

Current Physiotherapeutic Approaches used by Clinical Therapists in Surat to Treat Patients with OA Knee: A Cross - Sectional Survey

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Abstract: ***Background:** Osteoarthritis is the key contributor to musculoskeletal pain and deformity in old age people. Knowledge of research on the evaluation and treatment of knee OA among physiotherapists may have an impact on the application of evidence - based practice. The current study set out to determine how Surat physiotherapists manage patients with knee OA and to assess their knowledge of the material. The primary goal of the study was to record physical therapy services given to patients with knee OA and to evaluate the predominant types of treatment utilised by physical therapists to provide maximum benefits to their patients. **Method:** We made a structural questionnaire, generated a Google form and distributed it both online and offline. There were a total of 14 MCQs to be answered. Out of 150 participants 106 responses received. **Result:** The majority of responses were using integrated approach around 92% of therapists were using a combination of electrotherapy, manual therapy, certain exercises, and bracing. Before deciding on a course of treatment, 73% of therapists extensively assess their patients. 80% of them were using more than 2 pain - relieving modalities, with an average session lasting 45 minutes per day (70%). According to patients' input, 63% of them changed their treatment plan within a week whereas just 36% used outcome scores to assess their outcome of treatment plan. **Conclusion:** Physiotherapists in Surat were using a multifaceted strategy for their patients including knee exercises, education, electrotherapeutic modalities and manual therapy.*

Keywords: Knee Osteoarthritis, Management, Treatment, Physiotherapy.

1. Introduction

The most typical type of arthritis is osteoarthritis (OA). It is a disorder that results in the degeneration of joint cartilage. The soft, rubbery substance called cartilage cushions the ends of bones. The bones rub against one another as cartilage degrades, resulting in discomfort, stiffness, and edema. Any joint in the body can develop OA, but the hands, knees, and hips are frequently involved. Degenerative joint disease or "wear and tear" arthritis is other names for osteoarthritis of the knee. Approximately 10% of men and 18% of women over the age of 65 have symptomatic OA, whereas more than 50% of those over 65 have radiographic OA. A large extracellular matrix of type II collagen, water, and aggrecan surrounds the cellular component, chondrocytes, in the complex tissue known as cartilage. Although the precise causation of OA is uncertain, it is believed to be brought on by a number of causes, including: Older age, history of prior knee injury, jobs that demand frequent bending over or squatting increase the risk of getting OA, obesity or overweight places additional strain on knees.

Although there is no known treatment for OA, there are methods that can lessen discomfort and enhance functionality. Options for treating OA of the knee include:

Medication: NSAIDs such as ibuprofen or naproxen, can help in relieving pain and inflammation. In severe circumstances, prescription painkillers like opioids may be utilised.

Surgery: For those who experience extreme discomfort or have trouble walking, surgery may be an option.

Physiotherapy: It can help to increase range of motion and to strengthen the muscles around the knee, relieve pain by various electrotherapeutic modalities. Many electrical modalities, including transcutaneous electrical nerve stimulation (TENS), ultrasound, infrared, and light amplification from stimulated emission of radiation (LASER) therapy, are being researched for therapeutically relieving symptoms of OA. Acupuncture, myofascial release, stretching, muscular energy technique (MET), neural tissue tension techniques, strain counter - strain, and positional release treatment are further methods.

Additional treatments include stretching, strengthening, walking with braces, deep transverse friction massage and traction. Biofeedback to specifically strengthen vastus medialis oblique muscle (VMO). Manual therapies like Maitland and Mulligan mobilisations that have the potential to improve range of motion. The range that is accessible shouldn't be painful. Manual therapies like Maitland and Mulligan mobilisations are used for OA treatment. Both have the potential to improve range of motion. The range that is accessible shouldn't be painful.

2. Aim

What treatment plan are clinical therapists in Surat employing to treat patients with OA.

The goal of this study was to look into the beliefs, skills, and practises of physical therapists in Surat when it comes to treating people with OA knees in clinical settings.

