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A study to assess the knowledge regarding non- pharmacological management to reduce arthritis pain among patients suffering with osteoarthritis attending out-patient department in a selected hospital at Mangaluru

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Abstract

Introduction: Osteoarthritis is a disorder of the musculoskeletal system that mainly affects the bones, joints, and cartilage as results in prolonged joint pain, difficulty walking, or impairment of normal physical activity. Osteoarthritis mainly affects the middle and elderly population, postmenopausal women, obesity, and those are Hispanic black. The incidence and prevalence rates are higher among women than men.

Objectives: The main aim of the study was to assess the knowledge regarding non- pharmacological management to reduce arthritis pain among osteoarthritis patient in a selected hospital and to find out the association between knowledge score and the socio-demographic variables.

Material and Methods: In the present study, a non-experimental descriptive research design was used. A purposive sampling technique was used to obtain 30 study samples. Data were collected by using a self-prepared semi-structured knowledge questionnaire. The study was conducted in the Orthopedic out-patient department in a selected hospital at Mangaluru. Data was analysed by using descriptive and inferential statistics.

Results The study findings revealed that among 30 samples, the majority of 22 (73%) had inadequate knowledge, 6 (20%) had moderate knowledge, and only2 (7%) had adequate knowledge regarding non- pharmacological management to reduce arthritis pain. The overall mean score and standard deviation were 10.47±6.19 and the mean score percentage score was 37.44%.

Conclusion: The study concluded that majority of patients had inadequate knowledge regarding osteoarthritis and non-pharmacological pain management. The information booklet was distributed to the patients to improve the awareness regarding osteoarthritis and non-pharmacological pain management among patient suffering with osteoarthritis.

Keywords: Osteoarthritis, non-pharmacological management, pain, assess, Knowledge

Introduction

Osteoarthritis is a clinical syndrome of joint pain characterized by varying degrees of functional limitation and reduced quality of life of the individual. It is a common form of arthritis that results in prolonged joint pain and increases disability worldwide. Osteoarthritis pain affects the day-to-day activities of individuals and reduces their self-capabilities [1]. The World Health Organization's (2023) fact sheet, was estimated that 528 million people are living with osteoarthritis worldwide [2]. In Australia (2019), 3.2 million people are affected by osteoarthritis [3] and in the UK (2023), 5.4 million people are affected [4]. There are a number of risk factors that are associated with osteoarthritis, such as age (old age), gender (more in female), obesity, anatomical factors, joint trauma and muscle weakness, and other predisposing factors such as trauma or injury, congenital joint diseases, inflammatory arthritis, avascular necrosis, infections, osteoporosis, metabolic disorders [5].

According to the Global Burden of Disease (GBD) in India (2019), approximately 62.35 million people are affected by osteoarthritis. The prevalence of osteoarthritis is 4799–5898 per 100,000 persons, and the disability-adjusted life years (DALYs) increased from 0.79 million (95% CI: 0.40–1.55) to 2.12 million (95% CI: 1.07–4.23) due to osteoarthritis. Osteoarthritis is the 20th most common cause of years of life loss due to disability (YLDs) in India [6].

There are various types of non-pharmacological therapies such as exercises, massage therapy, hot and cold applications, meditation hydrotherapy, acupuncture, diversion therapy, biofeedback, hypnosis, distraction therapy, music therapy are very essential and useful to relieve pain, increase muscle strength, and range of joint motion, as well as improve the endurance and daily activity levels of individuals diagnosed with osteoarthritis [7].

The guidelines published by the American Academy of Orthopedic Surgeons (AAOS) was to help make evidence-based decisions in the conservative management of knee and hip osteoarthritis, with a variety of therapeutic

approaches. The primary goal of treatment is to relieve pain, provide comfort, improve the functional ability and quality of life, stop the disease progression and repair the cartilage damage of the individual. The first line of therapy for osteoarthritis includes non-pharmacological interventions, analgesics, anti-inflammatory drugs, and oral or topical non-steroidal anti-inflammatory drugs (NSAIDS) that may help to relieve the symptoms of pain and inflammation [8].

