

# Prevalence of Hip Joint Replacement amongst Patients Visiting the Institute

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## ABSTRACT

**Background:** Total Knee and Total Hip Arthroplasty are two frequent surgeries that reduce joint pain and improve the function and the quality of life amongst patients with knee and hip problems. In recent years, various studies have performed to determine the incidence and prevalence of knee and hip arthroplasty. The aim of the present study is to determine the prevalence of hip joint replacement amongst subjects reporting to the institute.

**Materials and Methods:** The present prospective observational study was conducted in the SMS Medical College and Hospital, Jaipur during a period of February 2017 to October 2017. The body mass index of subjects was noted in Kg/m<sup>2</sup>. A single operator performed all the surgeries. The mean time for surgery was also noted in all cases. A complete pre-anesthetic checkup of all the subjects was done before the initiation. All the data was arranged in a tabulated form and analyzed using SPSS software. The data was expressed as percentage of total.

**Results:** The study included 60 subjects, out of these 30 were males and 30 were females. The mean height of the subjects

was 173 +/- 65 cm. There were 3.3% (n=1) males and 6.7% (n=2) females between the age of 50-59 years.

**Conclusion:** From the above study, we can clearly observe that total hip replacement is gaining widespread popularity in the orthopedic surgery.

**Keywords:** Arthroplasty, Hip, Prospective.

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## INTRODUCTION

Joint arthroplasty is a major advancement in the management of chronic refractory pain in joint. It is generally performed amongst patients whom conservative medical management has failed. Total Knee and Total Hip Arthroplasty are two frequent surgeries that reduce joint pain and improve the function and the quality of life amongst patients with knee and hip problems.<sup>1-5</sup>

Osteoarthritis is the commonest cause for both total knee and hip arthroplasty. Other situations leading to total knee and total hip arthroplasty are inflammatory arthritis, malignancy, fracture, dysplasia etc. There are certain differences in outcomes of both the procedures due to difference in the anatomy of the joint and underlying disease process<sup>6</sup>, most patients attain significant long-term improvement with the mentioned procedures. Due to great benefits with total knee and total hip arthroplasty, the prevalence of these procedures has been rising. In recent years, various studies have performed to determine the incidence and prevalence of knee and hip arthroplasty. The improvements in surgical procedure, implant type, and designs have led to an excellent long term outcome of total hip arthroplasty and the implant survival rates of 93% after 10 years have been reported.<sup>7</sup>

The aim of the present study is to determine the prevalence of hip joint replacement amongst subjects reporting to the institute.

## MATERIALS AND METHODS

The present prospective observational study was conducted in the SMS Medical College and Hospital, Jaipur during a period of February 2017 to October 2017.

All the subjects were informed about the study and a written consent was obtained from all in their vernacular language. Ethical committee clearance was obtained from the institute's ethical board. All the subjects undergoing hip replacement due to any underlying reason were included in the study. The demographic details of all the subjects including their socio-economic status were noted. The weight and height of all the subjects were noted in kilograms and centimeter. The body mass index of subjects was noted in Kg/m<sup>2</sup>. A single operator performed all the surgeries. The mean time for surgery was also noted in all cases. A complete pre-anesthetic checkup of all the subjects was done before the initiation. Required biochemical and blood tests were performed amongst all the subjects.

All the data was arranged in a tabulated form and analyzed using SPSS software. The data was expressed as percentage of total.

**Table 1: Demographic details of subjects**

VARIABLE	VALUE
Mean age	49.96+/- 4.76 years
Mean height	173 +/- 65 cm
Mean weight	68 +/- 34 Kg
Mean BMI	25.6+/- 4.1

**Table 2: Prevalence of hip replacement amongst subjects**

Variable	Male	Female
50-59 years	1 (3.3%)	2(6.7%)
60-69 years	4(13.3%)	6(20%)
70-79 years	7(23.3%)	10(33.3%)
80-89 years	6(20%)	5(16.7%)

