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Research Article

Physiotherapy for Better Medical Therapy

A Study On The Management Approaches Adopted By Individuals With Osteoarthritis Knee In Karad

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Abstract: Osteoarthritis (OA) is a degenerative condition of the joints characterised by focal loss of articular cartilage along with sclerosis of subchondral bone and formation of osteophytes. The purpose of this study was to determine the various management approaches adopted by the people suffering from knee osteoarthritis. As this condition affects a large population the methods use to deal with the symptoms differ which are described in this study highlighting the preference of a physiotherapist by the patients. The study was carried out in Krishna Hospital, Karad with the sample size of 60 using purposive sampling method, a cross sectional study was performed using a descriptive study design. Individuals with Osteoarthritis of knee are included based on the inclusion and exclusion criteria. The data collected was analysed qualitatively which resulted in 65% participants who approached General practitioner (GP) as initial approach, with only 6% approaching a physiotherapist. 81% used heat therapy as a measure to manage their symptoms while only 30% used exercises as a modality. The primary finding was that there is no clear pathway for management of Osteoarthritis of knee in Karad. Majority opted for General-Practitioner as their initial approach. Physiotherapists were preferred only by a few, not many were seen utilising exercise modality. Since there is a vast difference in treatments by variety of individuals, this study will thus help in determining the various approaches for knee osteoarthritis and establishing a definitive and effective protocol for the management of the patients symptoms.

Keywords: Initial approach, Knee-Pain, Osteoarthritis, Physiotherapist, Remedies, Sequence.

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1. INTRODUCTION

Osteoarthritis is a degenerative condition of the joints. It is mainly characterised by focal loss of the articular cartilage of the joints along with sclerosis of the subchondral bone and formation of new bony spurs known as osteophytes[1]. There are two types, the primary type occurring most commonly in old age and mainly in the weight bearing joints and the secondary type due to underlying primary disease condition of the joint which causes the degeneration[2].

1.1 Epidemiology

Osteoarthritis is an important cause of disability and the second most common musculoskeletal problems in the world (30%) after back pain (50%) being number one[3]. The majority of risk factors involved in osteoarthritis include age, female sex, obesity, and knee bending during work hours. The occurrence of osteoarthritis is seen more commonly in women, along with more severity of symptoms and joint involvement mainly of the knee. The osteoarthritis of the knee is seen in India more than the western population comparatively. This is seen due to the squatting habits more seen in the toilets and other daily activities among Indians[3]. Osteoarthritis is a condition which is progressive in nature. It affects all the articular tissues causing joint failure. Its appearance is heterogeneous and it does not have the same severity in all of its patients. And thus, the condition shows differences in severity in between male and female patient[4]. The clinical symptoms which are typically seen include pain which occurs after a long period of activity and bearing of weight[5].Thus it is described as not a single disease but a joint failure which occurs due to a various disease as their end result[5,6]. The aim of the study is to explore the various treatment options adopted by individuals for management of osteoarthritis and thus helping in development of treatment guidelines in the future.

1.2 Prevalence of osteoarthritis in india

Osteoarthritis is considered to be one of the most common conditions in our country. According to the Indian Journal of Orthopaedics the total prevalence of osteoarthritis in our country is 28.7%, in males it is found to be 28.1% and 31.6% in females[7]. Despite the benefits, there are also a number of problems arising in adopting self-management approaches which include the costs and the access to health care services, the priorities in one's life[8] which differs all around the globe. Although many of the previous guidelines recommended the use of conservative approaches, many of the international clinicians continues to promote medication and surgery for the management of this condition[9]. This automatically leads to poor referral of patients to conservative management[10]. The main aim of this study is to determine the history of management approaches adopted by people living with osteoarthritis of knee in Karad. The access to treatment differs in different areas thus it is important to know about the knowledge of OA in the individuals and also their preferred approach for their condition which would be helpful to guide them towards the correct approaches in time. So the present study was conducted with the aim to determine the various methods adopted by the patients along with the most preferred sequence, the initial approaches, the ones found to be satisfactory, and the overall history of their management.

2. MATERIALS AND METHODS

About 60 participants with osteoarthritis knee visiting the outdoor patient department of Krishna hospital were recruited in the study. A cross sectional study was carried out using a descriptive study design involving patients with knee Osteoarthritis and a purposive sampling method. The study being carried out in Karad and a written informed consent signed by all the participants was collected.

2.1 Inclusion criteria

(1) Age group above 40 years.
(2) Both male and female, willing to participate
(3) Physician confirmed diagnosis of OA knee
(4) Command over English, Hindi or Marathi language.

2.2 Exclusion criteria

(1) Other knee joint pathologies eg. Rheumatoid arthritis, chondromalacia patella etc.
(2) Neurological disorders.

