

A Study Of Sociodemographic Profile Of The Patients Undergoing Hip Joint Replacement In A Tertiary Hospital In Central India

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Abstract

Hip arthroplasty made a revolution the field of orthopedics as the earlier thought of painful conditions like osteoarthritis or rheumatoid arthritis could now be solved by replacing the damaged joint with an artificial joint which dramatically improves the pain of the patient and the person who could barely walk due to pain starts walking again pain free. This magical medical innovation has changed lives of many worldwide. As the mean life span of the population is increasing, the diseases attributed to the age like osteoarthritis is also increasing and hence the scope for joint replacement is boundless. This study was an observational study to study the socio-demographic profile of the patients undergoing hip replacement arthroplasty in a tertiary hospital in central India.

Methodology: This study was a record based observational study conducted retrospectively in the department of Orthopaedics in a tertiary care hospital in central India from 1st May 2021 to 30th April 2022. Sample Size of 50 patients were analyzed and pat clinical data was used from hospital records.

Observation And Results: A total of 50 patients were studied in total. Out of them 30 were males and 20 were females. The mean age of the patients was 60.2 years. Out of the 50, 20 patients had yellow ration card i.e. belonging to lower socio economic status while 20 had saffron ration card and only 10 had white ration card. Majority of the population was Hindu (40%) followed by Muslims (30%), Buddhist (24%) and 6% were Christians, Sikhs and Jains. Majority of the population was educated up to 10th standard while 16% were illiterate. Osteoarthritis was the most common indication for hip joint replacement (70%).

Conclusion: Due to better schemes for the poor, facilities, and equipment and the will to serve the poor, old age poor people can also get costly operations like hip joint replacement done to alleviate them from their sufferings.

Keywords: Hip joint replacement, Socioeconomic factors, Demographic factors

INTRODUCTION:

Hip arthroplasty made a revolution the field of orthopedics as the earlier thought of painful conditions like osteoarthritis or rheumatoid arthritis could now be solved by replacing the damaged joint with an artificial joint which dramatically improves the pain of the patient and the person who could barely walk due to pain starts walking again pain free. This magical medical innovation has changed lives of many worldwide. As the mean life span of the population is increasing, the diseases attributed to the age like osteoarthritis is also increasing and hence the scope for joint replacement is boundless.[1, 2, 3] Due to economic reasons and the rumors that joint replacements are not safe and effective, many potential candidates for it did not undergo the operation and continued taking painkillers or herbs and applying ayurvedic oils and massaging the joints but the effects of all these are temporary and not up to the mark. Pain i.e not subsided by conservative management is the number one indication for a total hip replacement as it decreases the quality of life leaving total hip replacement as the only option for the patient. Functional limitations due to inflammatory arthritis and osteoarthritis are also common indications for hip joint replacement.

The complications of Total Hip Replacement are minimal, and patient can expect favorable outcome like pain-free increased range of movements starting from just a week. The benefit to risk ratio is calculated in almost all operations and where the risk of complications outweighs the benefit, then the surgery is contraindicated. Young age and males are poor prognostic risk factors for hip arthroplasty as also patients with a vascular necrosis of femoral head as in all such conditions there is a higher risk of failure comparatively. The purpose of this study was to know whether the people belonging to

lower socioeconomic population, which form the majority part in developing country, are getting benefitted from the Government schemes and undergoing Total Hip Replacement.

Need Of Study

As the Total Hip Replacement helps in relieving the pain of primary or secondary Arthritis of Hip joint and improves the quality of life, thereby providing full range of mobilization in a very short period of time after surgery, these surgeries are restricted to patients belonging to higher socioeconomic status. The cost of surgery, instrumentation, cost of implants and medicine are very expensive for lower socioeconomic patients. While most years these joint replacement surgeries were out of reach for majority patients, various schemes implemented by the Govt has made it possible that even poor and needful patients can get the Total Hip Arthroplasty done and can live a better quality of life free of pain and suffering. Hence, this study was undertaken in a tertiary care teaching hospital in central India to study the various sociodemographic factors of the patients undergoing the hip joint replacements.

Aim:

The purpose of this study is to analyze various Socioeconomic and Demographic factors of the patients undergoing Total Hip Replacement at a tertiary care rural hospital.

METHODOLOGY:

The Objectives of the study were to analyze the Sociodemographic factors of the patients undergoing Total Hip Replacement at our tertiary care center. This study was a record-based retrospective observational study conducted in the department of Orthopedics in a tertiary care hospital in central India from 1st May 2021 to 30th April 2022 within a study period of one year. All patients who underwent the hip replacement were selected by convenience sampling and a total of 50 patients were thus selected for the study, various sociodemographic factors were noted, and outcomes were studied. A Proforma was filled by studying the old clinical records and documents of the hospital to analyze factors like Gender, Age, Underlying diseases, socio-economic factor, education of the patients, etc.

Microsoft Excel and SPSS 16 versions were used to do the statistical analysis and apply appropriate statistical tests to the study findings. A 95% confidence interval was taken to be important and a p value of less than 5% was considered to be statistically significant.

OBSERVATION AND RESULTS:

A total of 50 patients who underwent Total hip replacement were studied and analyzed. Out of them 30 (60%) were males and 20 (40%) were females.

