

Original Research Article

Evaluate the efficacy of teaching programme regarding self-assessment among knee osteoarthritis patients: a cross sectional study

Umang Shihora, Paras Motwani*

Department of Orthopedics, Gujarat Adani Institute of Medical Science, Bhuj, Kutch, Gujarat, India

Received: 11 August 2017

Revised: 24 September 2017

Accepted: 26 September 2017

***Correspondence:**

Dr. Paras Motwani,

E-mail: researchguide86@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Lack of knowledge may lead to depression, anxiety and poor coping skills, which may affect the patient's quality of life while health education is an effective intervention and can reduce pain and disability. Hence the present study was planned with the following aim to assess the knowledge regarding self-care among knee osteoarthritis patients and to develop and administer structured teaching program from knee osteoarthritis patients.

Methods: Data related to the study were collected from knee osteoarthritis patients attending the out patients Department at Medical Institute at Bhuj district. The period of conduction of study was approximately one year. A total of 100 patients diagnosed with knee arthritis were included in the study.

Results: respondents with an immediate family member with knee OA averaged a 5.5 higher knowledge score than respondents whose family members did not have the condition ($p < 0.001$). Respondents diagnosed clinically of knee OA averaged 2.06 higher knowledge score in comparison to respondents without knee OA ($p = 0.011$).

Conclusions: A higher knowledge of knee OA was found for respondents with tertiary education over those with a primary or secondary education. The results from this cross-sectional study impact important public health decisions, given that respondents over 50 years, with a family history, self-awareness, and a knee OA diagnosis, showed better knowledge of symptomatic knee OA as shown in the multivariate analysis.

Keywords: Knee arthritis, Knowledge, Cross sectional

INTRODUCTION

Osteoarthritis is the most common form of arthritis, affecting millions of people around the world. Often called wear-and-tear arthritis, osteoarthritis occurs when the protective cartilage on the ends of your bones wears down over time. Its high prevalence especially in elder patients and high rate of disability make it a leading cause of disability.¹

The prevalence of osteoarthritis in India is very high. Osteoarthritis is a disease in which the cartilage that acts as a cushion between bones in joints begins to exhaust,

causing swelling and pain in joints which affect negatively. Person does not move freely. The other synonym of osteoarthritis is degenerative arthritis or degenerative joint disease. It is common since ancient time.^{1,2} When a person suffers from osteoarthritis, there is a breakdown of the joint's cartilage. When this breakdown and wears away the bones will start rubbing together and this can cause some severe pain as well as limitations in movement and in some cases, person cannot move at all. Numerous factors are responsible for the inception of osteoarthritis. It is widespread in middle to older aged people. Osteoarthritis may first appear without symptoms between 20 and 30 years of age. The symptoms, such as pain and inflammation, become

visible in middle age. Till the age of 55 it occurs equally in both sexes.³ But after 55, women are more prone to this disease. Many studies have demonstrated that age is not a foremost factor to the start of osteoarthritis. Many medical professionals have found that overweight may be the reason of having this disease. When a person is obese, there are more chances of experiencing some pain in the knees and in most cases; osteoarthritis develops in these areas.⁴

OA is the most prevalent of the rheumatic diseases, and is responsible for enormous disability and loss of productivity. Prevalence increases with age, and radiographic data show that OA at some skeletal site occurs in the majority of people over 65 years of age and in nearly everyone over 75 years of age.⁵ Despite intense epidemiologic study, the exact prevalence of OA is unknown, owing to the uncertainties and variations of diagnostic definition and reporting mechanisms. Another confounder is that many patients with radiographically apparent OA do not have symptoms that lead them to medical care. Based on prevalence data from the National Centres for Health Statistics, an estimated 15.8 million adults, or 12% of those between 25 and 74 years of age, have signs and symptoms of OA.⁶

The patients suffering from knee osteoarthritis should know the importance of self-care activities which are inexpensive at the same time are useful in overcoming the problems associated with it, especially pain. The self-care activities that patient should know and practice include "proper nutrition, joint protection measures, medication, hot and cold applications, and therapeutic exercises".⁷

