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A Study on Socio-Demographic Profile of Osteo-Arthritis Knee (OA) Patients

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Abstract:

The study was conducted with the aim of investigating the socio-demographic profile of osteo-arthritis patients. 102 patients suffering from osteo-arthritis were included in the study. The study was conducted in the Clinical Department of Physiotherapy, run by a Charitable Trust..The patients residing within the radius of 40 kilometers from study site, patients without fracture or any other major health problem limiting their movements at the time of study and those living with their families were selected. Socio-demographic factors like age, sex, domicile, marital status, type of family, education, occupation, income and caste background of the patients were studied. The data were analysed using frequency and percentage. The results were tabulated, described and discussed in the light of previous studies.

Keywords :

Socio – demographic, osteo – arthritis, knee, patients,

Introduction

Osteoarthritis which is also known as osteoarthritis or degenerative joint disease is a progressive disorder of the joints caused by gradual loss of cartilage and resulting in the development of bony spurs and cysts at the margins of the joints (Mesyaros 2003). The word osteoarthritis is derived from the Greek words “osteo” meaning “of the bone” “arthro”, meaning “joint” and “itis”, meaning inflammation, although many sufferers have little or no inflammation. (Green 2001). Globally, hip and knee OA was ranked as the 11th highest contributor to global disability. Prevalence was higher in females than males. (Cross..M. et al. 2014). Women (24.4%) had a significantly higher prevalence of disability compared with men (19.1%) at all ages (CDC 2009). The incidence of osteoarthritis at present is increasing constantly to a considerable level.

Osteoarthritis is the second most common rheumatologic problem next to soft tissue rheumatism. (Chopra et al. 1997).It is one of the most prevalent musculoskeletal conditions affecting the elderly population worldwide (Vanhoof et al. 2002). Its prevalence is predicted to rise significantly in the future as the population ages (Hamerman 1995).It is one of the five leading causes of disability among elderly men and women (Chopra et al. 1997).

OA affects nearly 21 million people in the United States, accounting for 25% of visits to primary care physician and half of all NSAID prescription (Green 2001).It is estimated that 2% of the United States population under the age of 45 suffers from osteoarthritis (Sharma et al. 2001).This figure rises to 30% of persons between 45 and 64, and 63-85% in those over 65 (Sharma et al 2001).About 90% of the American population will have some features of OA in their weight bearing joints by the age 40 (Sharma et al 2001). OA currently affects about 40% of people aged over 15 years and hip OA affects about 10% (Hamerman 1995).

More than 2 crore adults in U.S.A and over 10 crores in India live with osteoarthritis (Agarwal et al 2006).It results in more than 50,000 hip and knee replacements each year in the UK (oxford university press).A number of studies have shown that there is a greater prevalence of the disease between siblings and especially identical twins, indicating a hereditary basis (Britannica concise Encyclopedia).Osteoarthritis has been a frustrating disease for both the patient and the physician since times immemorial .Its current impact on society is tremendous and rivals that of ischemic heart diseases in many regards (Aggarwal 2006).

Osteoarthritis knee is considered as purely a medical problem by the public. Though the medical professionals understand that there are social causes and social consequences of osteoarthritis they are not considered much from prevention and treatment point of view. Not only in Osteoarthritis knee but also in many other conditions social aspects are not given much importance (Ramasamy 1993).The ongoing lifestyle and social changes contribute for the occurrence of Osteoarthritis knee. Though degeneration is a part of aging process the extent and severity of the problem can be reduced by proper social adjustment. Similarly Osteoarthritis knee is not considered as a very serious health problem as many adjust with and continue to suffer.Only a meager percentage of the patients face difficulties extremely and so the sufferings are extreme only with few patients and their families. So this problem has not attracted the professionals and general public much. As a result social studies are sparse.

Osteoarthritis knee is not a serious health problem. Those who suffer from this problem face hardships in their mobility and functional ability. Patients of Osteoarthritis knee are silent sufferers. Most of them are left with pain, and moderate emotional sufferings. Their activities involving locomotion and movements are disturbed. Especially they are likely to suffer from more difficulties with regard to their occupation. Patients in lower economic status mostly involve in hard physical labour and so this group is likely to suffer more.

Methodology

The research design applied for the present study was descriptive in nature.

Studies on socio-demographic profile osteoarthritis are sparse. The present study tries to explore the above aspect. The study was carried out with the objective to investigate the socio-demographic profile of Osteoarthritis knee patients. The study was conducted in the Clinical Department of Physiotherapy, run by a charitable trust..The patients residing within the radius of 40 kilometers from study site and the patients without fracture or any other health problem limiting the movements of the patients at the time of study were selected. Thus there were 102 cases. The data were collected using Schedule for socio-demographic factors The patients were interviewed personally in a congenial atmosphere in a separate room. The researcher explained the respondent about the purpose of research, established rapport and data were collected. The data were analysed by calculating frequency and percentage using SPSS

Results and discussion

Osteoarthritis knee is a degenerative disorder which causes dysfunction because of limitations posed by the disease on movements. It usually appears at adulthood. The study included socio-demographic factors like age sex, domicile, education, occupation, income, family typology and caste background of osteo-arthritis knee patients.

