



PREVALENCE OF OSTEOARTHRITIS AMONG TRIBAL PEOPLE IN HILLY AREA OF BANGLADESH

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ABSTRACT

Background: Osteoarthritis is a generative joint disease that involves the degradation of joints, articular cartilage and subchondral bone, as a result of mechanical stress on the area. **Objective:** Prevalence of osteoarthritis among ethnic communities in Bangladesh was objective of this study. **Methods:** This was a cross sectional study. This study was conducted among purposively selected 384 ethnic people from hilly area of Bangladesh. History of patient, X-ray and physical examination was used to diagnoses osteoarthritis. **Results:** Mean±SD age of respondents was 53.71±1.20 years. Most of them were house wife 34.1% followed by service 27.1%. Moderate, hard working and sedentary type of life among respondents was 63.3%, 29.5% and 7.2%. About 89.6% respondents had no osteoarthritis and 10.4% respondents were diagnosed as osteoarthritis. Most of the respondents (87%) suffered from knee osteoarthritis and 13% from hip osteoarthritis. No significant association was found between age group and osteoarthritis. **Conclusion:** The prevalence of osteoarthritis among ethnic communities is 10%. To lead healthy and productive life every ethnic people should conscious about osteoarthritis.

Key words: Osteoarthritis, Tribal People, Hilly Area.

1. INTRODUCTION

Osteoarthritis is associated with significant disability and loss of function and its management is an enormous cost to the health care system. Progress in prevention and treatment has been slow, related in part to the insidious onset and generally slow progression of the disease [1,2,3]. Worldwide, there is estimated to be 250 million people affected by osteoarthritis of the knee, comprising of 3.6% of the total population. It is an extremely common condition, affecting 43.4 million people across the globe in 2004. Approximately 80% of the population is likely to show radiographic evidence of bone degradation in the joints by the age of 65, although only 60% of those are likely to be symptomatic. Mechanical stress on the joints is the main reason for the development of osteoarthritis. There is also a hereditary factor that is seen to predispose people to osteoarthritis, although in most cases there are also other risk factors present [4]. The present study was an attempt to explore prevalence of osteoarthritis among tribal people who lives in hill.

2. MATERIALS AND METHODS

2.1 Type of study: It was a descriptive type of cross sectional study.

2.2 Study site: Bandarban sadar upazilla.

2.3 Study Population: All suspected cases of osteoarthritis patients attending for treatment in different clinics/hospitals/physiotherapy center in Bandarban sadar upazilla. All of them were Marma ethnic group. They lived in hilly and forest dense area. They practiced primitive agricultural system.

2.4 Study Period: The duration of the study was 12 months and conducted from December 2013 through November, 2014.

2.5 Sampling Technique: Purposive sampling technique was used to collect data on the basis of the inclusion and exclusion criteria.

Inclusion Criteria:

1-Those who gave consent and participate for interview,

- 2-All suspected cases of osteoarthritis,
- 3-Exclusion Criteria,
- 4-Refusal to give informed consent.

2.6 Data collection procedure: Data were collected by pre tested semi structured questionnaires and in face to face interview. Information about clinical history, physical examination, radiological examination, life style along with socio demographic characteristics was obtained. After taking verbal consent, data were collected from respondents. Osteoarthritis was confirmed by previous medical record, physical examination, X-ray, MRI etc. Physical activity was determined by IPAQ (International physical activity questionnaire)

2.7 Data management and analysis: After collection of data, all responses checked for their completeness, correctness and internal consistency in order to exclude missing or inconsistent data. Corrected data was entered into the computer. The data was analyzed by using the statistical software namely SPSS (Statistical Package for Social Science). Both descriptive and inferential statistics (Chi-square) were used to present data. Data analysis was done according to the objectives of the study.

2.8 Ethical Issues:

- Prior permission and inform written consents was taken from each respondent.
- Privacy and Confidentiality of each respondent was maintained.

3. RESULTS

Table 1: Age group of respondents (n=384).

Age group in years	Frequency	Percentage
20-29	13	3.4
30-39	32	8.3
40-49	57	14.8
50-59	167	43.5
60-69	81	21.1
>70	34	8.9
Mean±SD	53.71±1.20	
Total	384	100

Mean±SD age of respondents was 53.71±1.20 years. About 43.5%, 21.1% and 14.8% of study subjects age was 50-59 yrs, 60-69 yrs and 40-49 yrs respectively.

Table 2: Distribution of the respondents by occupation (n=384).