Osteoarthritis sufferers require medication, exercise and physical activity, information, education and self-management support to manage their disease and control pain. After their knee or hip joints reach the stage of surgical intervention, OA patients require pre-operative assessment of their home environment for suitability after the hospital discharge and postoperative rehabilitation. E-health and the internet-related solution can play an important role in all areas of OA management with the exception of surgical interventions. Previous studies have shown that providing information about the disease is a vital component of self-management. Lack of knowledge may lead to depression, anxiety and poor coping skills, which may affect the patient's quality of life while health education is an effective intervention and can reduce pain and disability. Hence the present study was planned with the following aim to assess the knowledge regarding self-care among Knee osteoarthritis patients and to develop and administer structured teaching program from knee osteoarthritis patients.

METHODS

Data related to the study were collected from knee osteoarthritis patients attending the Out Patients Department at medical institute at Bhuj district. The

period of conduction of study was approximately one year from January-2013 to February-2014. A total of 100 patients diagnosed with knee arthritis were included in the study.

Inclusive criteria

Inclusive criteria were as follows: Both males and females suffering from knee osteoarthritis, Patients between the age group 30 to 60, the patients who were co-operative and willing to participate in the study.

Exclusive criteria

Exclusive criteria were as follows: Patients who were critically ill and unable to respond, those who were not willing to participate in the study, patients who were admitted in the wards.

Convenient sampling technique was used to select the samples. Structured interview schedule will be prepared by the investigator to collect data. The data analysis shall be done through descriptive and inferential statistics like Frequency, mean, mean percentage, paired "t" test and "chi-square" test. Informed consent was obtained from the institution authorities and subjects privacy, confidentially and anonymity will be guarded scientific objectivity of the study will be maintained with honesty and impartially.

RESULTS

A total of 100 patients participated in the survey. The mean (\pm SD) age of respondents was 39.0 years and the majority aged 50 years or older. The majority of respondents were males (70.9%). Less than half (40.2%) of the entire sample had an immediate family member with the condition. Most of the respondents expressed awareness of knee OA as a disease entity (60.2%). Based on median cut-off points of knowledge score, 53.6% of the respondents had low levels of knowledge.

Table 1 shows the associations between socio-demographic factors and knowledge of knee OA among respondents. Male respondents displayed higher knowledge score (16.8 ± 9) compared to females (13.0 ± 10.2 , $p<0.001$). There was a significant association between age and knowledge ($p<0.001$); a post hoc test revealed that respondents aged 50 years or more had higher knowledge score (20.7 ± 8) compared to respondents aged 35–49 years old (16.2 ± 9.9) and compared to 20–34 years (11.1 ± 9.9 ; $p=0.002$, $p<0.001$, respectively). There was a significant association between education level and knee OA knowledge ($p<0.001$) and post hoc tests showed that respondents with tertiary education (18.8 ± 6.8) showed higher knowledge score than those with secondary education (14.8 ± 9.5 , $p<0.001$). Respondents having immediate family members with knee OA had higher knowledge score (25.5 ± 5.7) compared to respondents without a

family history of knee OA (12.8 ± 10.5 ; $p < 0.001$). Respondents who were clinically diagnosed for knee OA showed higher knowledge score (25.7 ± 5.6) compared to those without such medical condition (15.9 ± 11.0 ; $p < 0.001$). Factors associated with knowledge of symptomatic knee osteoarthritis among respondents by multiple linear regressions. Respondents aged 50 years or older had on the average 1.7 (95% CI 0.1–3.2) higher score in OA knowledge compared to respondents in the 20–34 age group ($p = 0.035$). Respondents being aware of knee OA had on the average 12.5 higher knowledge score compared to respondents being unaware of the condition ($p < 0.001$). Similarly, respondents with an immediate family member with knee OA averaged a 5.5 higher knowledge score than respondents whose family members did not have the condition ($p < 0.001$). Respondents diagnosed clinically of knee OA averaged 2.06 higher knowledge score in comparison to respondents without knee OA ($p = 0.011$).

Table 1: Association between knowledge of knee osteoarthritis and socio-demographic variables among respondents.

