

Prevalence of Hip Joint Osteoarthritis in Elderly Persons in a District of Central Uttar Pradesh: A Cross Sectional Study

A. C. Yadav¹, Alok Sood²

¹Assistant Professor, ²Associate Professor,
Department of Orthopedics, Major SD Singh Medical College, Farrukhabad.

Corresponding Author: A. C. Yadav

Received: 08/04/2016

Revised: 13/04/2016

Accepted: 14/04/2016

ABSTRACT

Background: Osteoarthritis (OA) Also known as degenerative joint disease or age-related arthritis characterized by gradual development of joint pain, swelling, stiffness and limitation of movements of that particular joint. OA causes chronic disability; the degree of disability varies greatly between individuals and depends on the site involved. The present study was done to make the people aware more about the disease and how and what preventive measures to be taken to decrease in disease progress and also to access the disease burden in the society, mainly in older age group.

Methodology: The present study was conducted in the department of Orthopedics, Major SD Singh Medical College, Farrukhabad (UP). It was a cross sectional study and duration of study was two years from January 01/2014 to December 31, 2015. Total numbers of patients enrolled for study were 489. Patients with hip joint pain and difficulty in walking of either sex and above the age of 50 years were included in the study.

Results: In the present study there were 258 females (52.77%) and 231 were males (47.23%). Maximum numbers of patients were in the age group of 50-60 years. There was high prevalence of hip osteoarthritis among patients with high body mass index. There is higher prevalence of hip osteoarthritis among lower income group but also seen in middle and higher income group. All the cases were having pain in the hip and majority has difficulty in walking and limp. (92.47%) were having unilateral hip pain and involvement while only 7.53% having it in both the joints.

Keywords: Prevalence, Hip Osteoarthritis, Hip pain, limp.

INTRODUCTION

Osteoarthritis (OA) is a degenerative disease mainly age related characterized by gradual development of joint pain, stiffness, swelling and limitation of movements due to destruction in articular cartilage of that particular joint. OA causes chronic disability; the degree of disability depends on the site involved and varies greatly between individuals. ^[1] Hip OA is one of more common in all types of arthritic conditions after Knee OA. The prevalence is

high, especially among the elderly and it is in increasing trend to become the major health problem. ^[2] It has been seen by various studies that doing farming for more than 10 years and carrying heavy loads (>25 kg) has got a moderate effect in increasing the incidence. ^[3] With India witnessing demographic transition leading to proportionate as well as absolute increase in number of elderly, the magnitude of OA is bound to increase. ^[4] Radiological assessment remains the mainstay of

diagnosis of OA of knee. Moreover, elderly persons residing in rural areas are likely to have been worse health seeking behavior. Definitive treatment in form of total hip replacement is costly and unaffordable in Indian setting. Thus, prevention and early diagnosis remains the most cost effective strategy. Osteoarthritis is multifactorial in etiology. Both systemic factors (e.g. age, sex, genes) and local factors (e.g. muscle weakness, joint deformity) appear to influence the risk of individual joints developing the disease. The specific etiological factors are unknown, but mechanical overloading can cause synovial or vascular changes. [5] Genetic factors also play a significant role according to some studies. [6] It is also seen in progressive studies that genetic involvement can't be ruled out. [7] So the purpose of study is to make people aware for prevention and try to recognize common risk factors like cigarette/biri smoking, consuming alcohol and too much use of corticosteroids.

METHODOLOGY

The present study was conducted in the department of Orthopedics, Major SD Singh Medical College, Farrukhabad (UP). Prior to study, ethical clearance was taken from the ethical committee of the college. It was a cross sectional study and duration of study was two years from January 01/2014 to December 31, 2015. Total numbers of patients enrolled for study were 489. Patients with hip joint pain of either sex and above the age of 50 years were included in the study. Patients below 50 years and history of recent injury or accident within 6 months were excluded. Reasons for the study were explained to patient; prior to interview, a written consent was taken. A pretested semi structured schedule based on different standardized questionnaires adopted in such a manner that the information regarding demographic profile (age, sex, religion, occupation etc.), dietary habit, addiction and detailed information on knee joint is collected.

Data collection proforma was divided in to the two parts- Part 1 contains information regarding age, gender, marital status, family type, habitat, weight, height, religion, education, occupation and annual income. Body mass index was calculated and classified according to the WHO classification of body mass index. Information regarding the personal habits likes smoking, alcohol intake and other specific habits. This part also collected information about dietary habits. Socioeconomic status was assessed by using Kuppuswamy scale. Second part was designed to obtain the information about the history and physical examination of hip joint such as history of injury or accident, joint pain, duration of pain, swelling, disability, aggravating and relieving factors related to joint pain, previous investigations and diagnosis.

