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KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING NON-SURGICAL INTERVENTION AMONG KNEE OSTEOARTHRITIS PATIENTS

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Abstract : This study has been undertaken to assess knowledge, attitude, and practice regarding non-surgical intervention among knee osteoarthritis patients with self-made questionnaire. The questionnaire included three aspects of knowledge, attitude, and practice to put limelight on crucial factors which are responsible for managing knee osteoarthritis. The conclusion of the study based on the findings of results reveals that the patients had good knowledge about non-surgical intervention and showed positive attitude towards non-surgical intervention with high level of practice performed.

IndexTerms **- Intervention, Osteoarthritis, Crucial, Positive**

I. INTRODUCTION

Osteoarthritis (OA), also referred to as degenerative joint disease (DJD), stands as the most prevalent type of arthritis. It divides into two main types: primary osteoarthritis and secondary osteoarthritis. Typically characterized by joint pain and diminished functionality, OA manifests when the hyaline cartilage covering the ends of bones deteriorates. This cartilage, responsible for providing a smooth surface for joint movement and acting as a buffer between bones, breaks down in OA, resulting in pain, swelling, and limited joint mobility. As the condition progresses, bone degradation and the formation of spurs may occur. Additionally, fragments of bone or cartilage might detach and float within the joint, contributing to inflammation. Eventually, in the advanced stages of OA, the cartilage erodes entirely, causing bones to directly rub against each other, leading to further joint damage and heightened discomfort.

Osteoarthritis, which impacts about a quarter of adults, becomes more prevalent as people age. Below the age of 50, men are more commonly affected, while in older age groups, women are more prone to the disease. Common non-surgical treatments include education, exercise, weight management, therapy, medication, and supplements. Surgery, such as joint replacement, is considered only when other interventions fail to sufficiently improve symptoms and daily functioning. Osteoarthritis is described as a progressive joint condition influenced by biochemical or genetic factors, with worldwide impact and resulting in both physical and psychosocial effects.

Knowledge about non-surgical treatment options such as exercise therapy, weight management, medications (e.g.: analgesia, NSAID's) should be explained to patients to provide them with knowledge.

Awareness of the benefits and limitations of non-surgical intervention as well as potential side effects and risks helps patients make informed decisions about their treatment.

Attitude towards non-surgical intervention can vary among Knee OA patients. Some may have a positive attitude and be motivated to actively participate in non-surgical treatments to alleviate symptoms and improve functions.

Attitude can be influenced by factors such as perceived barriers to accessing care, cultural beliefs, and personal preferences for treatment modalities.

Regular physical activity can help maintain joint function, reduce pain, improve mobility, and enhance overall quality of life for individuals with Knee OA. It's important to incorporate a variety of exercises including strength training, flexibility exercises and low impact aerobics activities. Consistency and proper technique are key to experiencing the long-term benefits of exercise for Knee OA management.

Providing patients with information about their condition, self-care strategies, home protocol and resources for support can empower them to take an active role in managing their OA and improving their quality of life.

While corticosteroid injections can provide short term relief, they may also have potential long term side effects, especially with repeated use or higher doses. Some of these long term side effects include Cartilage damage and osteoporosis.Hence,it is important to weigh the potential benefits of corticosteroid injections against the risks of long term side effects when considering treatment options for patient.

NEED OF THE STUDY

Since Knee OA is chronic condition, studying non surgical intervention helps develop long term management strategies to optimize patient care and reduce the need for surgical intervention.

Due to lack of physical exercise there is need to encourage patient to exercise by teaching him/her lifestyle modification.

By Implementing Knowledge, Attitude and Practice ,we can empower Knee OA patients with the knowledge and resources they need to actively participate in managing their condition and improving the Quality of life.

There is lot of misconception about non surgical intervention ,hence to clear those and provide patient education.

While corticosteroid injections can provide short term relief ,they may also have potential long term side effects, especially with repeated use or higher dosage.Hence to create awareness about it.

RESEARCH METHODOLOGY

3.1Population and Sample

This study design is cross sectional with method of random sampling of Knee Osteoarthritis Population with sample size of 100 and patients with inclusion criteria of both gender, age group of 45 -70, patients those who are diagnosed with knee osteoarthritis patients, patients with specific radiological investigation such as X-ray or patient referred by Orthopedic doctors.