Participants were selected based on the above mentioned inclusion and exclusion criteria. The participants were interviewed personally and the questionnaire was handed out to the participants, with instructions given to tick the most relevant answer according to them. The materials used to perform this study were the data collection sheets, consent forms and internet facilities. Ethical committee approval for the study was obtained from the protocol committee and institutional ethical committee of Krishna Institute of Medical Science 'Deemed to be University'. All procedures performed in this study were in accordance to the ethical standards of 'Krishna Institute of Medical Science 'Deemed to be University' registration number. ECR/307/Inst/MH/2013/RR-16

2.3 Outcome measures

Interview Questionnaire was developed based on the literature describing the clinical management of OA[11]

3. STATISTICAL ANALYSIS

The data was collected using the purposive sampling method. Data was thus collected and recorded manually and analysed using the Graph Padinstat version 3.1

4. RESULTS

Question No.1

Which health professional did you initially approach?

Table 1. Health professionals initially approached by the patients		
Option	**Number of participants**	**Percentage**
A (Orthopaedic surgeon)	21	35%
B(GP)	29	48%
C(Physiotherapy)	10	6%
D(Ayurveda/Homeopathy)	0	0
Total = 60		

GP: General Physician

The table no.1 represents that out of a total of 60 participants in the given questionnaire 21 opted for option A, 39 opted for option B, 0 participants opted for option C & D. The above table states that a majority of people prefer going to the general physician first followed by an orthopaedic surgeon whereas a very minimal amount of people opting for physiotherapist.

Question No. 2

Which medications were used during the course of the condition?

Table 2. Medications used by the patients during the course of the condition.		
Option	**Number of participants**	**Percentage**
A (NSAIDS)	45	75%
B(Acetaminophen)	28	46%
C(cortisone injections)	45	75%
D (Ayurveda/Homeopathy)	10	16%
Total = 60		

Nsaids: Non steroidal anti inflammatory drugs

The table no. 2 represents that out of a total of 60 participants in the given questionnaire 45 opted for option A, 28 opted for option B, 45 opted for option C, 10 participants opted for option D. The above table determines that majority of individuals use NSAIDS and cortisone injections to manange their symptoms with comparatively less use of acetaminophen, and ayurvedic/homeopathic medications.

Question No. 3

Which management approaches were adopted?

Table 3. Management approaches adopted by the patients.		
Option	**Number of participants**	**Percentage**
A(kneecap)	43	71%
B (heat)	49	81%
C(exercise)	18	30%
D (none)	0	0
Total = 60		

The table no. 3 represents that out of a total of 60 participants in the given questionnaire 43 opted for option A, 49 opted for option B, 18 opted for option C, 0 participants opted for option D. This above table determines that heat therapy and knee cap is utilized by a vast majority of people while very few people inculcate exercises as a management approach.

Question No. 4

Mention the sequence of the above chosen options

Table 4. Sequence of the above chosen options used by the patients.						
Sequence	**Heat**	**Percentage**	**Knee cap**	**Percentage**	**Exercise**	**Percentage**
1st	8 participants	13%	6 participants	1%	4 participants	6%
2nd	3 participants	5%	2 participants	3%	4 participants	6%
3rd	1 participant	0.1%	3 participants	5%	2 participants	3%

The Table no. 4 represents the preferences of the participants. Heat being the 1st preference in a sequence by participants, 2nd by 6 participants and 3rd by 4 participants; Knee cap being the 1st preference in a sequence by 3 participants, 2nd by 2 participants and 3rd by 4 participants; Exercise being the 1st preference in a sequence by 1 participant 2nd by 3 participants and 3rd by 2 participants.

Table 5. Number of participants using single approach.		
Single Approach	**No. Of participants**	**Percentage**
Heat	14	23%
Exercise	4	6%
Knee cap	9	15%

The table no. 5 represents the number of participants using only a single approach, 14 participants chose heat as their single approach, 4 participants chose exercise, knee cap was chosen by 9 participants.

Question No. 5

Mention the sequence of health professionals approached

Table 6. Sequence in which the patients approached the health professionals .

Sequence	Orthopaedic surgeon (A) Single approach:16	In %	General practitioner(B) Single approach: 14	In %	Physiotherapist (C) Single approach: 4	In%	Ayurveda (D) Single approach: 0	In %
1st	8	13%	10	16%	4	6%	0	0
2nd	10	16%	4	6%	8	13%	0	0
3rd	4	6%	8	13%	4	6%	0	0
4th	0	0	0	0	0	0	6	10%

The above table represents the number of participants who opted for
Option A as their 1st preference in a sequence by 8 participants, 10 as 2nd preference, 4 as 3rd;
Option B as 1st preference in a sequence by 10 participants, 2nd preference by 4 participants, 3rd by 8 participants;
Option C as 1st preference by 4 participants, 2nd preference by 8 participants, 3rd by 4 participants;
Option D as 4th preference in a sequence by 6 participants.
The above table also represents the number of participants who chose a single approach, option A by 16 participants; option B by 14 participants; option C by 4 participants; option D by 0 participants. Analysis of the data collected resulted in 48% participants approaching GP as initial approach and 35% to an orthopaedic surgeon while only 6% to a physiotherapist, 81% used heat therapy to manage symptoms 71% using knee cap and only 30% using exercise. 13% used heat as the 1st measure in a sequence, 1% used knee caps and 6% used exercise. In a single approach 23% opted for heat, 15% for knee cap and 6% for exercise. 75% were prescribed NSAIDS, 46% Acetaminophen, 75% taking cortisone injections C, 16% taking Ayurvedic medication. In a sequence 13% opted for Orthopaedic surgeon as 1st approach 16% for general practitioner(GP) and 6% for a physiotherapist. In a single approach 26% opted for Orthopaedic surgeon, 23% for general practitioner and 6% for a physiotherapist.