RESULTS AND DISCUSSION

In the present study, 489 patients of either gender visited to department of Orthopedics, Major SD Singh Medical College, Farrukhabad (UP) were included. The data revealed that the number of subjects enrolled rose with increase in age (Table 1), because as the age advances, morbidity also increases. The higher incidence in older age group (>50 years) substantiate the claim made by Felson et al, [2] Reddy SV et al, [8] Kasper et al. [9] In the present study there were 258 females (52.77%) and 231 were males (47.23%) (Table1). The incidence of prevalence is nearly equal only slightly higher in females menopause could be one factor.

Maximum numbers of patients were in the age group of 50-60 years followed by 60-65 years. There was no significant difference in the cases of osteoarthritis among patients of different categories. (Table 1)

According to dietary habits, 74.64% patients were vegetarian and 25.36% were having mixed dietary habits. Studies conducted by Razi, Ibn Sina and Majusi showed that there are relationship between

dietary habits and osteoarthritis as they observed more cases of osteoarthritis among patients of non-vegetarian dietary habits. (Table 1)

The data revealed higher prevalence of hip osteoarthritis among lower income

group which is similar to the findings of other authors. They stated that osteoarthritis was found to be higher in low socioeconomic group as compared to middle and higher group. (Table 1)

Table 1: Demographic profile of study subjects (N=489)

Variable		No. of patients	Percentage
Gender	Male	231	47.23
	Female	258	52.77
Age Group (years)	50-60	290	59.30
	60-65	131	26.78
	65-70	54	11.05
	>70	14	2.87
Categories	General	195	39.87
	Other backward class	232	47.44
	Scheduled cast/tribe	62	12.67
Dietary habit	Vegetarian	365	74.64
	Mixed	124	25.36
Socioeconomic class	I	9	1.84
	II	74	15.13
	III	159	32.51
	IV	247	50.52

Table 2: Distribution of subjects according to Body Mass Index (N=489)

Variable		No. of patients	percentage
Body Mass Index	Underweight	5	1.02
	Normal	116	23.73
	Overweight	271	55.41
	Obese	97	19.84

Table 2 shows that there was high prevalence of hip osteoarthritis among patients with high body mass index and similar findings were observed by other researchers also viz. Shah SN et al, [1] Felson dt, [2] and Vrezas I et al. [9] Present study confirms that obesity and overweight are considered to be potential risk factors for the development of Hip osteoarthritis. [10]

Table 3: Distribution of subjects according to Occupation (N=489)

occupation	No. of patients	Percentage
Labourers doing heavy work	144	49.83
Farmers	123	25.15
Business man	93	19.01
House wife	54	11.04
unemployed	42	10.79
others	33	6.74

Table 3 shows distribution of patients according to their occupation. Maximum numbers of patients were labourers doing heavy work (49.83%), followed by farmers (25.15%), business man 19.01% (due to their sedentary life style) and housewife (9.14%). The maximum numbers of cases were labourer

and farmers due to more mechanical loading on joint because of heavy loads carrying similar findings were observed by Vergas I et al [3] and A P Warhagens et al. [11]

Table 4: Distribution of subjects according to Signs and Symptoms

Variable		No. of subjects	Percentage
Pain n=810 (100%)	Unilateral	413	84.46
	Bilateral	76	15.54
Crepitations n=645(7.78%)	Unilateral	27	5.520
	Bilateral	11	2.26
Tenderness n=772(4.09%)	Unilateral	17	3.47
	Bilateral	3	0.62
Morning stiffness n=432(71.97%)	Unilateral	308	62.98
	Bilateral	44	8.99
Bony overgrowth n=121(30.47%)	Unilateral	137	28.02
	Bilateral	12	2.45

Table 4 shows that all the cases were having pain in the hip and majority (84.46%) were having it unilaterally while only (15.54%) were having bilateral hip pain. Crepitations were present in (7.78%) patients (5.52% unilateral & 2.26% bilateral). Very few cases were having tenderness (4.09%). Morning stiffness was present in 352 cases (62.98%). Only 30.47% cases were having bony overgrowth and it was (28.025%) unilateral while in it was bilateral in (2.54%) cases. Presence of all these symptoms in majority of patients suggests that these patients were having osteoarthritis of hip as noted by other

researchers also viz. Shah SN et al, [1] Felson et al. [2]

The prevalence of osteoarthritis hip was estimated 39.27% in the present study it is difficult to compare as not many studies are conducted in India. There is a high risk of OA hip with higher body mass index and in overweight persons. Osteoarthritis was considered if patient was suffering from pain, swelling, limitation of movement of a large joint and supported by radiological findings. A lower body mass index may put them at a lower risk of getting osteoarthritis hip. Nevertheless, this study has some limitations. Since, the study was done among elderly who have a higher prevalence of osteoarthritis than the general population.