3.2 Data and Sources of Data

For this study data was collected through a Questionnaire which was self-made for assessing knowledge, attitude, and practice of non-surgical intervention among knee OA patients was first validated by ethical committee of TMV's Physiotherapy Staff.

Questionnaire included 3 aspects of Knowledge, Attitude and practice to put limelight on crucial factors which are responsible for managing knee OA.

Patients were approached and consent was taken prior to the study. Aim and Objectives was explained to the patients who were willing to participate in the study and were included according to Inclusion and Exclusion Criteria .

This Questionnaire was distributed to patients by explaining them the questions and gist about questionnaire was given to them prior,and it was distributed in various hospital including Kamla Nehru Hospital, Lokmanya for special surgery (SB road), Sonawane hospital, Ruby Main Hall Clinic, Krishnaprabhu Old Age Home, Rao Hospital .

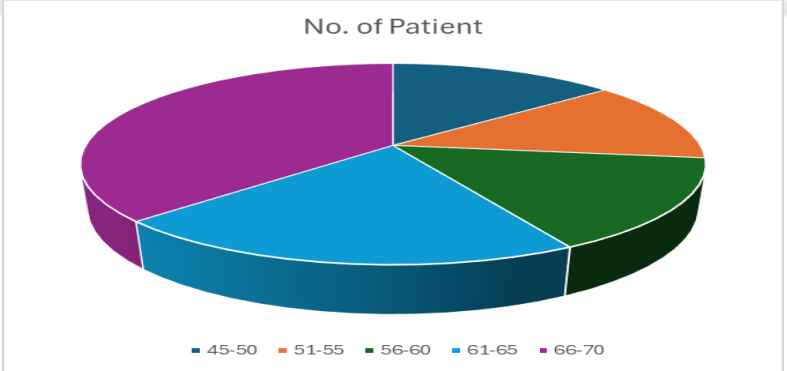
The patient was informed about knowledge, attitude and practice regarding knee OA, through questionnaire.

Patient education, counselling and lifestyle modification was explained to patient through the questionnaire.

IV. RESULTS AND DISCUSSION

Table 1 : Age & No of Patients

Age	45-50	51-55	56-60	61-65	66-70
No of patients	14	13	15	21	37



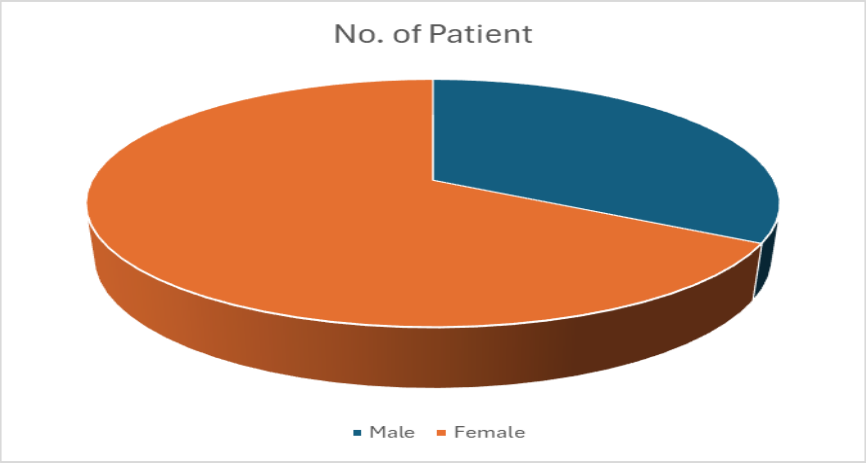
Graph1 : Pie chart of Age

This graph indicates Age distribution.