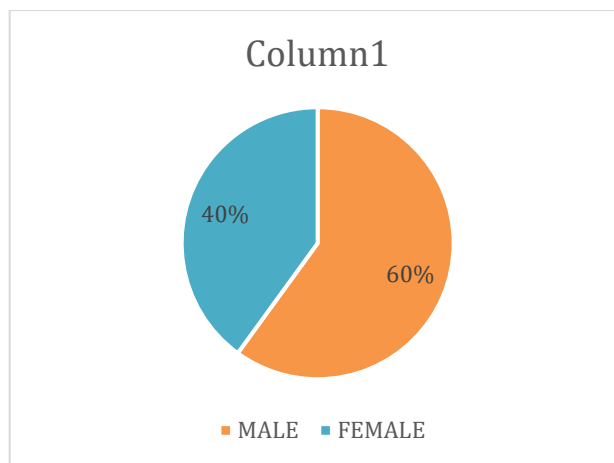


Figure 1 : Pie Diagram showing the Gender Distribution of the study

The mean age of the patients was 60.2 years. Most of the patients (36%) were between 61 to 70 years age group.

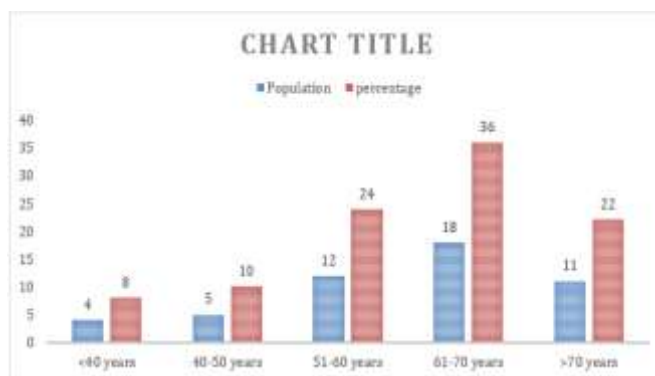


Figure 2: showing Age distribution of the study population

Out of the 50, 20 patients had yellow ration card i.e. belonging to lower socio economic status while 20 had saffron ration card and only 10 had white ration card. Majority of the population was Hindu (40%) followed by Muslims (30%), Buddhist (25%) and 5% were Christians, Sikhs and Jains. Majority of the population was educated up to 10th standard while 16% were illiterate. Osteoarthritis was the most common indication for hip joint replacement (70%). 1 case was of revision total hip replacement due to aseptic loosening.

Table 1: Socioeconomic factors and their Distribution in the study population.

Characteristic	Frequency	Percentage
<u>APL/BPL</u>		
Yellow ration card holders	20	40
Saffron ration card holders	20	40
White ration card holders	10	20
<u>Education level</u>		
Graduate and above	4	8
Higher secondary	8	16
Till 10th	20	40
Upper primary	10	20
Illiterate	8	16

Table 2: showing frequency of underlying diseases.

Characteristic	Frequency	Percentage
<u>Underlying disease:</u>		
Osteoarthritis	35	70
Rheumatoid arthritis	1	2
A vascular necrosis	13	26
Revision arthroplasty	1	2

DISCUSSION:

This study was done in a tertiary teaching hospital in Central India which caters to mostly the poor and needy population. A total of 50 patients underwent total hip arthroplasty during the study period of 1 year. The main disease leading to pain in hip joint in old age is osteoarthritis and that was the main indication for Total Hip Replacement here also in about 70% patients which is comparable to our study. Due to various causes like steroids, alcohol, or sickle cell disease, if the blood supply to the head part of femur is hampered then it may give rise to a dangerous condition called as a vascular necrosis of the femoral head which simply means that there is necrosis or cell death in the bone tissue due to loss of proper blood supply to the area. It results in various dangerous consequences like pain, change in gait and limp. such debilitated persons to pursue their dreams of getting a job finally. Central India being a sickle cell belt as well as post covid steroids resulted in a vascular necrosis in many patients. In our study, 25% patients were having a vascular necrosis of femoral head.[4, 5] There are few conditions like severe osteoporosis which may hamper successful hip Arthroplasty procedure. There are various reasons for osteoporosis like female sex, geriatric age, Asian and white race among the non-modifiable ones and among the modifiable risk factors are sedentary life style, low calcium and vitamin d intake, alcohol, smoking, overweight etc. Women especially post-menopausal women due to loss of oestrogen are at a far greater risk of having fractures after trivial falls due to this osteoporosis and then begins this vicious cycle which impairs the quality of life. Despite it being so common, the awareness and knowledge about it is found to be too scarce among the general population. While mild and moderate osteoporosis patients can be successfully operated, severe osteoporosis patients were denied the procedure.

Apart from the patient condition, the surgeon is also an important factor determining the complications. (6) In our study however, there were no such complications apparent also as it was a cross sectional study with no follow up.

CONCLUSION:

This study showed that due to better insurances schemes for the poor or better government packages for the poor, better facilities at tertiary care centre and the strong will of clinicians to serve the poor population and geriatric people can also get overtly expensive operations like Hip Joint Replacement done to alleviate them from their sufferings. This will help in improving the quality of life and having disease free life. However, the long term study and greater cross-section of study population is required for coming to an accurate conclusion about the longevity of the implant life and long term complication after Total Hip Arthroplasty. Further analysis is required to assess the implant quality that are approved for government packages for the poor and needful patient as revision surgeries can also be expensive for these patients. Hence, from this study we conclude that a good percentage of patients with poor socioeconomic status, geriatric patients and lesser educated patients are successfully getting Total Hip replacement surgery done and thereby improves their quality of daily living.

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