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Research Article

Osteoarthritis: Knowledge and Acceptability of Total Joint Replacement

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Abstract: Joint replacement surgery is emerging surgical procedure in developing countries .In Nigeria, joint replacement is becoming very popular in some of the tertiary hospitals, but it is still being practised by few arthroplasty Surgeons because of paucity of instrumentation and patients' financial constraints. Osteoarthritis is the commonest indication for total joint replacement in Nigeria, however, many sufferers of the disease are unaware of joint replacement while others are not willing to have joint replacement done because of many reasons ranging from financial constraints to fear of complications such as any form of disability from the procedure. Objectives: to study of the awareness and acceptance of total joint replacement surgery among patients suffering from severe osteoarthritis of the hip and knee joints. Patients and methods: A five year prospective study of 81 patients (from January 2012 to December 2017) who presented in the outpatient consultation clinic of the department of Orthopaedics and traumatology in University of Calabar Teaching Hospital, South-south, Nigeria. A well structured questionnaire was administered to the patient requiring information about their biodata, educational level, the joint affected by osteoarthritis, the level of pain using numeric rating scale(NRS), their knowledge of total joint replacement ,their willingness to accept total joint replacement, reasons for not accepting the surgery, Xray findings and radiological classification of the osteoarthritis using Kellgren and Lawrence classification .Informed consent was obtained from the patient and ethical approval obtained from the institution's ethical committee. Statistical analysis was done using Statistical Package for Social Sciences software version 20 for windows (SPSS 22 Trademark of IBM Corporation). P-value of 0.05 was considered statistically significant. Results: A total of 81 patients were recruited for the study. The age ranged 13-88years with mean age 48 years ± SD 18.2 years; male and female ratio of 1:1.7. Of the 81 patients recruited for the study 50(61.7%) were aware of the role of total joint replacement in the treatment of osteoarthritis and among these 35(70%) accepted joint replacement while 15(30%) of them rejected the procedure. Thirty one (38.3%) patients had no knowledge of joint replacement but when they were educated on its relevance in their management 10(32.3%) accepted but 21(67.7%) rejected the surgery. There was relationship between educational level with the knowledge and acceptance of joint replacements in the treatment of osteoarthritis with p-value of 0.001. Conclusions: The level of education of patients affect their level of knowledge of disease conditon and treatment. Hence, the government should ensure quality education for all to enhance patients' quest for quality health care.

Keywords: knowledge, acceptability, Osteoarthritis, Joint replacement.

INTRODUCTION

Joint replacement surgery is an emerging surgical procedure in developing countries unlike in the developed world where it is routinely performed. In Nigeria, awareness is still a challenge and on the other hand, the cost of surgery and fear of the outcome with a background cultural bias still post a hindrance to acceptability of this procedure.

Osteoarthritis (OA) affects millions of people all over the world and accounts for a vast burden of pain, debility, functional limitations, loss of man hour and productivity, disability, and loss of quality life expectancy (Vos, T., *et al.*, 2012; Losina, E., *et al.*, 2011).

OA affects several joints in the body such as the shoulders, elbows, ankles, feet, and spine, but the most commonly affected joints are the knees, hips, and hands.

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The incidence rises sharply between the ages of 50 and 60 in males and females patients, but most of the symptoms are seen in patients between the ages of 60 and 80 years.

In reality, the challenge of treatment of Osteoarthritis is encountered in the younger age group between the ages of 30and 50 years. However, different treatment modalities exists, these ranges from non-pharmacological, pharmacological, and surgical approaches (Zhang, W., *et al.,* 2008; Hochberg, M. C., *et al.,* 2012) The major determinants for the management of OA are severity of the disease, available resources, patient preferences, and standard management protocols. Generally, for effective management OA , the patient must be educated about the disease condition, need for weight loss and engagement in basic exercises.

Pharmacological treatment will include the use of analgesics such as non-steroidal anti-inflammatory drugs (NSAIDs) which are administered orally or topically, Intra-thecal steroids have also been used particularly for knee osteoarthritis.

Several surgical options have been employed in the treatment stages of osteoarthritis ranging from arthroscopic interventions, osteotomies to joint replacements. Total joint arthroplasty is commonly accepted to be an effective surgical treatment for severe osteoarthritis of either the hip or the knee (Gossec, L., *et al.,* 2011; Skou, S. T., *et al.*,2015).This is because most patient who even had osteotomies (especially of the knees)above the age of 60 years and are not physically active, have had a 10-year "conversion rate" of 30%.Hence, total joint replacement is an acceptable option for severe OA both the hips and the knees.