There are a variety of preventive measures that may help to prevent the further progress of osteoarthritis and reduce the discomfort. The main strategy for the prevention of osteoarthritis is the identification of modifiable and non-modifiable risk factors. Based on the criteria for risk factors for osteoarthritis, early preventive measures may be implemented. The primary preventive measures include preventing the onset of specific diseases via risk reduction by changing the behaviors or exposures that may cause disease, such as maintaining or decreasing weight, regular physical exercise, and preventing knee trauma. Secondary prevention includes the detection and treatment of risk factors for the progression of disease, such as proprioceptive acuity, dynamic joint stability, and muscle function; subsequent weight maintenance and targeted exercise therapy for the individual with knee injury [9].

Objectives

1. To assess the knowledge regarding non-pharmacological management to reduce arthritis pain among patient suffering with osteoarthritis.
2. To find out the association between knowledge score with the socio-demographic variables such as age, gender, religion, marital status, educational qualification, occupation, monthly income, type of family, source of information, BMI, duration of osteoarthritis and history of any illness.
3. To prepare an information booklet regarding osteoarthritis and non-pharmacological management to reduce arthritis pain.

Hypothesis

H_1: There will be a significant association between the knowledge of patients suffering with osteoarthritis with the related socio-demographic variables such as age, gender, religion, marital status, educational qualification, occupation, monthly income, type of family, source of information, BMI, duration of osteoarthritis and history of any illness.

Research Methodology

A non-experimental research design was used to assess the knowledge regarding non-pharmacological management to reduce arthritis pain among patients suffering from osteoarthritis. The study was conducted in a selected Hospital in Mangaluru. A total of 30 patients diagnosed with osteoarthritis were selected using non-probability, purposive sampling technique. A semi-structured knowledge questionnaire was administered to assess the knowledge of patients suffering from osteoarthritis, and information booklets were distributed to the patients to improve their knowledge and practices for improving the quality
of life. The collected data were analyzed based on the objective of the study by using descriptive and inferential statistics.

Inclusion criteria

The patients who were:

- Diagnosed with osteoarthritis.
- Attending Orthopedic OPD.
- Older than 40 years old.
- Both male and female.
- Able to read and understand Kannada, English, and Hindi.

Exclusion criteria

The patients who were:

- Inpatients.
- Having a history of post-surgical intervention of osteoarthritis.
- Not willing to participate in the study.
- Not present at the time of data collection
- Having neurological disability.

Results

Table 1: Distribution of patients with the selected socio-demographic variables N=30

Socio-demographic variables		Frequency	Percentage (%)
1)	**Age in years**		
a.	<50	8	27
b.	51-60	7	23
c.	61-70	7	23
d.	Above 71	8	27
2)	**Gender**		
a.	Male	15	67
b.	Female	10	33
3)	**Religion**		
a.	Hindu	15	50
b.	Muslim	13	43
c.	Christian	2	7
4)	**Marital status**		
a.	Married	27	90
b.	Unmarried	1	3
c.	Widow	2	7
5)	**Educational qualification**		
a.	No formal education	2	7
b.	Primary level	7	23
c.	SSLC	13	43
d.	PUC	8	2
6)	**Occupation**		
a.	Employed	3	10
b.	Unemployed	8	27
c.	Self employed	11	37
d.	Business	2	7
e.	Retired	6	20
7)	**Monthly income (Rupees)**		
a.	<10,000	16	53
b.	10,001-20,000	6	20
c.	20,001-30,000	4	13
d.	30,001-40,000	2	7
e.	>40,001	2	7

Socio-demographic variables		Frequency	Percentage (%)
8)	**Types of family**		
a.	Nuclear family	18	63
b.	Extended family	12	37
9)	**Source of information about osteoarthritis**		
a.	Friends	7	23
b.	Family	3	10
c.	Text book	2	7
d.	Mass media	2	7
e.	Health care professional	12	40
f.	Others	4	13
10)	**Body mass index (BMI)**		
a.	Under weight <18.5 Kg/m^2	2	7
b.	Normal 18.5-24.9 Kg/m^2	2	7
c.	Obesity 25-29.9 Kg/m^2	10	33
d.	>30 Kg/m^2	16	53
11)	**Duration of osteoarthritis**		
a.	<1 years	7	30
b.	2-3 years	4	13
c.	3-5 years	6	20
d.	>5 years	11	37
12)	**History of any illness**		
a.	Yes	10	33
b.	No	20	67