Characteristic	Mean	P value
Gender		
Male	16.8±9	p<0.001
Female	13.0±10.2	
Age		
20–34	11.1±9.9	p<0.001
35–49	16.2±9.9	
>50	20.7±8	
Education level		
Primary	15.6	p<0.001
Secondary	17.8	
Tertiary	21.9	
Awareness of knee osteoarthritis as a disease entity		
Yes	26.4	p<0.001
No	8.9	
Immediate family members with knee osteoarthritis		
Yes	26.8	p<0.001
No	14.6	
Diagnosed clinically to have knee osteoarthritis		
Yes	28.7	p<0.001
No	16.8	

DISCUSSION

This cross-sectional study was aimed at determining factors affecting knowledge of symptomatic knee OA among patients in Bhuj district. Of the 100 railway men surveyed, 60% reported low levels of knowledge. Our final regression model yielded four variables significantly influencing knee OA knowledge in this group: respondents over 50 years old, respondents previously aware of knee OA, immediate family members with knee OA, and respondents with knee OA diagnosed clinically by a doctor.

Data on risk factors, clinical manifestations, and available treatment options was well documented in numerous epidemiological studies and clinical trials. Our study challenged the current tenets and dogmas that only pathological, radiological, and clinical investigations may elicit awareness and knowledge of symptomatic knee OA. Hypotheses tested in previous studies were conjugated as knowledge scales in the present study to understand the lay population's perception of this disease entity to promote primary prevention. This study was the first to explore knowledge of symptomatic knee OA in the general population, with particular focus among a specific occupational group.⁸

Educational attainment was linked to pain and disability in osteoarthritis; indeed a higher educational level was more predictive for disease progression. Behavioural risks that influenced health-seeking behaviour, access, and utilization of health services for early interventions were associated with higher educational level. A higher knowledge of knee OA was found for respondents with tertiary education over those with a primary or secondary education. Ganasegeran et al and Creamer et al found similar findings in the Greek population.^{8,9}

The results from this cross-sectional study impact important public health decisions, given that respondents over 50 years, with a family history, self-awareness, and a knee OA diagnosis, showed better knowledge of symptomatic knee OA as shown in the multivariate analysis.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the institutional ethics committee

REFERENCES

1. Fox B, Taylor N, Yazdany J, Brewer S: Arthritis for Dummies. John Wiley & Sons; 2011.
2. Austin MS, Klein GR. World Clinics: Orthopedics-Foot Ankle Surg. JP Medical Ltd; 2017.
3. Birchfield PC. Osteoarthritis overview. Geriatric Nursing. 2001;22:124-31.
4. Fernandes L, Hagen KB, Bijlsma JW, Andreassen O, Christensen P, Conaghan PG, et al. EULAR recommendations for the non-pharmacological core management of hip and knee osteoarthritis. Annals Rheumatic Dis. 2013;72:1125-35.
5. Conditions NCCfC, Excellence NifC: Osteoarthritis: national clinical guidelines for care and management in adults. Royal College of Physicians, 2008.
6. Purcell S. Body composition, functional, and nutritional characteristics of patients with hip or knee osteoarthritis. The Florida State University, 2014.
7. Pitt VJ, O'Connor D, Green S. Referral of people with osteoarthritis to self-management programmes:

barriers and enablers identified by general practitioners. *Disability Rehab*. 2008;30:1938-46.

8. Ganasegeran K, Menke JM, Challakere Ramaswamy VM, Abdul Manaf R, Alabsi AM, Al-Dubai SAR. Level and determinants of knowledge of symptomatic knee osteoarthritis among railway workers in Malaysia. *BioMed Res Int*. 2014;2014:370273.
9. Creamer P, Hochberg MC. The relationship between psychosocial variables and pain reporting in

osteoarthritis of the knee. *Arthritis Rheumatol*. 1998;11:60-5.

Cite this article as: Shihora U, Motwani P. Evaluate the efficacy of teaching programme regarding self-assessment among knee osteoarthritis patients: a cross sectional study. *Int J Res Orthop* 2017;3:1185-8.