ORIGINAL ARTICLE

EVALUATION OF 200 CASES KNEE OSTEOARTHRITIS IN GENERAL POPULATION: A CLINICAL STUDY

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ABSTRACT:

Background: Osteoarthritis (OA), also often called 'osteoarthrosis or 'degenerative joint disease,' is the most common form of arthritis. It is the cause of chronic disability between 4th and 5th decade of life. The present study was conducted to record the cases of knee osteoarthritis in study population. **Materials & Methods:** This study was conducted in the department of orthopaedics in year 2015. It included 200 patients who visited the department and had diagnosis of knee OA. Patient's demographic data such as name, age, gender, BMI and ESR etc. was recorded. All the patients were assessed and diagnosed on the basis of history, symptoms (pain, stiffness, and functional limitations), and signs related to knee osteoarthritis and radiological examination of the affected joint. Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) index was used for three subscales: pain, stiffness and physical function. **Results:** Out of 300 patients, males were 180 and females were 120. The difference was non - significant (P-0.2). Maximum number of male patients (35) and female patients (42) with OA was seen in age group 60-65 years. The difference among males and females in different age group was non - significant (P > 0.05). Maximum number of patients (45) had ESR >50 and minimum number of patients (21) were seen with ESR in range of 15-20. Patients were marginal overweight (30), normal (135), obese (45), overweight (60) and underweight (30). The difference was significant (P < 0.05). Pain in patients was moderate (100), no pain (85), mild (85), severe (35) and extreme (15). Stiffness was extreme (30), severe (40), moderate (95), mild (70) and no stiffness (65). Restriction of functions was extreme (30), severe (35), moderate (120), mild (78) and no restriction (45). Maximum number of patients showed moderate pain on lying on bed followed by going up or down, on flat surface and sitting or lying. Minimum number of patients had extreme pain. **Conclusion:** Knee osteoarthritis is the disease of high morbidity and mortality. Females showed more prevalence as compared to males. Most of the cases were seen 6th decade of life.

Key words: Osteoarthritis, Pain, Stiffness

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INTRODUCTION

Osteoarthritis (OA), also often called 'osteoarthrosis or 'degenerative joint disease,' is the most common form of arthritis. The term "osteoarthritis" arose from observation of the striking overgrowth of marginal and subchondral bone by the pathologists and radiologists. It is the cause of chronic disability between 4th and 5th decade of life.[1] Studies reveals over 100 million people worldwide suffer from OA, it is leading cause of morbidity and mortality. OA is the eighth leading cause of disability of knee. The prevalence of Knee Osteoarthritis was 7.50% in China, 5.78% in rural India. In India, Osteoarthritis (OA) is the second most common rheumatological condition with prevalence of 22% to 39%.[2]

Eleven COPCORD (Community Oriented Program for Control of Rheumatic Disorders) reports showed that there were 3328 knee OA patients out of a total surveyed pooled sample of 41 884.

Osteoarthritis (OA) accounts about 25 % of people over the age of 60 and 50% of people over 65. The most common symptoms are joint pain and stiffness. Initially, symptoms may occur only following exercise, but over time may become constant. Other symptoms may include joint swelling, decreased range of motion, and when the back is affected weakness or numbness of the arms and legs. Causes include previous joint injury, abnormal joint or limb development, and inherited factors.[3] Risk is greater in those who are overweight, have one leg of a different length, and have jobs that result in high levels of joint

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stress. Osteoarthritis is believed to be caused by mechanical stress on the joint and low grade inflammatory processes. It develops as cartilage is lost and the underlying bone becomes affected. As pain may make it difficult to exercise, muscle loss may occur.[4] The present study was conducted to record the cases of knee osteoarthritis in study population.

MATERIALS & METHODS

This study was conducted in the department of orthopaedics in year 2015. It included 200 patients who visited the department and had diagnosis of knee OA. Patients were informed regarding the study and consent was taken. Patient's demographic data such as name, age, gender, BMI and ESR etc. was recorded.