Distribution of knowledge level regarding non-pharmacological management to reduce arthritis pain among patients suffering from osteoarthritis

Figure 1.1 shows that among 30 samples, 22(73%) had inadequate knowledge, 6(20%) had moderate knowledge and only 2(7%) had adequate knowledge.

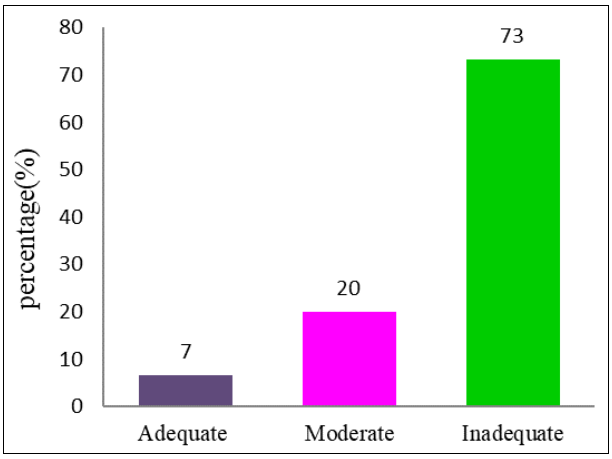

Fig 1: Distribution of knowledge level regarding non-pharmacological management to reduce arthritis pain among patients suffering from osteoarthritis

Table 2: Area-wise knowledge score level regarding non-pharmacological management to reduce arthritis pain among patients suffering from osteoarthritis N=30

Area	Max. score	Mean score	Standard deviation	Mean score %
About osteoarthritis	6	2.5	1.38	41.67
Non-pharmacological pain management	24	7.97	4.81	33.21
Total	30	10.47	6.19	37.44

Table 1.2 shows that the area-wise distribution of knowledge of osteoarthritis and non-pharmacological pain management among 30 samples. The overall mean score and standard deviation were 10.47±6.19 and the mean score percentage score was 37.44%. The majority of 26 (87%) were unaware of the description of the word osteoarthritis, 26 (87%) were didn't know the effects of osteoarthritis, 18 (60%) didn't know about common joints affected by osteoarthritis, 16 (53%) did not know about common risk factors of osteoarthritis**,** 28 (93%) were not aware of the duration given for hot application, the frequency of stretching exercise, 25 (83%) were unaware regarding the physiological effects of cold application, the exercise done by oneself, and the minimum duration of light activity before stretching exercise, 23 (77%) were not aware of the type of meditation that focuses on cultivating feelings of goodness, kindness, and compassion, 22 (73%) were not familiar with the maximum duration of normal exercise and the common preventive measure for osteoarthritis, 21 (70%) were aware of the methods that reduce swelling in the joint and the ability of an individual to focus attention on one stimulus, 20 (67%) were not aware of the improvement of the flexibility of the joint and the common approach that relieves osteoarthritis symptoms, and 19 (63%) were not familiar with the complications of hot applications.

