

Health Problems and Functional Independence of Patients with Osteoarthritis

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Abstract: *The Global Burden of Disease Study revealed that osteoarthritis of the knee and hip is now ranked as the 11th leading cause of Years Lived with Disability.[1] The aim of the study was to assess health problems and functional independence of patients with osteoarthritis attending Govt. Medical College Hospital, Kottayam. A quantitative approach was used for the study and the design adopted was non experimental descriptive survey design. The conceptual framework, Betty Neuman's system model theoretically supported the study. Hundred patients with osteoarthritis knee attending Orthopaedics and Physical Medicine and Rehabilitation outpatient Departments were selected by non probability purposive sampling technique. The data were collected using socio personal and clinical data sheet and health problems of patients with osteoarthritis were assessed using rating scale. Data regarding their functional independence was collected using functional independence rating scale. Study findings revealed that, most of the patients (52%) had moderate health problems and most of them (58%) were fully dependent. There were no functionally independent patients within the age group of 61-70 years and 71-80 years. Percentage of fully dependent patients were high among over weight and obese patients which accounts 21% each. Based on the findings of the present study, it can be concluded that more than half of the patients with osteoarthritis knee suffering from moderate health problems and majority were fully dependent in daily activities, exercises and recreation activities.*

Keywords: Health problems; Functional independence; Patients with osteoarthritis

1. Introduction

Osteoarthritis is the most common type of joint disease in adults worldwide.[2] World Health Organization estimates that globally 25% of adults aged over 65 years suffer from pain and disability associated with knee osteoarthritis. It is estimated that by 2025 the prevalence of knee osteoarthritis will increase by 40% due to the aging of the world population.[3]

Osteoarthritis is the second most common rheumatologic problem and it is the most frequent joint disease with a prevalence of 22% to 39% in India. Nearly, 45% of women over the age of 65 years have symptoms while radiological evidence is found in 70% of those over 65 years. OA knee is a major cause of mobility impairment, particularly among females. OA was estimated to be the 10th leading cause of nonfatal burden.[4]

As the disease advances, functional limitations of patients tend to worsen. Therefore, due to limited joint range and pain, daily living activities of these individuals are more compromised, which generates harm in work, leisure and social relationships. [5] OA is the major cause of pain in elderly populations. Arthritic pain causes functional impairment characterized by difficulty with activities of daily living.[6]

Despite the prevalence and burden of OA in India, there is a little published data on epidemiology and long term treatment outcomes from the subcontinent. There is a little information about the use of health services by people with OA, making it difficult for policy makers and health care administrators to make decisions about resources allocation.[7]

2. Objectives

- 1) To identify the health problems of patients with osteoarthritis.
- 2) To assess the functional independence of patients with osteoarthritis.

3. Materials and Methods

A quantitative approach was used for the study. The study design selected was non experimental descriptive design. Non probability purposive sampling technique was employed to select 100 patients with osteoarthritis attending Govt. Medical College Hospital, Kottayam. All patients in the study were with osteoarthritis knee, who were able to comprehend and communicate Malayalam or English. Those excluded from the study were patients who were critically ill or who had major mental illness. Health problems of patients with osteoarthritis were assessed using rating scale. Data regarding their functional independence was collected using functional independence rating scale. Data were collected using self-administered questionnaire. The obtained data was tabulated and analysed in term of objectives of the study using descriptive and inferential statistics.

4. Results

4.1 Findings related to sample characteristics

Most of the patients (38%) with osteoarthritis were belonged to the age group of 51-60 years and majority of the patients (80%) were females. More than half of the patients (56%) were studied upto high school and most of the patients (46%) were unemployed. With regard to marital status, majority (84%) were married and also majority of the patients (62%) belonged to Hindu religion. It is also seen

that 34% of the patients had osteoarthritis for > 7 years. While considering the involvement of knee, majority of the patients (77%) had bilateral OA knee. The data also revealed that 39% of patients were obese and 37% were overweight. Majority of the patients (77%) had no family history of osteoarthritis and 14% patients had dyslipidemia, 13% had both hypertension and dyslipidemia, 10% had diabetes and hypertension, 10% had diabetes and dyslipidemia and 7% patients had all three comorbidities.

4.2 Findings related to health problems of patients with osteoarthritis

Health problems were categorized into mild, moderate and poor based on the range of scores 21-42, 43-52 and 53-63 respectively.

Table 1: Frequency distribution and percentage of patients with osteoarthritis with respect to health problems n=100

Health problems	f	%
Mild (21-42)	15	15
Moderate (43-52)	52	52
Severe (53-63)	33	33

Most of the patients (52%) with osteoarthritis had moderate health problems, 33% of patients had severe health problems

and only 15% of patients had mild health problems. Most of the patients always had difficulty to straighten and bend knee fully (68% and 66% respectively).

4.3 Findings related to functional independence of patients with osteoarthritis

Functional independence was categorized into independent, partially dependent and fully dependent based on the range of scores 51-63, 43-50 and 21-42 respectively.

Table 2: Frequency distribution and percentage of patients with osteoarthritis with respect to functional independence n=100

Functional independence	f	%
Functionally independent (51-63)	10	10
Partially dependent (43-50)	32	32
Fully dependent (21-42)	58	58

Majority of the patients (58%) with osteoarthritis were fully dependent whereas, 32% of patients were partially dependent and only a few (10%) were functionally independent. Majority of the patients were fully dependent on others to do kneeling and squatting which accounts for 77% and 86% respectively.