3. Method

A cross sectional survey study was carried out in Surat district among the practicing clinical therapists of age > 23 years. A team of three physiotherapist who were expert in treating musculoskeletal injury made a preliminary questionnaire. A convenience sample of academicians of physiotherapy of a university were asked to comment on the content resulted in several changes to the questionnaire and some additional questions were added. A Google form was generated and distributed both online and offline. There were a total of 14 MCQs to be answered. Out of 150 participants 106 responses received. Postgraduates and physiotherapists having at least an undergraduate degree were regarded to be eligible respondents. The survey did not include interns or students of physiotherapy. Before starting an online or offline survey, each responder had to sign a consent form. Google form links to the questionnaire were disseminated when the inclusion and exclusion criteria were met. 150 physiotherapists in all took part in the study; 106 provided demographic information and permission forms. 44 therapists chose not to reply. The data from 106 participants was ultimately analysed. To guarantee that the physiotherapist's usual procedures were explored, the responses were closed - ended and multiple - choice. The information was gathered from November 2022 to February 2023. The gathered data was thereafter transformed into a master excel sheet for analysis (N=106).

Following questions were included into the questionnaire and respondents were given options to choose any one in each question.

- 1) What is your clinical work experience?
- 2) How many osteoarthritis (OA) patients do you treat in a week?
- 3) Do you use the Kallgren & Lawrence grading system of classification of OA based on X - rays?
- 4) Which outcome measures do you use in your clinical practice?
- 5) What evaluations do you consider for OA patients?
- 6) What treatment protocol do you use in OA patients?
- 7) What exercises do you prescribe in exercise therapy?
- 8) What electrotherapy modalities do you use for patients' treatment of OA?
- 9) Do you use any physiotherapeutic treatments for OA?
- 10) What strategies do you follow for weight reduction if the patient is obese?
- 11) How frequently do you provide treatment in a week?
- 12) What is the average treatment duration per session?
- 13) How frequently do you modify the treatment based on patient feedback?
- 14) What is the average duration of treatment in weeks?

Data Analysis:

- For the purpose of data analysis, all structural questions from V1 to V14 were given variables, and all variables were coded.
- SPSS 23 version software was used to analyze the data and obtain the frequencies and percentages for each variable.
- Current available physiotherapeutic treatment and other demographic data were analyzed by descriptive analysis.

- Frequency and percentage of all questions were calculated.

4. Results

Of the participants in our study (88%) were those with 0 to 5 years of clinical experience. Participants (57%) saw 5 patients per week. (56%) of the participants did not use the Kallgren and Lawrence grading system for OA based on x - ray classification. (36%) Participants used the knee injury & outcome score to evaluate individuals with OA. The majority of participants (73%) thought of evaluating OA patients. Participants use the full range of protocols (92%) as outlined in the treatment choices. Participants' descriptions of all exercise therapy recommendations as treatment options totaled 63%. Eighty percent of the individuals employed every electrotherapeutic modality available. Participants who made up (56%) did not apply any of the listed therapy methods for OA patients. Participants (68%) administer treatments five days a week. Participants treated for 45 minutes each session (70%) on average. (63%) Participants changed their course of treatment in response to patient feedback within a week.

5. Discussion

The primary goal of the study was to understand how therapists in Surat used the most recent physiotherapeutic treatment options for patients with OA knees. The data analysis revealed a range of responses, with very strong evidence by 92% of participants who are using all treatments in accordance with patient education and evaluation of OA knee including electrotherapeutic modalities like TENS/IFT, Ultrasound, and Hot/Cold packs Acupuncture and manual therapy techniques, which were both regarded as potential supplements to core therapies within the guidelines, were other modalities that were majorly used respondents.

Clinical and radiographic examination of knee OA was performed using the Kallgren and Lawrence Scale's I-IV grading system. Radiographic imaging standards were used in two articles. The clinical criteria from Altman were employed in one paper, but the diagnostic criteria were not mentioned in the other. These criteria are the ones that are most frequently used to diagnose OA knee in observational and clinic - based research papers. Many responders also described using a combination of manual treatment and therapeutic exercise to manage knee OA. The use of manual therapy as a non - pharmacological treatment for knee OA is highly encouraged by a number of clinical guidelines, which are in line with this therapeutic approach. Combining acupuncture with manual therapy or therapeutic exercise is one recognised way for treating knee OA. However, the National Institute for Health and Care Excellence does not endorse acupuncture for the management of osteoarthritis [13].