Table-1: showing age of the osteo-arthritis patients

Age	N	%
30 to 40 years	17	16.66
41 to 50 years	31	30.39
51 to 60 years	27	26.47
61 to 70 years	22	21.57
71 years and above	5	4.91

A high percentage of osteoarthritis patient (30.39) belonged to 41 to 50 years and 26.47% of the patients belonged to the age group of 51 to 60 years. Third (21.56% of patients) and fourth (16.66% of patients) positions were occupied by 61 to 70 years and 30 to 40 years respectively. There was a least percentage of patients (4.90%) in the age group of 71 years and above.

The present study shows that the lowest age of osteoarthritis knee patient was 30. Nuki et al (1999 Book source) opined that radiological and autopsy surveys showed a steady rise in degenerative changes in joints from the age of 30. During the study period no patient at less than the age of 30 had attended the physiotherapy clinic because of lack of occurrence of osteoarthritis. Among the patients of the present study 16.66% represented the age range of 30 to 40 years. This was relatively less compared to age groups of 40 to 50 and above. As the degeneration starts only at the age of 30, less no of cases suffer from osteoarthritis. Degeneration occurs in more no. of cases after 40 years only. This fact is evident in the present study. This study shows that the highest percentage of patients belonged to the age group of 41 to 50 years (30.39%) and successive age groups were occupied by 29.47% (51 to 60 years and 21.56% (61 to 70 years) of the patients. Those patients in active years not only because of degeneration but also because of their active involvement in their occupation they are concerned about disturbing health. Further they attend the clinic at the initial stage out of their curiosity and also due to the fact that the pain intensity is more at this stage. So during the active years they attend the clinic. Because of irrecoverable degenerative process it is expected that no. of old patients should be more. But in the present study only 4.90% of patients had attended the clinic for treatment. The fact is that many of these old patients are not feeling comfortable in visiting the physiotherapy clinic and partly because they take pain killers from locally available medical practitioners. Further they are not actively involved in social and vocational activities due to which they do not suffer much from the symptoms. Their pain level is also reduced because to some extent there are changes in their muscles. Due to such reasons old patients do not attend the physiotherapy clinic frequently.

Table- 2: showing gender of osteo-arthritis patients.

Sex	**N**	**%**
Male	34	33.34
Female	68	66.66
Domicile		
Rural	81	79.42
Urban	21	20.58

As high as 67% of patients were females and 33% of them were males. With regard to sex females outnumbered males (female male ratio is 2:1) (Table No1.) Because osteoarthritis knee is found to be associated with the hormonal and biochemical changes related to menopause. Some cultural factors like double burden of work (i.e.) household activities and field work, lack of diet consciousness and calcium demineralization also contribute for more incidence of osteoarthritis knee among females.

Similar result was observed by Viswanath J et.al.(2017) who stated that the sign and symptomatic Osteoarthirites in the world population is 9.6% men and 18% in women.

Table-3: Distribution of osteo-arthrities patients according to their domicile.

Domicile	**N**	**%**
Rural	81	79.42
Urban	21	20.58

A high majority of the patients (79%) represented rural areas and a less percentage of them (21%) were from urban areas. High percentage of rural patients (79.41%) in the present study reflects the general population ratio between rural and urban areas. The department is situated in a rural area. Patients are mostly from villages and there are only two small towns nearby and so the highest number of patients belonged to rural areas.

Table - 4: showing educational status of osteo arthritis patients.

Education	**N**	**%**
Illiterate	23	22.55
Up to 5th	52	50.98
6^{th} to 10^{th}	27	26.47
secondary and above		

While 51% of the patients had primary education, 26% and 23% of them represented secondary and above level of education and illiterate category respectively. About the half of the patients (50.98%) had primary level of education and little more than quarter of them (26.47%) had secondary and above level of education. Patients predominantly exposed to primary level of education because of the availability of schools in most of their respective villages. As secondary and above level of schools are few and away from many of the villages and due to poor affordability some got secondary and above level of education. Lacks of awareness coupled with economic backwardness of rural areas predominantly contribute to illiteracy in a considerable percentage (22.54%) of the patients.

Hong J.W. et al (2020) reported a finding relating to the education of OA knee patients. According to them elementary school graduates had 1.71-fold ($p < 0.001$) greater risks of having knee OA than college graduates.