Mean =61
SD= 8.099

Table 2 : Gender & No of Patients

Gender	Male	Female
No of patients	33	67

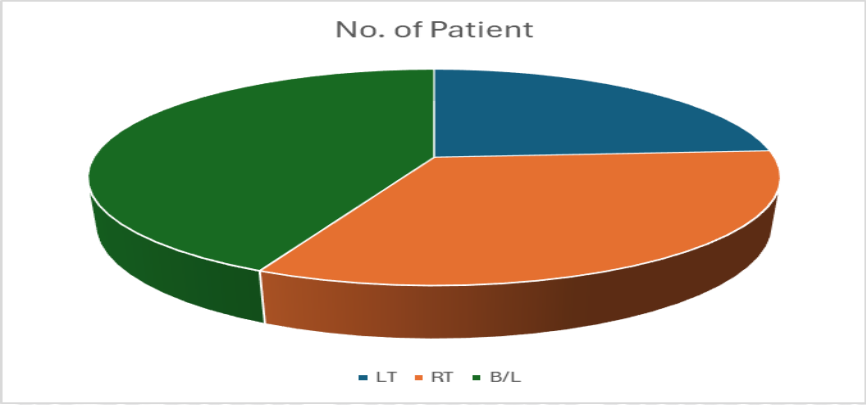


Graph 2: Pie chart of Gender

This Graph indicates Gender distribution.