The best available statistics indicate that there is a discrepancy between what we are doing and what we should be doing when it comes to physiotherapy treatment of knee OA. The planning of therapy for fictitious patients as outlined in this study gave a good view into the respondents' grasp of what comprises core and adjunct modalities in the

treatment of knee OA in accordance with clinical treatment recommendations. The majority of physiotherapists in Nigeria preferred electro/thermal modalities to manual therapy and therapeutic exercises, which required more skill and had more evidence to support their efficacy in relieving pain. Here, knee OA management guidelines and recommendations do not apply. When therapeutic activities improve function and health status while reducing pain, they are crucial components of every patient's care for knee OA, according to research [13].

The majority of the participants' explanations for their therapy choice included evidence from the literature, which is typical of what might be expected in clinical settings. Given the popularity evidence - based clinical practice has grown due to the publication of specific clinical recommendations for the treatment of knee OA by a number of professional bodies, this was expected. Respondents to this survey gave very little weight to the availability of specific treatments, which is to be expected given that different clinical conditions have different treatment strategies.

6. Conclusion

For the treatment of patients with OA knees, physiotherapists in the Surat district employ a combined, integrated approach that includes specific OA knee exercises, electrotherapeutic modalities, weight - loss techniques like diet modification, and manual therapy methods like Maitland and Cyriax for joint mobilisation.

7. Limitations

More therapy regimens, such as stretching, footwear modification, knee caps, aerobic exercise programmes, and home exercise programmes, could have been included in the questionnaire. Small sample size.

References

[1] Joshi J, Kotwal PP. Essentials of Orthopaedics & Applied Physiotherapy - E - Book.3rd edition. Elsevier India; 2016.2415 p.

[2] Osteoarthritis of the Knee – An Introduction - Adrian White, 2006 [Internet]. [cited 2022 Jul 14]. Available from: <https://journals.sagepub.com/doi/abs/10.1136/aim.24.Suppl.1>

[3] Anandacoomarasamy A, March L. Current evidence for osteoarthritis treatments. Ther Adv Musculoskelet Dis.2010 Feb 1; 2 (1): 17–28.

[4] Shamsi S, Al - Shehri A, Amoudi KOA, Khan S. Effectiveness of physiotherapy management in knee osteoarthritis: A systematic review. Indian J Med Spec.2020 Oct 1; 11 (4): 185.

[5] Zeng C, li H, Yang T, Deng Z - h., Yang Y, Zhang Y, et al. Electrical stimulation for pain relief in knee osteoarthritis: systematic review and network meta - analysis. Osteoarthritis Cartilage.2015 Feb 1; 23 (2): 189–202.

[6] Dustgir A. Management of Advanced Stage Osteoarthritis of Knee : Efficacy of Integrated Physical Therapy. J Physiother Sports Med.2013 Jun 1; 2: 1–13.

[7] Hicks CA. What Are the Different Types of Manual Therapy? [Internet]. Carlson ProCare.2021 [cited 2022 Jul 15]. Available from: <https://www.carlsonprocare.com/blog/what - are - the - different - types - of - manual - therapy/>

[8] Pollard H, Ward G, Hoskins W, Hardy K. The effect of a manual therapy knee protocol on osteoarthritic knee pain: a randomised controlled trial. J Can Chiropr Assoc.2008 Dec; 52 (4): 229–42.

[9] Saha P, Yangchen T, Sharma S, Kaur J, Norboo T, Suhail A. How Do Physiotherapists Treat People with Knee Osteoarthritis and their evidence awareness: A cross - sectional survey among Indian Physiotherapists. . ISSN.

[10] Evidence based guidelines and current practice for physiotherapy management of knee osteoarthritis - PubMed [Internet]. [cited 2023 Apr 8]. Available from: <https://pubmed.ncbi.nlm.nih.gov/18972322/>

[11] Shamsi S, Al - Shehri A, Amoudi KOA, Khan S. Effectiveness of physiotherapy management in knee osteoarthritis: A systematic review. Indian J Med Spec.2020 Oct 1; 11 (4): 185.