5. DISCUSSION

The primary aim of this study was to find out the various management approaches adopted by the individuals with Osteoarthritis of knee in the city of Karad using a sample size of 60 . The clinical features includes joint pain ,joint stiffness which supervenes after a period of inactivity, also superimposed by a loss in the joint range of motion[12,16]. The study showed more number of females affected as compared to males which is similar to another reported study[3]. This study concluded thata large number choose the General Physician(GP) as their initial approach, followed by the orthopaedic surgeon and the diagnosis was also made by the respective chosen health professionals. There were only a few participants who approached a Physiotherapist as an initial contact, reflecting the lack of awareness amongst the individuals. Also no initial contact was made to any other health professionals. Participants were found to be using drugs such as NSAIDS, some using acetaminophen, some found to be using cortisone injections. Use of medications prescribed through Ayurveda was also seen. The participants were found to be utilising the trial and error method to manage their symptoms of pain and stiffness. The heat modality as the primary source of their pain relief, followed by supportive and unloading devices such as knee caps/knee brace etc were used by majority of participants. Exercise modality as an approach for management was used less comparatively, determining a need of awareness about the importance of exercise as a basic way maintaining the general well-being and managing the symptoms. The use of various approaches were found to be adopted in a sequence which included the use of heat followed by the use of knee caps and then exercises by some individuals, whereas some used knee cap as the first modality in the sequence, and use of exercises was seen in some. Participants were also found to be using only a single approach in which heat was used majorly. None of these self-remedies were found to be worsening the condition in majority, whereas the excessive use of knee caps and vigorous exercising were found to aggravating the pain in some, thus determining the need for appropriate use of supportive devices and specific exercise prescription which would be possible by the involvement of a Physiotherapist. The participants were found to be approaching a number of health professionals if satisfactory treatment was not achieved. The majority approached an Orthopaedic surgeon after an unsatisfactory treatment in initial approach, followed by approaching a GP. A few chose other health professionals (Ayurveda). Less were seen approaching a Physiotherapist after an unsatisfactory initial approach which states the lack of knowledge and the need for awareness about physiotherapy being a major aspect in management of Osteoarthritis of knee. The various approaches to health professionals was found to be sequential in a number of participants involved in this study, some were found to follow a peculiar sequence involving an approach to an Orthopaedic surgeon followed by a GP and then a physiotherapist, some participants were found to approach Ayurveda after these three approaches, this sequences was also found to be involving GP as well as Physiotherapy in the start of the sequence of approaches, whereas some were found to be approaching only a single health professional in which an approach to orthopaedic surgeon was seen majorly followed by GP, less were found to rely on physiotherapy as their single approach. Participants were found to be using Analgesic drugs for their pain relief, some utilised anti-inflammatory drugs, a few were found to use ointments/oils, whereas some reported not utilising any kinds of over the counter drugs. The participants in this were seen to be utilising a trial and error method for adopting various approaches for the management of their symptoms, this was seen in the participants in a similar study carried out[13]. No clear and effective pathway for the management of symptoms

in patients with osteoarthritis of knee was found despite the availability of many guidelines determining a requirement of availability of a specific and effective pathway which the patients can adopt involving both pharmacological and non-pharmacological modalities[14]. The recommended approaches involve the referral to a Physiotherapist as a basic requirement along w ith the education of the individuals about the condition[15], which will enable them to be more readily involved in adopting appropriate management strategies according to their requirements.

6. CONCLUSION

The primary finding from this study is that there is no clear pathway for management for the patients with Osteoarthritis of knee in the city of Karad, causing the individuals to utilise a variety of approaches to deal with the symptoms. Majority opted for GP as their initial approach, Physiotherapists were seen only by a few participants, and not many were seen utilising exercise modality. This study will thus allow the development of a more specific and effective pathway for the management of Osteoarthritis of knee.

7. AUTHORS CONTRIBUTION STATEMENT

Ms. Minal Masekar and Dr. Smita Patil conceived the presented idea. Dr. Khushboo Chotai developed the theory and performed the computations. Dr. Chandrakant Patil verified the analytical methods. Dr. Smita Patil encouraged Ms. Minal Masekar to investigate and supervised the findings of this work. All authors discussed the results and contributed equally to the final manuscript

8. CONFLICT OF INTEREST

Conflict of interest declared none.

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