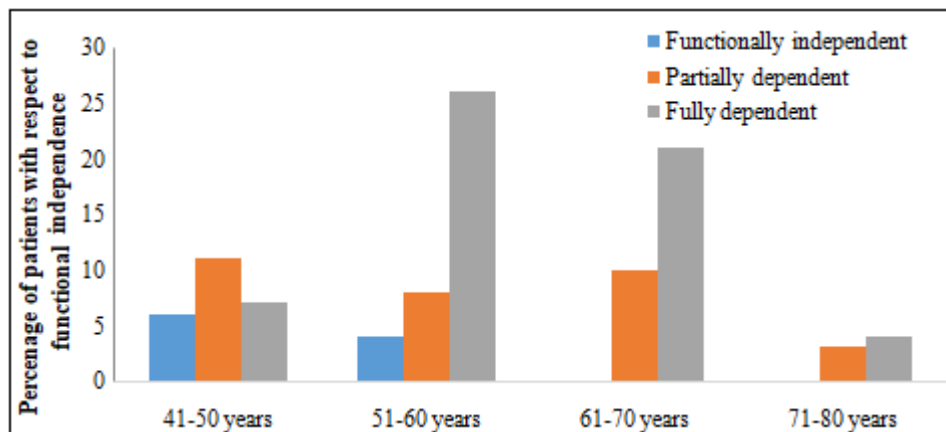


Figure 1: Bar diagram showing functional independence of patients with osteoarthritis with respect to age

Among the patients with osteoarthritis percentage of fully dependent patients were high among 51-60 years of age group, whereas partially dependent patients were more within the age group of 41-50 years. There were no

functionally independent patients within the age group of 61-70 years and 71-80 years. Patients who were functionally independent accounts for 6% and 4% among the age group of 41-50 years and 51-60 years respectively.

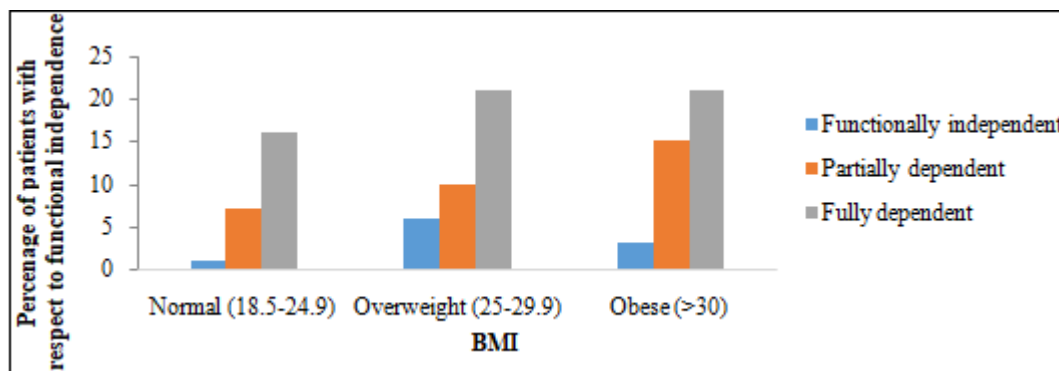


Figure 2: Bar diagram showing functional independence of patients with osteoarthritis with respect to BMI

The percentage of fully dependent patients were high among over weight and obese patients which accounts 21% each. Percentage of partially dependent were more among obese patients (15%), whereas percentage of fully dependent patients were 16% within the normal BMI group.

5. Discussion

In the present study, most of the patients (38%) belonged to the age group of 51-60 years. Majority of the patients (80%) with osteoarthritis were females. The data also revealed that 39% of patients were obese and 37% were overweight. The results were congruent with a study which showed that OA knee was more common among people aged >50 years. Similarly, female gender had 1.4 times more odds compared to males and this was statistically significant ($p < 0.05$). [8] Another study finding revealed that prevalence of OA knee was also reported to be significantly associated with the sedentary lifestyle ($p = 0.000$) and greater BMI ($p = 0.002$). [9]

The present study revealed that most of the patients (52%) had moderate health problems, 33% of patients had severe health problems and only 15% of patients had mild health problems. A parallel study conveyed that those with osteoarthritis, 64.7% had stiffness of knee joint followed by crepitus in 39.1%, clicking of the joint in 38.5%, joint swelling in 26.2% and restriction of movement of the knee joint was noticed in 63.5%. [10] A concurrent study from Uttar Pradesh showed that all the cases (100%) were having pain in the knee. [11]

In the present study, most of the patients (58%) were fully dependent whereas, 32% of patients were partially dependent and only few (10%) were functionally independent. A randomized controlled showed that intervention and control groups had a mean Knee injury and Osteoarthritis Outcome Scale (KOOS)- function in daily living of 61.11 (SD=21.20) and 56.72 (SD=22.13) respectively. Overall mean baseline of KOOS function in sport and recreation was 35.30 (SD=27.38). [12] A consistent study in Saudi Arabia which observed that percentage of patients who had extreme difficulty to perform kneeling and squatting accounts for 74% and 68% respectively. [13]

6. Conclusion

Based on the findings of the study it can be concluded that there is evident that most of the patients with osteoarthritis were suffering from moderate health problems and most of them were fully dependent in day to day life.

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