Table 3: Site of Pain

Site of Pain	Lt	Rt	B/L
No of Patient	24	33	43

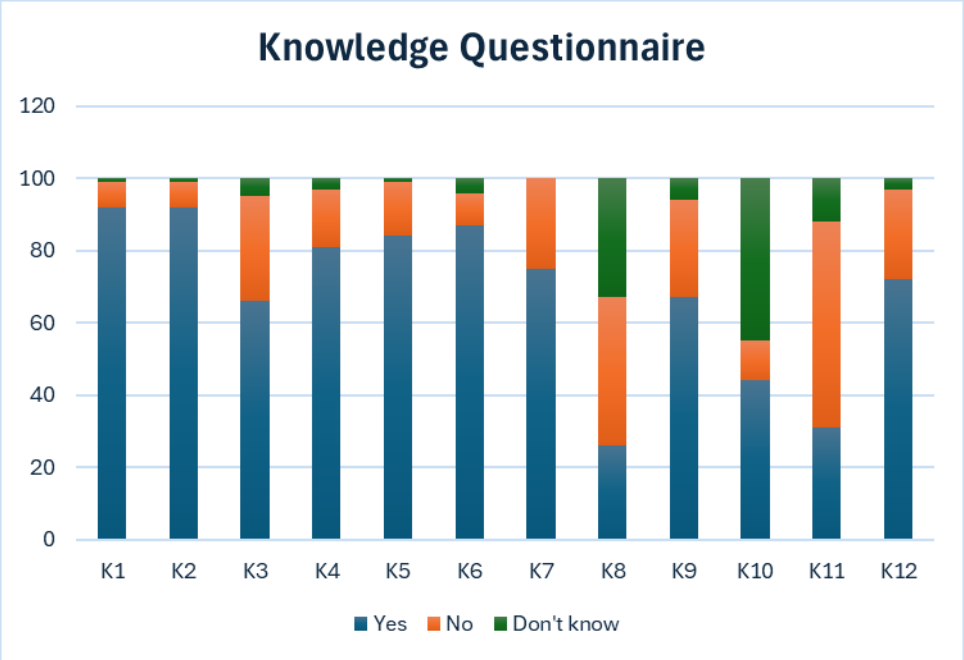


Graph 3 : Site of Pain

This graph indicates Site of Pain

Table 4: Knowledge

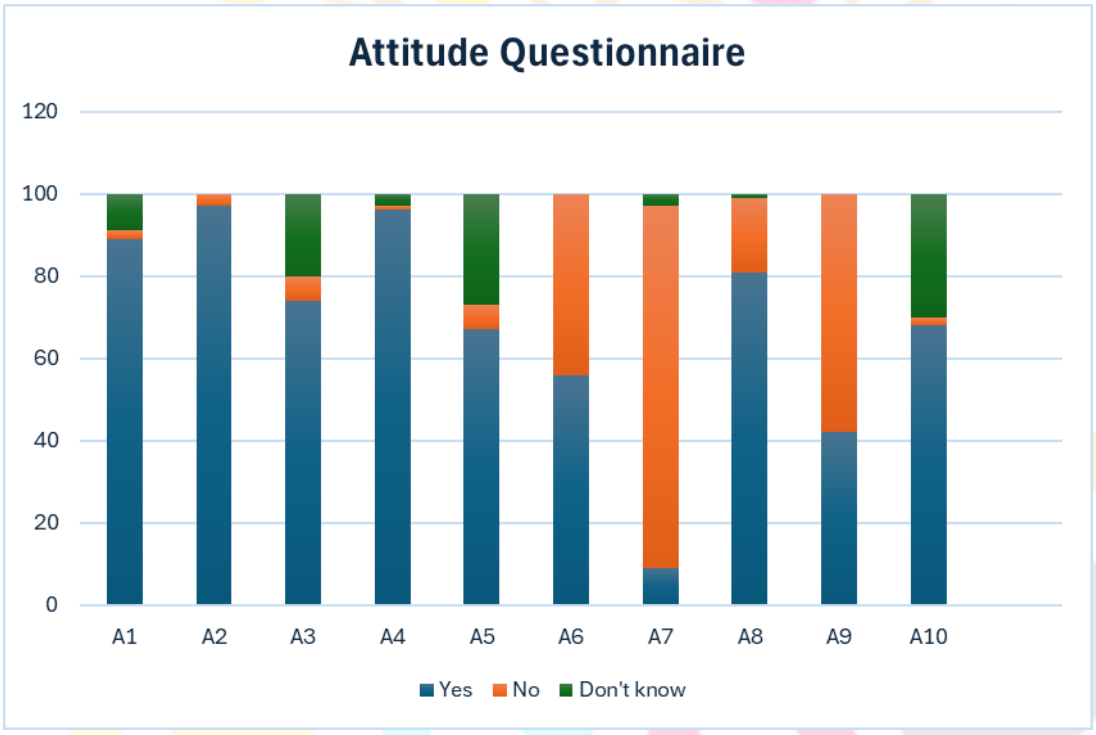
Questions	Yes	No	Don't know
K1	92	7	1
K2	92	7	1
K3	66	29	5
K4	81	16	3
K5	84	15	1
K6	87	9	4
K7	75	25	0
K8	26	41	33
K9	67	27	6
K10	44	11	45
K11	31	57	12
K12	72	25	3



Graph 4: Knowledge Graph
This graph indicates Knowledge among Knee OA patients

Table 5: Attitude

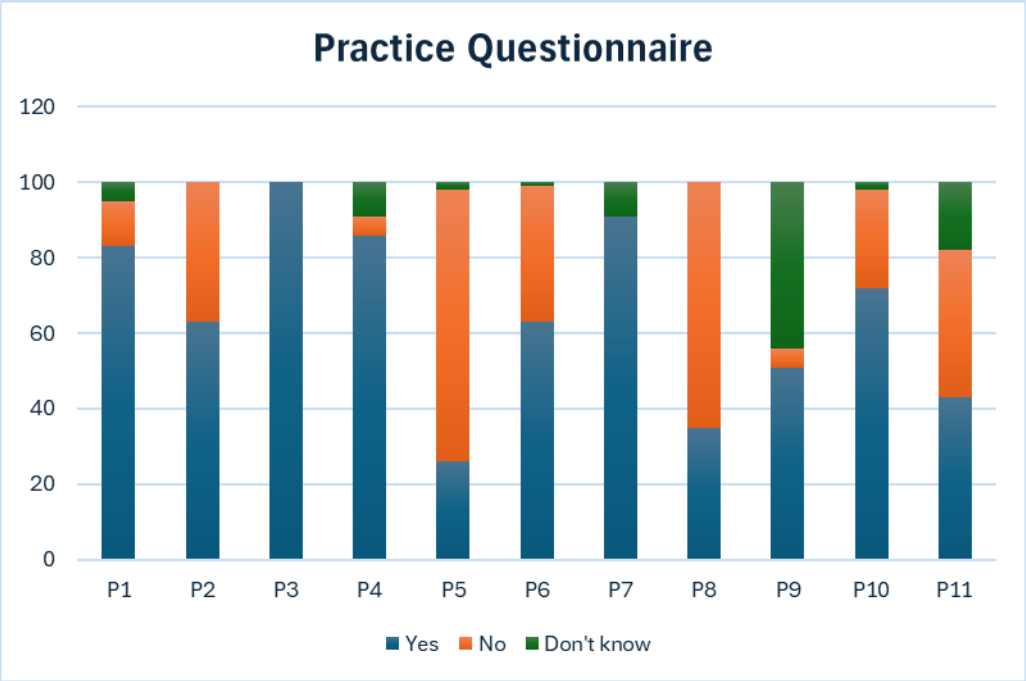
Questions	Yes	No	Don't know
A1	89	2	9
A2	97	3	0
A3	74	6	20
A4	96	1	3
A5	67	6	27
A6	56	44	0
A7	9	88	3
A8	81	18	1
A9	42	58	0
A10	68	2	30