[12] Walsh NE, Pearson J, Healey EL. Physiotherapy management of lower limb osteoarthritis. Br Med Bull.2017 Jun; 122 (1): 151–61.

[13] Physiotherapy management of knee osteoarthritis in NigeriadA survey of self - reported treatment preferences Olusola Ayanniyi, PhD a, *, Roseline F. Egwu, MSc b, Ade F. Adeniyi, PhD - Google Search [Internet]. [cited 2023 Apr 8].

Table 1: Questionnaire with frequency denoting maximum responses received in the given option.

Questionnaire	Frequency
clinical work experience	88% (0 - 5)
OA patients in a week	57% (5 - 10)
Use Kallgren and Lawrence grading system	56% (yes)
Outcome measure	36% (<1)
Evaluations	73% (All)
Treatment protocols	92% (combined)
Prescribe Exercises	63% (combined)
Prescribe Electro modalities	80% (combined)
Enumerated treatment approaches	56% (none)
Weight reduction strategies	92% (combined)
Treatment time in a week	68% (daily)
Average treatment duration per session	70% (45min)
Treatment modification	63% (daily)
Average weeks of treatment	79% (1 week)

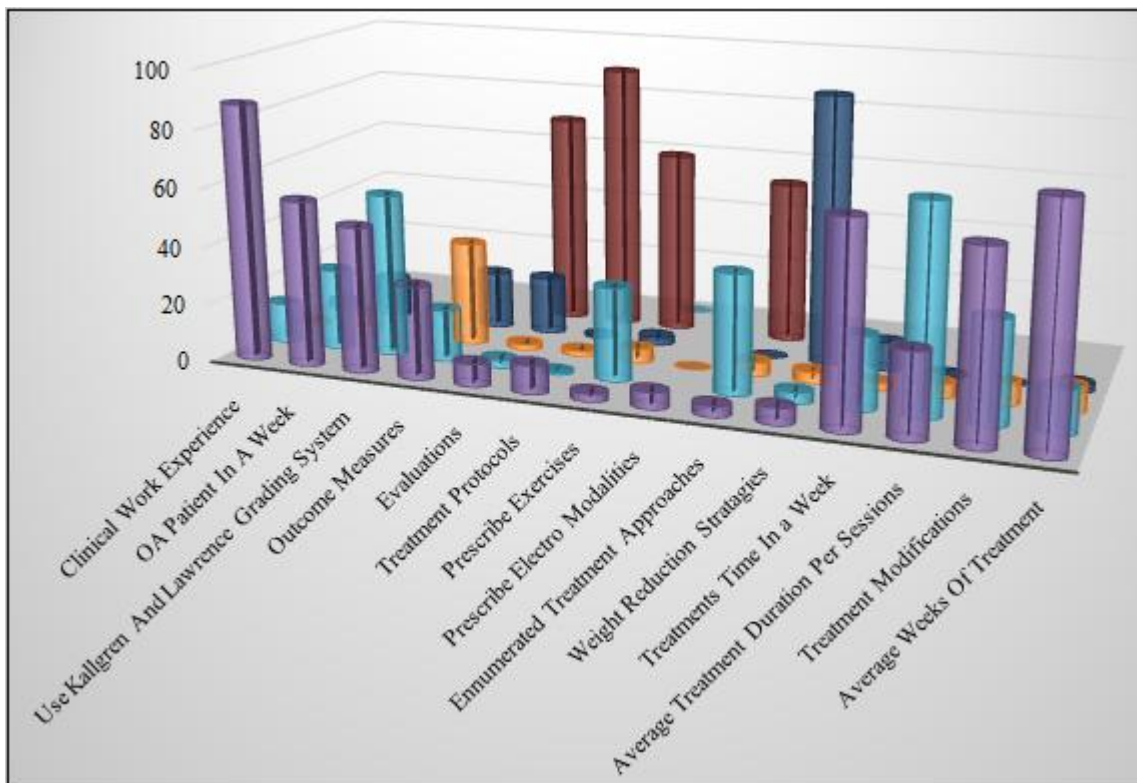


Figure 1: Questions with responses received in MCQs