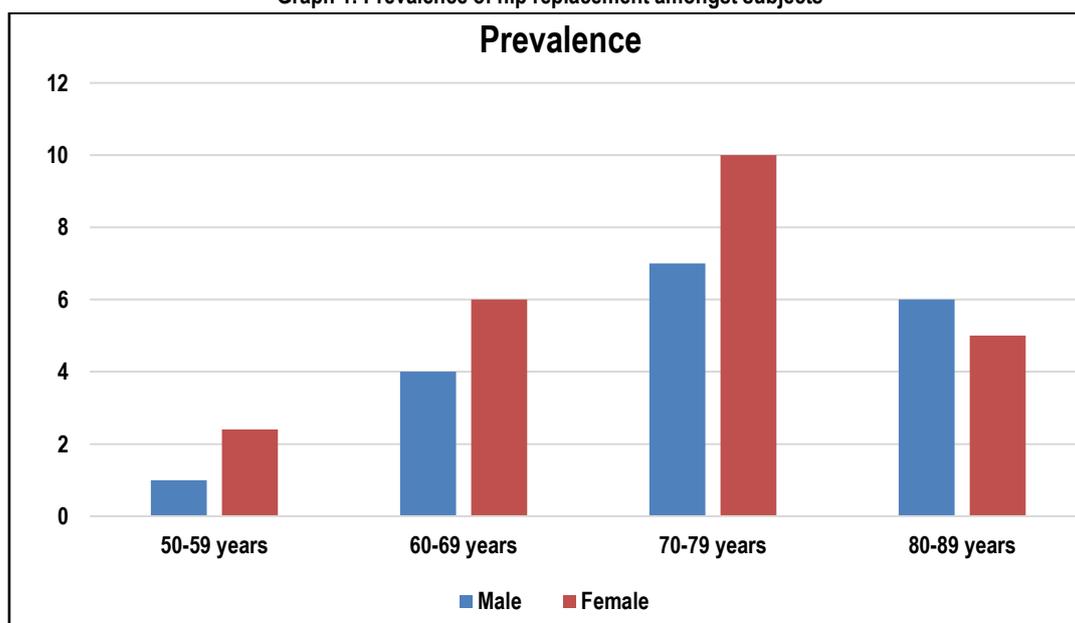
**RESULTS**

The study included 60 subjects, out of these 30 were males and 30 were females.

Table 1 denotes the demographic details of subjects enrolled in the study. The mean age of the subjects was 49.96+/- 4.76 years. The mean height of the subjects was 173 +/- 65 cm. The mean weight was 68 +/- 34 Kg. The mean BMI amongst the subjects was 25.6+/- 4.1.

Table 2, Graph 1 shows the prevalence of total hip replacement amongst the subjects. There were 3.3% (n=1) males and 6.7% (n=2) females between the age of 50-59 years. There were 13.3% (n=4) males and 20% (n=6) females between the age of 60-69 years. There were 23.3% (n=7) males and 33.3% (n=10) females between the age of 70-79 years. There were 20% (n=6) males and 16.7% (n=5) females between the age of 80-89 years.

**Graph 1: Prevalence of hip replacement amongst subjects**



**DISCUSSION**

Osteoarthritis one of the leading reasons of disability amongst older persons in the white population of the Western societies.<sup>8</sup> In the United States, osteoarthritis of hips affects around 5% of the population above the age of 60 years<sup>9</sup> and it is a highly disabling and progressive disease. Osteoarthritis is responsible for most of the total hip replacements amongst Western nations. Little information is available on its etiology. Variation in the geographic and racial features of the disease provide useful information about the etiological agents. Few surveys about the prevalence of osteoarthritis have been conducted in the northern and western parts of Europe and United states. In a study conducted by Birell et al.<sup>10</sup> in the year 1999, he reported a rise of 40% amongst the number of total hip replacements from the year 1996 to the year 2026 in United Kingdom. This trend has been seen amongst all the ageing population to satisfy future needs of total hip replacement. A study conducted in England found decreased prevalence of knee or hip joint replacement in the Northern region compared to the Southern region, although the need for the same was significantly more in North side compared to South side.<sup>11</sup> In a study in United States, Caucasians the rates of total knee arthroplasty and total hip arthroplasty was 5.7 and 9.2 per 1,000

and African-Americans the rates were 3.6 and 5.6 per 1,000, respectively.<sup>12</sup> The Total knee arthroplasty rates were 37% lower amongst the blacks than whites in the year 2000 and 39% lower in the 2006. In both years, the ethnic differences were lower amongst women than amongst males.<sup>20</sup> In our study, the mean age of the subjects was 49.96+/- 4.76 years. The mean height of the subjects was 173 +/- 65 cm. The mean weight was 68 +/- 34 Kg. The mean BMI amongst the subjects was 25.6+/- 4.1. There were 3.3% (n=1) males and 6.7% (n=2) females between the age of 50-59 years. There were 13.3% (n=4) males and 20% (n=6) females between the age of 60-69 years. There were 23.3% (n=7) males and 33.3% (n=10) females between the age of 70-79 years. There were 20% (n=6) males and 16.7% (n=5) females between the age of 80-89 years. The present long-term success of total hip arthroplasty surgery has led to the conclusion by Coventry<sup>1</sup> that "total hip arthroplasty, might turn out to be the orthopedic operation of the era."<sup>13</sup> Total hip resurfacing, also called as surface replacement arthroplasty or hip resurfacing therapy, has gained recent popularity due to two metal-on-metal hip resurfacing implants approved by the FDA in the last 9 years. Hip resurfacing has been done for 15 years in North America and Europe with improved and favorable outcomes.<sup>14,15</sup>

## CONCLUSION

From the above study, we can clearly observe that total hip replacement is gaining widespread popularity in the orthopedic surgery. More and more elderly subjects resort to hip replacement to improve their lifestyle. This upsurge in the trend of hip replacement is also associated with improved outcomes of the surgery.

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