Distribution of samples according to item-wise knowledge score

- Based on item-wise analysis knowledge regarding osteoarthritis among 30 sample, the majority 26 (87%) were unaware of the description of the word osteoarthritis, 26 (87%) were didn't know the effects of osteoarthritis, 18 (60%) didn't know about common joints affected by osteoarthritis, and 16 (53%) did not know about common risk factors of osteoarthritis**.**
- According to item-wise analysis knowledge regarding non-pharmacological pain management among the 30 samples, the majority of 28 (93%) were not aware of the duration given for hot application, the frequency of stretching exercise, 25 (83%) were unaware regarding the physiological effects of cold application, the exercise done by oneself, and the minimum duration of light activity before stretching exercise, 23 (77%) were not aware of the type of meditation that focuses on cultivating feelings of goodness, kindness, and compassion, 22 (73%) were not familiar with the maximum duration of normal exercise and the common preventive measure for osteoarthritis, 21 (70%) were aware of the methods that reduce swelling in the joint and the ability of an individual to focus attention on one stimulus, 20 (67%) were not aware of the improvement of the flexibility of the joint and the common approach that relieves osteoarthritis symptoms, 19 (63%) were not familiar with the complications of hot applications. 18 (60%) were unaware of commonly practiced aerobic exercise and the benefits of meditation, 17 (57%) were not familiar with the promotion of joint mobility and the word "metta bhavana", 19 (63%) knew regarding the place of meditation, 17 (57%) were familiar with the measures used to reduce pain without medicine, the benefits of hot application in osteoarthritis, and the description of the term meditation, 16 (53%) knew about the benefits of aerobic exercise.
- There was no significant association found between the knowledge level and socio-demographic variables such

as age, gender, religion, marital status, educational qualification, occupation, monthly income, type of family, source of information, BMI, duration of osteoarthritis, and history of any illness.

Discussion

The findings of the study have been discussed based on the objectives and hypotheses, along with the findings of the other studies. Based on demographic data, the results showed that among 30 samples, 8 (27%) were less than 50 years old, 8 (27%) were above 70 years old, 20 (67%) were male, 15 (67%) belonged to the Hindu religion, 27 (90%) were married, 13 (43%) studied up to the SSLC level of education, 11 (37%) were self-employed, 16 (53.33%) had a monthly income less than Rs. 10,000, 18 (63%) belonged to a nuclear family, and 12 (40%) received information through a health care professional, 16 (53%) had Body Mass Index (BMI) more than 30 Kg/M^2, 11 (37%) had osteoarthritis for more than 5 years, and 20 (67%) had no history of any illness.

a cross-sectional study was conducted to assess the knowledge and awareness regarding osteoarthritis and its risk factors among the general population in the Hail region, Saudi Arabia. A total of 906 study samples were selected using online questionnaires. The study findings showed that 371 (40.9%) participants had a good knowledge level and 535 (59.1%) had a poor knowledge level regarding osteoarthritis, and its associated risk factors; 588 (64.9%) believe osteoarthritis is a chronic issue; 136 (15%) thought it resulted from a microorganism, 751 (82.9%) identified weight gain, 635 (70.1%) aging, 407 (44.9%) and genetic factors. The study concluded that the participants had poor knowledge and awareness regarding osteoarthritis and its risk factors. The above study supports present study [10].

The knowledge score of the present study showed that among 30 samples, 22(73%) had inadequate knowledge, 6(20%) had moderate knowledge and 2(7%) had adequate knowledge. The majority of 22(73%) had inadequate knowledge regarding osteoarthritis and non-pharmacological pain management. The overall mean score with standard deviation of knowledge was 10.47±6.19 and mean score percentage was 37.44% regarding osteoarthritis and non-pharmacological pain management.

The present study supported the following study. A descriptive cross-sectional study was conducted to assess the patients knowledge and practices toward osteoarthritis disease in Orthopedic outpatients clinics At EI Nil hospital, Egypt. A purposive sampling technique was used to select 77 study sample among them 24 (31.2%) were male and 53 (68.8%) were female. The study findings revealed that 69 (90%) participants had unsatisfactory knowledge and 8 (9%) participants had satisfactory knowledge regarding osteoarthritis disease and practice of correct posture. The study concluded that participants had poor knowledge regarding osteoarthritis disease [11].

Conclusion

The researcher found that the majority of patients had inadequate knowledge regarding osteoarthritis and non-pharmacological pain management. Still, most people are unaware of non-pharmacological measures to reduce arthritis pain. Hence, people need to be provided information related to non-pharmacological pain measures regarding osteoarthritis using different mass media, awareness programs, news papers, and health education. In the present study, the researcher distributed an information booklet to the patient to improve awareness regarding osteoarthritis and non-pharmacological pain management.

Conflict of Interest

Not available

Financial Support

Not available

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