Table-5: Marital status of respondents

Marital status	N	%
Married	90	88.24
Single / Widowed	12	11.76

A vast majority of the patients (88.23) were married and a very less percentage of them (11.76) represented single and widowhood category. Marriage is a highly respectable and important social institution in India. Durability and closer bondage between marital partners are the special features of marriage in India. It is a sacred institution and solemnized usually in 20s of a person. In the present study most of the patients (88.23%) were married and living with their spouses and a less number of them represented the category of single and widowhood (only one was unmarried and others were representing widowhood)

Table-6: Occupational status of respondents

Occupation	N	%
Unskilled	52	50.98
Skilled	17	16.67
House wife / unemployed	33	32.35

About half of the patients (50.98%) were doing unskilled jobs while only 16.67% of them were representing skilled jobs. A considerable percentage of respondents (32.35%) belonged to the category of housewives and unemployed. About the half (50.98%) of the patients were doing agriculture activities. Many of them were coolies while some were involved in their own lands. Skilled job (16.67%) was mostly weaving work and about one third (32.35%) of the patients belonged to housewife/unemployed category (Table No.1) It is the nature of the Tamil society that a considerable number of women stay at home as housewives to look after household activities. This trend reflected in the present study also. However few women because of illness, left their occupation Further many of them became unemployed because of old age also. Repetitive actions can put undue stress on one"sjoints and occupations that require such repetitive actions can increase OA risk. Job tasks involving kneeling or squatting for more than an hour a day, lifting, climbing stairs, walking increase the risk of OA knee. Those who regularly participate in joint-intensive sports may also have an increased OA risk (http:/www.healthline).

Table-7: Income level of osteo-arthriris patients.

Income	N	%
< 2000	54	52.94
2001 to 4000	24	23.54
4001 to 6000	18	17.64
6001 to 8000	3	2.94
8001 to 10000	3	2.94

The monthly income of 53% of families of patients was less than Rs. 2000/per month while 24% had the income ranging from 2001 to 4000. There were 17.64% of the families belonging to the income range of 4001 to 6000. A meager no. of patients represented the rest of the categories of income.

Majority of the patients (52.94%) had poor income (<Rs.2000 per month). A considerable percentage of them (23.52%) belonged to 2001 to 4000 category of income and about 17.64% of the patients represented 4001 to 6000 least number of patients had relatively better income. Most of the patients seemed to have poor income because of relatively low occupational status and scarcity of resources of income. This is because these people depended on agricultural labour and weaving except few who depended on income fetching skilled jobs. Hunter DJ et.al (2014) said that Osteoarthritis (OA) is a highly prevalent, disabling disease causing tremendous individual and socioeconomic burden.

Table-8: showing family type of osteo-arthritis patients

Family Typology	**N**	**%**
Nuclear Family	54	52.94
Extended Family	35	34.32
Joint Family	13	12.74

A majority of the patients (53%) were from nuclear families and 34% of them belonged to extended families. Only 13% of them represented joint families. Family typology is the reflection of social system. An agriculture society is characterized by joint family system whereas an industrial society consists of nuclear families. As India especially rural India is consisting of feudal culture also joint family system is prevalent to some extent. The present study shows that majority of the families (52.94%) were nuclear families. A considerably high percentage of families (34.31%) were extended nuclear families and only 12.74% of the families were joint families The least no of joint families indicate that family structure has undergone changes to a greater extent.

Table-9: Distribution of osteo-arthritis patients according to their caste.

Caste	**N**	**%**
SC	15	14.72
MBC	31	30.39
BC	43	42.15
FC	13	12.74

Among different categories of caste, more patients (42.15%) were from backward community and most backward community occupied the second position (30.39%). Among the rest of the categories of caste 14.70% of the patients belonged to scheduled caste while others (12.74%) represented forward caste. Caste system is a peculiar and typical component of Indian society. Caste is an indicator of social stratification and this is frequently associated with health and health problems. In the present study

patients were grouped under categories like SC, MBC, BC and FC. This study reveals that 42.15% of patients belonged to BC which was followed by MBC (30.39%). Other categories (SC 14.70% and FC 12.74%) were relatively less. As BC category includes a cluster of caste groups its percentage was high in the present study. As the study area includes MBC community people to a considerable level, its representation was also high.According to Callahan L F. et.al (2011) both an individual's community and personal socioeconomic position have an association with radiographic and symptomatic knee OA.

Conclusion

The study brings out the fact that osteo-arthritis patients were more from the categories of middle age, female gender, primary education, married, unskilled job, low income, nuclear family and B.C and M.B.C community. As the Physiotherapy clinic was run based on charity, patients in low socio-economic status frequently attended the clinic. So the findings are related to that category only. Gustafsson K et.al (2020) also concluded that the self-management program for OA may not reach the more socio-economically disadvantaged groups due to their higher disease burden. Further studies in hospitals and clinics where patients need to pay more will throw more light on this problem

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