritis than their male counterparts especially after the age of 50 years. Previous studies [1,3,5-7,12,15,16] have documented similar reports. Women are believed to have increased risk of OA after their reproductive age (menopause) when the protective effects of sex hormones, which seem to reduce the risk of OA, begin to wane. It is also pertinent to note that most women in the study area are peasant farmers and may be more exposed to trauma which is an established risk factor in OA [11,19].
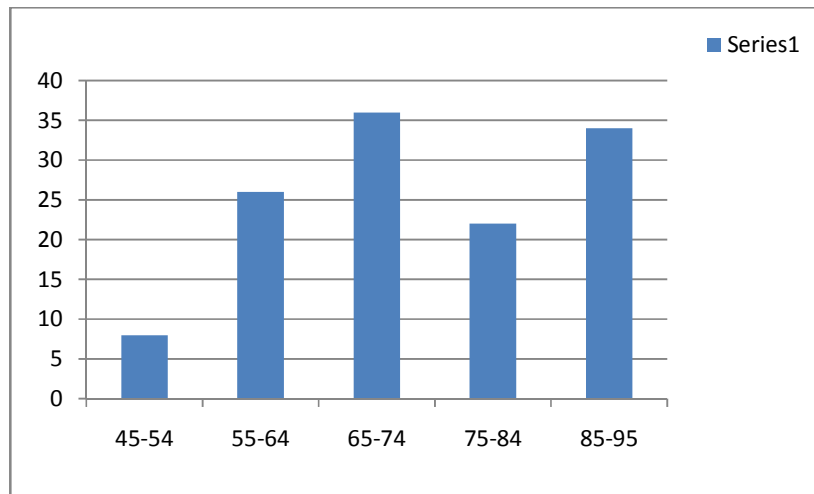

Fig. 1. Age distribution of OA at Obgaku

Table 1. Occupational distribution of osteoarthritis at Ogbaku, Imo State University Teaching Hospital annex, Imo State, South-east Nigeria

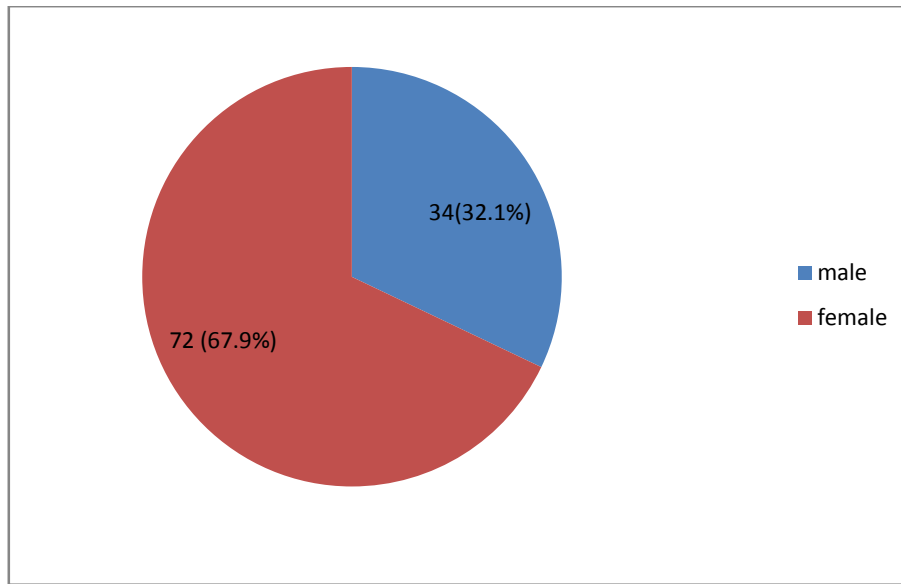| Occupation	Percentage of population	No of cases	Percentage
Farming	60	26	24.5
Trading	20	18	17.0
Driving	5	14	13.2
Athletes	3	20	18.9
Civil servants	10	14	13.2
Others	2	14	13.2
Total	100	106	100

Fig. 2. Sex distribution of OA in Ogbaku

Table 2. Pattern of osteoarthritis at Ogbaku, Imo State University Teaching Hospital annex, Imo State, South-east Nigeria

Joint	No.	Percentage
Ankle	4	3.8
Knee	44	41.5
Hip	24	22.6
Spine	16	15.1
Wrist	2	1.
Elbow	2	1.9
Shoulder	8	7.
Others	6	5.7
Total	106	100

The study also highlights the influence of advancing age on the risk of OA. Previous studies [1,2,4.6-8] have confirmed that OA is a disease of old age. However, younger people may often be predisposed because of socioeconomic factors which may increase the risk of developing OA earlier. Activities that may expose the young ones to the risk of OA in this area include injury prone sports and subsistence farming. The later may explain the higher preponderance of farmers to OA when compared with other professional groups. It is noteworthy that agricultural activities in the study area involve a lot of manual labour since farming is still unmechanized. This exposes the people to trauma which increases the risk of developing OA later in life. Furthermore, farming involves the adoption of certain postures such as bending which have some biomechanical implication on the farmers. Commercial drivers were also more prone to OA possibly because of the effects of prolonged sitting on the hip and lumbar spine. A reasonable percentage of the young people in the study area are professional long distance drivers hence the increased risk of OA. Previous studies [4,6,8,13,19] have demonstrated the influence of peoples occupation on the risk of developing OA. People whose work involve frequent stair- climbing, weight lifting, squatting, or kneeling down for more than 2 hours in a day are said to be more prone to OA [19,20]. On the other hand, people whose occupations involve sedentary lifestyle may be less prone to OA and this may explain the reason why few civil servants (13.2%) were involved in OA in this study.

This study also revealed that the knee was the most frequently affected joint in the body. Studies elsewhere [2,3,6,17] have documented similar reports. The knee is one of the most active joints in the body and may be frequently involved in injuries resulting from sports, farming activities or road traffic accidents. This increases the risk of developing OA. This was followed by the hip, another joint that is frequently involved in bending and sitting positions [18].

6. CONCLUSION

In conclusion, osteoarthritis is a public health problem in the study area and it's socio-

economic importance cannot be over emphasized.

CONSENT

It is not applicable.

ETHICAL APPROVAL

It is not applicable.

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COMPETING INTERESTS

We wish to state that there is no competing interest in the above study.

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