Occupation	Frequency	Percentage
Housewife	131	34.1
Service	104	27.1
Business	66	17.2
Day labor	32	8.3
Farmer	32	8.3
Others	19	4.9
Total	384	100.0

Most of them were house wife 34.1% (n=131) followed by service 27.1% (n=104).

Table 3: Physical activity of respondents (n=384).

Physical activity	Frequency	Percentage
Sedentary	27	7.2
Moderate	238	63.3
Hard working	111	29.5
Total	384	100.0

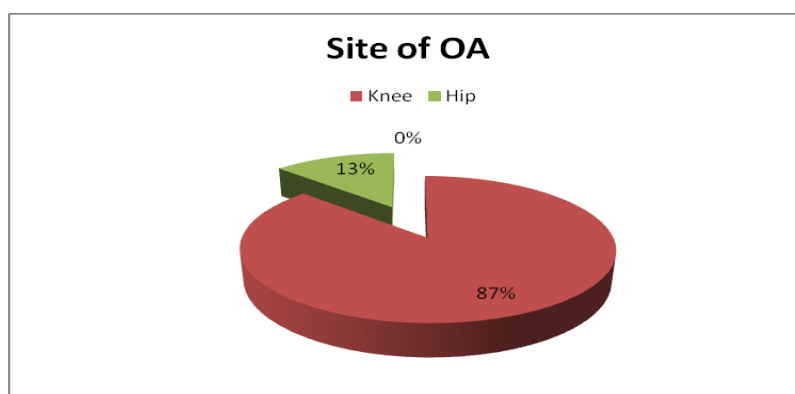
Moderate, hard working and sedentary type of life among respondents was 63.3%, 29.5% and 7.2%.

Table 4: Prevalence of osteoarthritis (n=384)

Osteoarthritis	Frequency	Percentage
Present	40	10.4
Absent	344	89.6
Total	384	100.0

About 89.6% respondents had no osteoarthritis and 10.4% respondents were diagnosed as osteoarthritis.

Figure 1: Site of osteoarthritis.



Most of the respondents (87%) suffered from knee osteoarthritis and 13% from hip osteoarthritis.

Table 5: Association between age group and osteoarthritis.

Age category	Osteoarthritis		Chi-square	P value
	Present	Absent		
20-29	1(0.3)	12(3.1)	6.85	0.23
30-39	6(1.6)	26(6.8)		
40-49	6(1.6)	51(13.3)		
50-59	11(2.9)	156(40.6)		
60-69	12(3.1)	69(18.0)		
>70	4(1.0)	30(7.8)		

No significant association was found between age group and osteoarthritis.

Table 6: Association between occupation and osteoarthritis.

Occupation	Osteoarthritis		Chi-square	P value
	Present	Absent		
Housewife	9(2.3)	122(31.8)	6.35	0.27
Business	14(3.6)	90(23.4)		
Service	10(2.6)	56(14.6)		
Day labor	1(0.3)	31(8.1)		
Farmer	4(1.0)	28(7.3)		
Others	2(0.5)	17(4.4)		

No statistical significant association was found between osteoarthritis and occupation.

4. DISCUSSION

The present study found that 89.6% respondents had no osteoarthritis and 10.4% had osteoarthritis. Osteoarthritis is the most prevalent form of arthritis in the United States, affecting more than 70% of adults between 55 and 78 years of age

[5]. But present study showed that mean±SD age of respondents was 53.71±1.20 years. About 43.5%, 21.1% and 14.8% of study subjects age was 50-59 yrs, 60-69 yrs and 40-49 yrs respectively and no significant association was found between age group and osteoarthritis. No association was found between gender and OA in the adult population, whereas in the elderly population there was a significant association between female gender and OA [6]. Few studies showed that women are affected more than men [5,7]. The present study showed that 87% respondents suffered from knee osteoarthritis and 13% from hip osteoarthritis but in Western populations, hip osteoarthritis is more common, suggesting that race and environmental factors might also be important [5]. No statistical significant association was found between osteoarthritis and occupation in this study. But a case-control study showed that an association in males between occupations with heavy physical load and both TKR and THR for OA [8]. Farming and fishing were also the occupations that showed the greatest degree of inheritance. Limitations of studies are very common in social work. One of the major difficulties was tribal language. Some respondents were incapable of understanding the importance for conducting a study. In some cases they showed non-cooperation.

5. CONCLUSION

About 10.4% respondents were diagnosed as osteoarthritis. No significant association was found between age group and osteoarthritis.

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