American College of Rheumatology (ACR) criteria are good tool in community based Indian setting where osteoarthritis is quite prevalent. Diagnosis using ACR criteria required only short training, [12] it is also easy to make a guideline for prevention and treatment by this criteria. [13,14]

CONCLUSION

Most developing countries in world are passing through a transition phase India is one of them and also passing through the demographic transition and absolute number of elderly is constantly on rise and going to increase in near future few years back OA hip is not so prevalent but now I found in my studies that no. of patients are increasing constantly specially elderly male population leading to a higher magnitude of burden of osteoarthritis in totality. The study concludes that the hip osteoarthritis is developing as a major public health problem especially in elderly population. There is a need of immediate attention and awareness towards this issue in the form of estimation of problem of osteoarthritis and various risk factors responsible for its development. There is a need to take appropriate steps by society regarding hip osteoarthritis in order to increase awareness of risk factors like consumption of alcohol and cigarette/bidi smoking, less mechanical loading of hip

joint during daily activities, obesity control and other modifiable factors like importance of daily exercise, change of dietary habits education to know the potential risk factors which help in prevention with adequate treatment and rehabilitative services.

REFERENCES

1. Shah SN, Anand MP, Acharya VN, Karnad DR, Bichile SK, Kamath SA et al. API Text book of Medicine. Vol.2; 9th ed. Mumbai: THE association of Physicians of India.2012:1818.
2. Felson DT. Epidemiology of hip and knee osteoarthritis. *Epidemiol Rev.* 1988. 10:1-28.
3. Vrezas I, Elsner G, Audorff UB, Abomaali, Seidler. Case control study of hip osteoarthritis and lifestyle factors considering their interaction with physical workload *Int Arch Occup Environ Health.* 2009
4. Registrar General and Census Commissioner of India, Census of India 2001. www.censusindia.gov.in (accessed on 31st May 2015.)
5. Murray RO. The aetiology of primary osteoarthritis of the hip. *Br J Radiol.* 1965 Nov. 38(455):810-24.
6. DT Felson, Y Zhang, MT Hannan, A Naimark, B We Valdes AM, Spector TD. Genetic epidemiology of hip and knee osteoarthritis. *Nat Rev Rheumatol.* 2011 Jan. 7(1):23-32.
7. Pollard TC, Batra RN, Judge A, Watkins B, McNally EG, Gill HS, et al. Genetic predisposition to the presence and 5-year clinical progression of hip osteoarthritis. *Osteoarthritis Cartilage.* 2012 May. 20(5):368-75.
8. Reddy SV, Arumugam G, Ajin, Kumar R, Jose N. Association of pain, physical function and radiographic features in osteoarthritis in India population. *International J of advance research.* 2013; (10):339-342.
9. Kasper DL, Fauci AS, Longo DL, Braunwald E, Hauser SL, Jameson JL, Harrison's Principals of internal medicine Vol2. 16th edn. USA: Mc Graw Hill; 2005:2036-50.
10. Messier SP. Obesity and osteoarthritis: disease genesis and nonpharmacologic

- weight management. *Rheum Dis Clin North Am.* 2008 Aug. 34(3):713-29.
11. A.P. Warhagens, F.G.J. oosterweld, M.F. Reneman, The Journal of Rheumatology. September 1, 2011 38(9) 1835-1843.
 12. [Guideline] Altman R, Alarcón G, Appelrouth D, Bloch D, Borenstein D, Brandt K, et al. The American College of Rheumatology criteria for the classification and reporting of osteoarthritis of the hip. *Arthritis Rheum.* 1991 May. 34(5):505-14.
 13. [Guideline] Zhang W, Moskowitz RW, Nuki G, Abramson S, Altman RD, Arden N, et al. OARSI recommendations for the management of hip and knee osteoarthritis, part I: critical appraisal of existing treatment guidelines and systematic review of current research evidence. *Osteoarthritis Cartilage.* 2007 Sep. 15(9):981-1000.
 14. [Guideline] Zhang W, Moskowitz RW, Nuki G, Abramson S, Altman RD, Arden N, et al. OARSI recommendations for the management of hip and knee osteoarthritis, Part II: OARSI evidence-based, expert consensus guidelines. *Osteoarthritis Cartilage.* 2008 Feb. 16(2):137-62.

How to cite this article: Yadav AC, Sood A. Prevalence of hip joint osteoarthritis in elderly persons in a district of central Uttar Pradesh: a cross sectional study. *Int J Res Rev.* 2016; 3(4):31-35.

International Journal of Research & Review (IJRR)

Publish your research work in this journal

The International Journal of Research & Review (IJRR) is a multidisciplinary indexed open access double-blind peer-reviewed international journal published by Galore Knowledge Publication Pvt. Ltd. This monthly journal is characterised by rapid publication of reviews, original research and case reports in all areas of research. The details of journal are available on its official website (www.gkpublication.in).

Submit your manuscript by email: gkpublication2014@gmail.com OR gkpublication2014@yahoo.com