Graph 5: Attitude Graph
This Graph indicates Attitude Among Knee OA patients

Table 6: Practice

Questions	Yes	No	Don't know
P1	83	12	5
P2	63	37	0
P3	100	0	0
P4	86	5	9
P5	26	72	2
P6	63	36	1
P7	91	0	9
P8	35	65	0
P9	51	5	44
P10	72	26	2
P11	43	39	18



Graph 6: Practice
This Graph indicates Practice among Knee OAs patients

Table 7: Correlation of knowledge Attitude and Practice (yes factor)

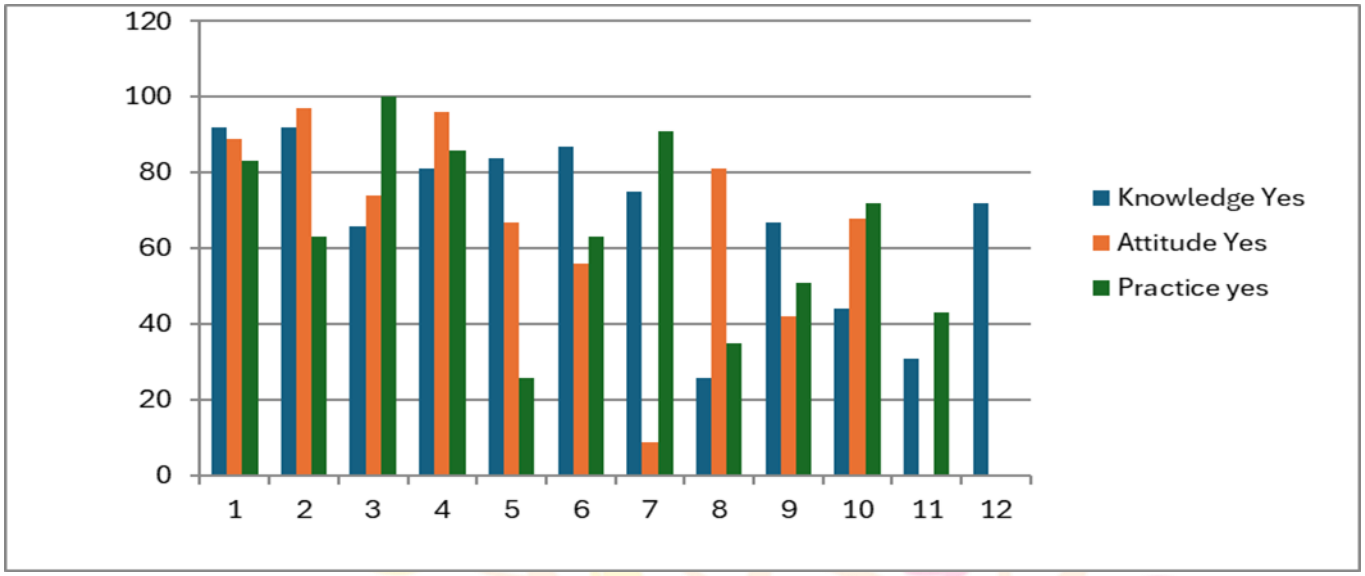
Mean	8.17	67.9	64.81818
Var	519.7197	730.3222	582.3636
SD	22.797362	27.02447	24.13221
Correlation	0.2913606	0.406323	0.238343
t test	0.4931951	0.392713	0.370967
P VALUE	0.01	0.01	0.01

According to the findings of results, p value calculated is 0.01 which is less than 0.05 and hence it is statistically significant. The analysis was conducted with sample size of 100 participants. Mean, Var, SD, Correlation, t test was calculated.
P value is 0.01, hence it is statistically significant.