The challenge is that only few patients with severe osteoarthritis are willing to undergo total joint replacement[9-11] while on the other hand,many are not even aware of such a treatment modality.

METHODS

A five year prospective study of 81 patients (from January 2012 to December 2017) who presented in the outpatient consultation clinic of the department of Orthopaedics and traumatology in University of Calabar Teaching Hospital, South-south, Nigeria. A well structured questionnaire was administered to the patients requesting information about their biodata, educational level,the joint affected by osteoarthritis, the level of pain using numeric rating scale(NRS), their knowledge of total joint replacement either from friends, media, through personal reading or through any formal teaching about joint replacement, their willingness to accept total joint replacement, reasons for not accepting the surgery, Xray findings and radiological classification of the osteoarthritis using Kellgren and Lawrence classification. Informed consent was obtained from the patient and ethical approval granted by the institution's ethical committee.

RESULTS

A total of 81 patients were recruited for the study. The age ranged 13-88years with mean age 48 years ± SD 18.2 years; most of the participants fells between the 31-40 age group 17(21.0%), their age range was from 13 to 88. Majority of the participants were females 51(63.0%) and most were married 47(58.0%).The most affected joint by osteoarthritis was the left hip 22 (27.5%) table 2.

Of the 81 patients recruited for the study 50(61.7%) were aware of the role total joint replacement in the treatment of osteoarthritis, this awareness was largely from friends 32(37.2%) (figure1)and among these 35(70%) accepted the procedure while 15(30%)of them rejected it (table 3and 4). The most frequent reason for refusal of surgery was because of the high cost 24(29.6%) (table 5).

There was a significant relationship between educational level and occupation of the participants with awareness of joint replacements in the treatment of osteoarthritis (p = 0.000, 0.012) table 6.

Table-1. Socio-demographic characteristics of respondents

Variable	Frequency	Percentages
Age group		
10-20	4	4.9
21-30	7	8.6
31- 40	17	21.0
41-50	15	18.5
51-60	12	14.8
61-70	15	18.5
71-80	9	11.1
81-90	2	2.5
Total	**81**	**100.0**
Mean age	48.7± 18.2	
Range	75.0	
Max	88	
Min	13	
SEX		
Male	30	37.0
Female	51	63.0
Total	**81**	**100.0**
Marital stat		
Single	21	25.9
Married	47	58.0
Divorced/sep	4	4.9
Widow/wid	9	11.1
Education		
Primary	6	7.4
Secondary	25	30.9
Tertiary	46	56.8
No formal	4	4.9
Occupation		
Professional	17	21.0
Business	21	25.9
Skill	22	27.2
Unskilled	11	13.6
Student	8	9.9
Housewife	2	2.5

Table-2. Shows the types of joints affected with osteoarthritis

Joint affected	Frequency	Percentages
Right knee	9	11.3
Left knee	12	15.0
Right hip	10	12.5
Left hip	22	27.5
Both hips	19	23.8
Both knees	18	10
Total	**81**	**100.0**

Table-3. shows patients' awareness of joint replacement

Awareness	Frequency	Percentages
Yes	50	61.7
No	31	38.3
Total	**81**	**100.0**

Tabl-4. Shows the acceptance of joint replacement

Acceptance	Frequency	Percentages
Yes	45	55.6
No	36	44.4
Total	**82**	**100.0**

Table-5. Reasons patients refused joint replacement

Reasons for refusal	Frequency	Percentages
Fear of complications	19	23.5
High cost	24	29.6
Just don't like	16	19.8
Not sure it will relief pain	22	27.2
Total	**81**	**100.0**

Table-6. Shows the relationship between the universal variables and awareness of joint replacement