Following inclusion and exclusion criteria was used:

Inclusion- 1.Patients age ranged 40-65 years, 2. Patients diagnosed with primary osteoarthritis, 3.Orthopedic doctors diagnosed knee osteoarthritis

Exclusion- 1.Patients with any systemic illness such as Diabetic, Blood Pressure etc. 2. Patients who have undergone total knee replacement in both the knees, 3. Patients with OA secondary diseases like rheumatoid arthritis and gout, 4. Patients with restricted mobility.

All the patients were assessed and diagnosed on the basis of history, symptoms (pain, stiffness, and functional limitations), and signs related to knee osteoarthritis and radiological examination of the affected joint. Western Ontario and McMaster Universities Osteoarthritis Index

(WOMAC).[5] The WOMAC index produces scores for three subscales: pain, stiffness and physical function. Results were tabulated and subjected for correct inferences. P value < 0.05 was considered significant.

RESULTS

Table I shows that out of 300 patients, males were 180 and females were 120. The difference was non - significant (P- 0.2). Table II shows that maximum number of male patients (35) and female patients (42) with OA was seen in age group 60-65 years. The difference among males and females in different age group was non - significant (P > 0.05). Table II shows that maximum number of patients (45) had ESR >50 and minimum number of patients (21) were seen with ESR in range of 15-20. Graph I shows that patients were marginal overweight (30), normal (135), obese (45), overweight (60) and underweight (30). The difference was significant (P < 0.05). Graph II shows that pain in patients was moderate (100), no pain (85), mild (85), severe (35) and extreme (15). Stiffness was extreme (30), severe (40), moderate (95), mild (70) and no stiffness (65). Restriction of functions was extreme (30), severe (35), moderate (120), mild (78) and no restriction (45). Graph III a shows WOMAC score of patients. Maximum number of patients showed moderate pain on lying on bed follwed by going up or down, on flat surface and sitting or lying. Graph III b shows WOMAC score of patients. Minimum number of patients had extreme pain.

**Table I** Distribution of patients

Total – 300		
Male	**Female**	**P value**
140	160	0.2

Table II Distribution of patients on basis of age groups

Age groups	Male	Females	P value
40-45	32	40	0.3
45-50	24	34	0.2
50-55	31	25	0.1
55-60	18	19	1
60-65	35	42	0.07
Total	140	160	

Table III ESR of patients

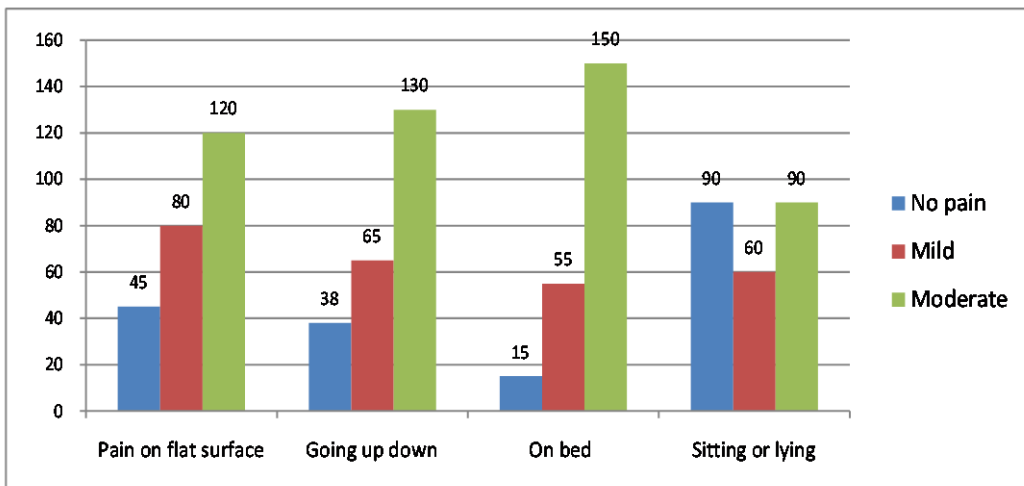| ESR (mm/hr)	Number of patients
5-10	22
10-15	25
15-20	21
20-25	30
25-30	34
30-35	27
35-40	31
40-45	30
45-50	35
>50	45
Total	300