Knowledge yes factor had interpretation of mean value 8.17, Var 519.7, SD 22.79, Correlation between Knowledge, and Attitude is 0.2913 (low correlation), t test 0.4931, p value of 0.01 (statistically significant)

Attitude yes factor had interpretation of Mean value 67.9, Var 730.32, SD 27.02, Correlation between Attitude and Practice 0.40632 (moderate correlation), t test 0.39271, p value 0.01 (Statistically significant)

Practice yes factor had interpretation of Mean value 64.8, Var 582.36, SD 24.132, Correlation between Knowledge, and Practice is 0.2383 (low correlation), t test 0.23834, p value 0.01 (statistically significant).



Graph7: This Graph indicates correlation between Knowledge, Attitude and Practice.

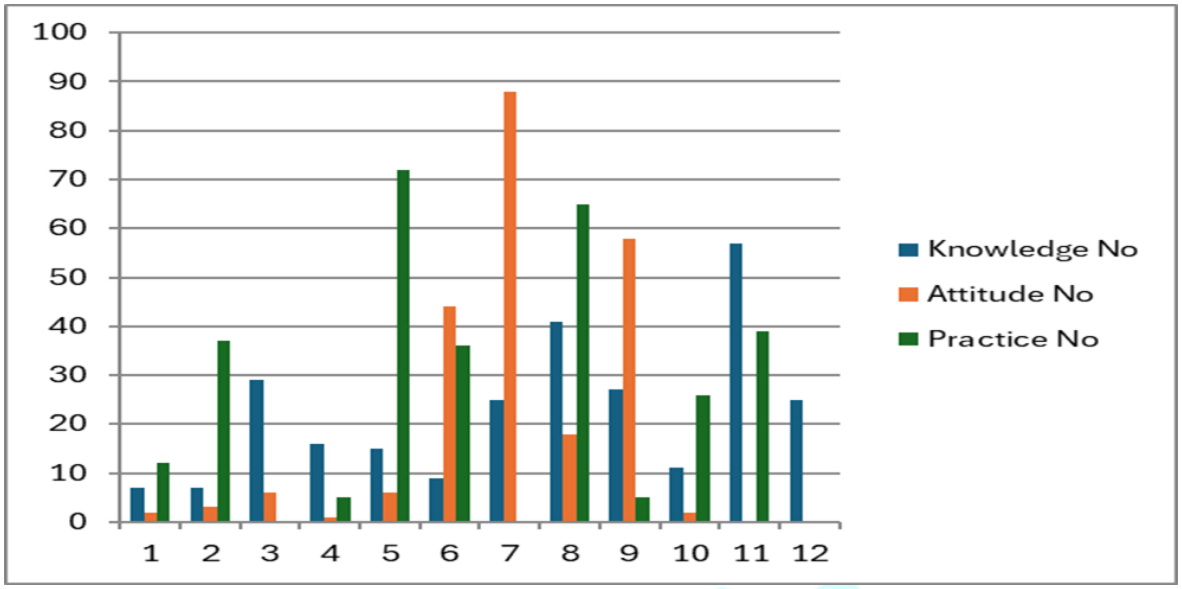
((Table 8 : Correlation of knowledge, Attitude and Practice (No factor)

Mean	**22.416667**	**19**	**24.75**
SD	**15.078331**	**28.803409**	**25.43128**
Var	**227.35606**	**829.63636**	**646.75**
correlation	**0.0263743**	**-0.245111**	**0.1133811**
t test	**0.3596492**	**0.3046798**	**0.3893143**
p value	**0.05**	**0.01**	**0.02**

Knowledge no factor had interpretation of Mean Value 22.4, SD 15.07, Var 227.35
Correlation between Knowledge and Attitude is 0.02637 (low correlation), t test 0.359, p value 0.05
As p value is less than equal to 0.05, it is statistically significant.