Variables	Level of awareness		Chi square	p-value
	Yes	**No**		
Age group			**13.063**	**0.071**
10-20	0(0.0)	4(100.0)		
21-30	5(71.4)	2(28.6)		
31-40	11(64.7)	6(35.3)		
41-50	10(66.7)	5(33.3)		
51-60	9(75.0)	3(25.0)		
61-70	6(40.0)	9(60.0)		
71-80	7(77.8)	2(22.2)		
81-90	2(100.0)	0(0.0)		
Sex			**0.060**	**0.806**
Male	18(60.0)	12(40.0)		
Female	32(62.7)	19(37.3)		
Marital stat			**2.207**	**0.537**
Single	15(71.4)	6(28.6)		
Married	29(61.7)	18(38.3)		
Div/sep	2(50.0)	2(50.0)		
Wid/widower	4(44.4)	5(55.6)		
Education			**23.777**	**0.000**
Primary	0(0.0)	6(100.0)		
Secondary	11(44.0)	14(56.0)		
Tertiary	38(82.6)	8(17.4)		
No formal	1(25.0)	3(75.0)		
Occupation			**14.717**	**0.012**
Professional	14(82.4)	3(17.6)		
Business	12(57.1)	9(42.9)		
Skilled	17(77.3)	5(22.7)		
Unskilled	3(27.3)	8(72.7)		
Student	4(50.0)	4(50.0)		
Housewife	0(0.0)	2(100.0)		

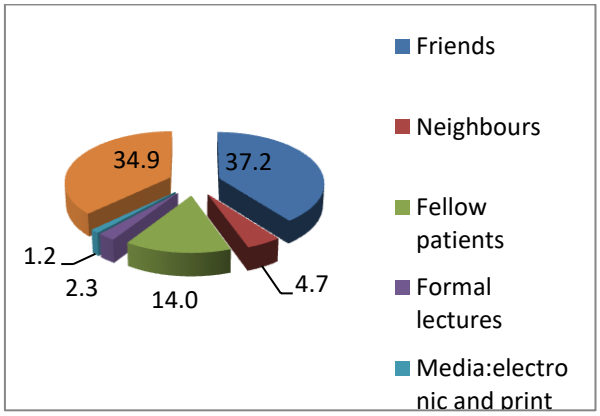

Fig.-1. Means by which patients acquired knowledge about joint replacement.

DISCUSSION

Joint replacement (arthroplasty) constitutes a foremost advance in the treatment of chronic intractable joint pain. This procedure is indicated in patients with failed conservative medical treatment. Reduction in pain and improvement in function and quality of life for patients with severe knee and hip disorders have been successfully achieved by surgical procedures which involve Total Hip and Total Knee Arthroplasty (THA and TKA) (Rissanen, P. *et al.*,1995; Ethgen, O., *et al.*,2004). The commonest indication for both THA and TKA is Osteoarthritis though there are other conditions that may warrant total joint arthroplasty, these conditions include dysplasias, fractures, malignancies and many others. Many patients with joint disorders have enjoyed enormous benefits following treatment with THA and TKA though with different outcomes because of the peculiar anatomies of both the hips and the knees (Rand, J. A. *et al.*, 2016).

Osteoarthritis of both the hips and the knees affect several millions of both male and females in world (Vos, T., *et al*, 2012). In this study, females were most affected, agreeing with studies by other authors though majority of them were of middle age with a mean age of 48 years unlike the mean age in other studies which was 67 years (Cisternas, M. G. *et al.*, 2009; Wetterholm, M. *et al.*, 2016). Over 60% of the patients who were aware of total joint replacement, got information from their friends. Among those who were aware of joint replacement, 70% were willing to undergo the surgery but 30% rejected it;this was contrary to the work by Hawker *et. al.*, and Frankel *et. al.*, where they had very
few people willing to undergo the total joint replacement following severe osteoarthritis (Hawker, G. A., *et al.*, 2004; Hawker, G. A. *et al.*, 2001).The frequent reason for refusing the procedure was largely due to the cost of the surgery and there was a relationship between educational level and occupation of those who were aware and accepted to undergo a total joint replacement. This agrees with Malin Wetterholm et al who also noticed that Osteoarthritis was seen in the lower socio-economic class and joint replacement was frequently accepted by people of higher socio-economic class (Wetterholm, M. *et al.*, 2016).

CONCLUSION:

The level of awareness of joint replacement in our community is still low and many get to know about this method of treatment for osteoarthritis from their friends. However, there is an appreciable number of patients with osteoarthritis who were willing to undergo joint replacement while others refused it because of the cost of the surgery. This underscores the need for the universal applicability of the health insurance scheme by the government, enabling the accessibility of this level of healthcare for the poor who cannot pay from their pockets.

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