Graph I: BMI of patients
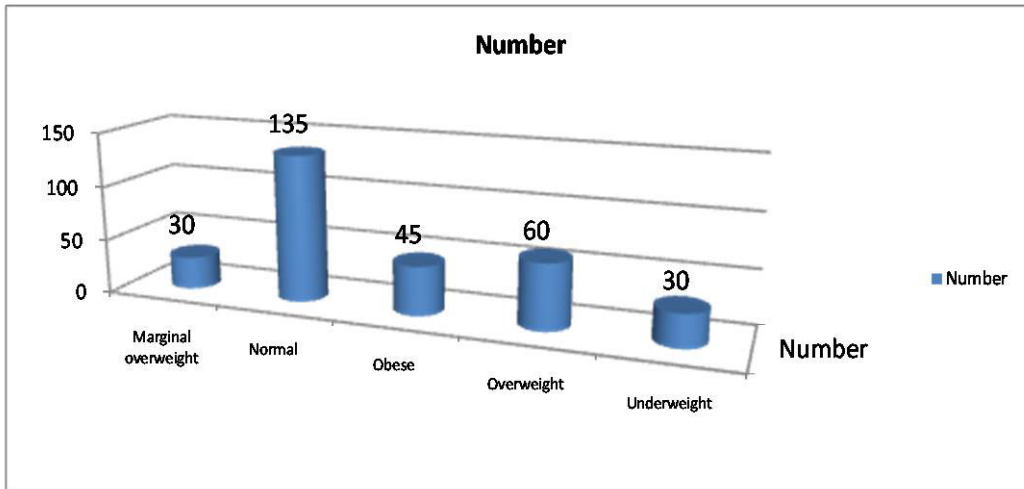
Graph II: The Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) Scores of patients
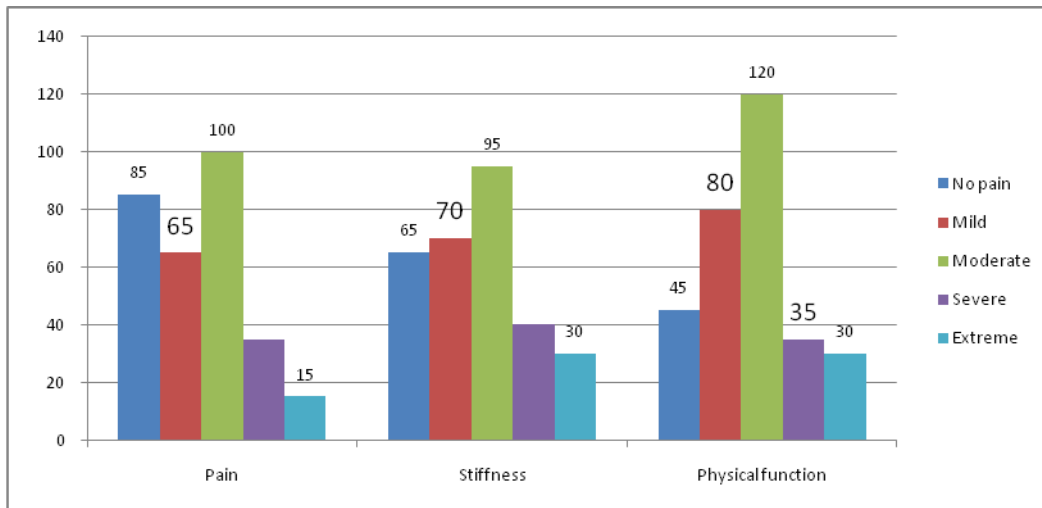
Graph III a: The Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) Scores of patients