Attitude no factor had interpretation of Mean value 19, SD 28.8, Var 829.63
Correlation between Attitude and Practice is -0.2451(negative correlation), t test 0.389, p value 0.01
Since the p value is less than 0.05, it is statistically significant.

Practice no factor had interpretation of Mean value 24.75, SD 25.43, Var 646.75
Correlation between Knowledge and Practice 0.1133 (low correlation), t test 0.389, p value 0.02
Since the p value is less than 0.05, it is statistically significant.



Graph 8 : This graph indicates Correlation between knowledge, Attitude and Practice among knee Osteoarthritis Patients

Discussion

This research study is focused on assessing knowledge, attitude, and practice of non-surgical intervention among Knee OA patients. The study investigated patients' knowledge, attitude, and practice of non-surgical intervention of knee OA in people aged 45 to 75 years.

Knowledge,Attitude and practice are like interlinked bridge which paves pathways towards management of Knee OA. This study is questionnaire based in which the questionnaire is categorized into 3 aspects to put limelight on 3 main factors which are crucial in managing Knee OA. This will help to check knowledge, awareness, practice among patients to take proper measures required to manage knee OA self efficiently and comprehension among those patients was high to tackle/cope with their activities of daily living.

Knowledge Questionnaire mainly focuses on assessing knowledge or information and understanding the nature of osteoarthritis including its causes, symptoms and potential progression is essential regarding non-surgical intervention among knee OA patients. According to the research study, the sample collected had good knowledge of non-surgical intervention of Knee OA, showed positive attitude and good practice regarding non-surgical intervention.

It was important to discuss the following question to check awareness about Osteoarthritis and spread the knowledge among patients.

Q1 is regarding awareness about Osteoarthritis Condition, in which 92% of patients were aware about osteoarthritis condition and stated that it is related to wear and tear of cartilage, increased stress on knee joint, reduced calcium supplementation, aging etc. Other 8% had no knowledge regarding OA they thought it was because of footwear, gait patterns or due to excessive walking which was carried out through lifetime.

It was important to discuss the following question to make patient aware of different physiotherapy treatments .

Q4 is regarding are you aware of different physiotherapeutic treatments?

81% patients were aware of different physiotherapeutic treatment including exercises, electrotherapeutic modalities (IFT, ULTRASOUND), Taping, Matrix therapy etc.16% were not aware about different types of physiotherapeutic treatments as they have tried to manage knee oa only through medications and home remedies. Only 3% were neutral and had no idea about different physiotherapeutic treatments.

It was important to note down home exercise program known by patients to improve their condition by including additional exercise to their home protocol list and explain them benefits of exercise they will achieve by end of the session.

Q5 is regarding Do you know about home exercise programs for osteoarthritis?

Home exercise programs include set of exercise for knee OA patients, which helps to deal with managing knee oa .Exercises help patient to manage knee OA efficiently by providing independence.Exercise helps to elevate mood, provides sense of satisfaction and well being,and gives motivation to manage lifestyle in smooth manner.84% patients had knowledge regarding home exercise programs for OA.15% were unaware about it whereas 1% were neutral about it.

It was necessary to highlight this following question as there is lack of knowledge regarding yogaasnas so patient can be taught yogaasna to improve their physical health .

Q8 is regarding Do you know any yogaasana or exercise for knee OA?

Patient practicing yoga had positive and motivational factor as they believed yoga not only helped to recover their physical health but also proved beneficial in improving mental health by increasing positive belief in lifestyle and increasing concentration span while performing yoga and exercise.26%were aware about yogaasna and were inculcating or practicing it in their daily lives whereas other 41% were not practicing yoga and other 33% don't know/ were unaware about yoga.

It was necessary to discuss the following question because their was common misunderstanding between people to use hot or cold water fomentation for pain relief, some of them used to have inappropriate methods as home remedies which was necessary to correctify as it may have aggravated their pain.

Q9 is regarding Do you follow /know any home remedy for pain relief?

Home remedies offer temporary situational relief of symptoms .Home remedies can be carried out easily at home and its availability is easy and do not require any supervision. According to this question, 67% patients were practicing home remedy for pain relief which included hot packs,ice packs, ointments, oils for massage,turmeric paste,belladonna tapes,etc.27% patients were not following any home remedy whereas other 6% were unaware about home remedies used for pain relief.