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Graph III b: The Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) Scores of patients
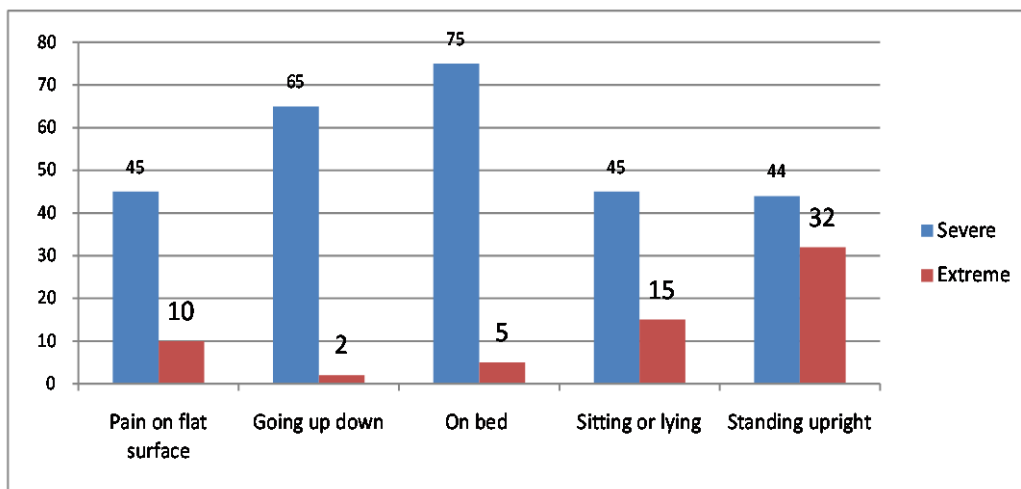
DISCUSSION

Knee osteoarthritis (OA) is a common condition which represents a major contribution to the burden of physical disability. It is incurable with currently available therapeutic options. The only way for reduction of the burden of the disorder is prevention. The present study was conducted to record the cases of knee osteoarthritis in study population. This study was conducted in the department of orthopaedics in year 2015. It included 200 patients who visited the department and had diagnosis of knee OA. We found that out of 300 OA patients, males were 180 and females were 120. Our results are in agreement with Dillon et al.[6]

Wilson and colleagues[7] investigated incident symptomatic OA in Olmsted County and reported that the rate of incident disease was approximately equal in men and women and, among the elderly, was higher in men. That study included small numbers of cases, estimates were imprecise, and secondary OA was excluded. We found that maximum number of male patients (35) and female patients (42) with OA was seen in age group 60-65 years. Similar finding were seen in study of Dinesh et al[8] where they found that maximum patients are seen above 50 years of age. We also estimated ESR of patients and found that maximum number of patients (45) had ESR >50 and minimum number of patients (21) were seen with ESR in range of 15-20. This is in accordance to Farooqi et al.[9] We estimated BMI of all patients and found that patients were either marginal overweight, normal, obese, overweight and underweight.

Similar results were seen with Felson et al.[10] We also evaluated WOMAC score in patients. Pain in patients was moderate, no pain, mild, severe and extreme. Stiffness was of moderate intensity in 95 cases. Restriction of functions was extreme in nature in 30 cases and it was of moderate intensity in 120 patients. Maximum number of patients showed moderate pain on lying on bed follwed by going up or down, on flat surface and sitting or lying. Minimum number of patients had extreme pain. Our results are in agreement with the results of Lawrence et al.[11]

CONCLUSION

Knee osteoarthritis is the disease of high morbidity and mortality. Females showed more prevalence as compared to males. Most of the cases were seen 6th decade of life.

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