It was important to discuss the following questions which puts focus on susceptibility of gender for knee OA, because it was necessary to educate postmenopausal womens regarding this as there is depletion of calcium levels after menopause.

Q10 was focused on susceptibility of gender for knee OA, which stated Do you think females are more prone to suffer from OA?

44% patients had knowledge about this question as they found several reasons behind it which stated menopausal changes in females, less or reduced calcium and due to increased squatting positions required for cleaning floor or for spiritual/religional reasons.

It was important to discuss this following question regarding lifestyle modification by educating patient to improve their quality of life.

Q11 is regarding Do you know any lifestyle modifications?

Due to sedentary lifestyle, it has become mandatory to switch our lifestyles and choose lifestyle modifications including ergonomics, following exercise routines, maintain balanced diet and adequate amount of sleep to revitalize our body. 31% patients had knowledge about lifestyle modifications, 57% did not know any lifestyle modifications and 12% were unaware about lifestyle modifications.

Previous study states Prevalence was increased in patients who have sedentary lifestyle followed by patients with physically demanding and active lifestyle.

It was necessary to discuss the following question which was regarding knowledge about causes of Knee OA because by understanding the causes,patient can take preventive measures such as exercising appropriately and maintaining healthy weight .

Q12 is regarding Do you know the causes of OA?

Patients were aware about causes of OA as they know it included degenerative changes due to age, increased stress on knee joint, increased friction of knee joint, obesity. 72% had knowledge about causes of OA, other 25% had no knowledge regarding causes of OA.3% were unaware about causes of OA.

Previous study by Ying Qian ong et al- (2020) claimed Knowledge, attitudes and practices (KAP) emerged as three factors that are interrelated to each other dynamically and uniquely (45). Wan (2014) highlighted that improved knowledge strengthened self-care practice, polished attitude, and enhanced practice, which resulted in better outcomes (46). Hence, knowledge and attitude regarding non-surgical intervention are essential in predicting patient's compliance to prescribed regimen(47)

Subsequently,patients'willingness to give cooperation andcommitment to the treatments received can ensure long-term effective management (41). A previous study claimed that OA patients had knowledge deficits in terms of the causes and management of the disease. This could result in reduced involvement and adherence to certain interventions, as well as increased chances of misunderstanding and mismanagement (31). Failure of compliance to treatments implied that they might experience lower symptom alleviation and induce personal, health, and economic expenses (48).

Attitude toward non-surgical interventions can vary among knee OA patients. Some may have a positive attitude and be motivated to actively participate in non-surgical treatment to alleviate symptoms and improve function. Attitude can also be influenced by factors such as perceived barriers to accessing care, cultural beliefs, and personal preferences for treatment modalities.

It was necessary to discuss the following question about effectiveness of physiotherapy among participated patients to see the feedback they have received through treatments and improve their education by providing them detailed treatment plans to maximize chances of positive outcomes such as improved function, reduced pain.

Q1 was regarding Do you find physiotherapy effective?

Physiotherapy was considered effective by 89% patients, 2% did not found it effective other 9% were clueless about physiotherapy.Research suggest that physiotherapy interventions such as exercise,manual therapy and education can be effective in reducing pain,increasing joint flexibility and improving muscle strength and stability around knee joint.

It was important to discuss following question to check effectiveness of exercise among Knee OA patients

Q4 was regarding Do you think exercises are beneficial for long term management of OA? In which 96%patients believed exercises are beneficial for long term management of knee oa whereas other 1% were hesistant about the effectiveness and other 3% were not aware about this. Exercise is key factor/gold standard to

increase or improve range of motion, reduce pain, stiffness, increase strength of quadriceps muscle. Exercise help patient to manage knee OA efficiently by providing self efficiency and independence which gives patient freedom to manage his activites of daily living with less hindrance .Consistency and proper technique are key to experiencing the long term benefits of exercise.

It was necessary to discuss the following question to make people aware about long term side effects of corticosteroids.

Q7 was regarding Are you aware about the side effects of long term corticosteroids injections?

Corticosteroids injections if taken for long run proves harmful. Corticosteroids Injection can be associated with range of potential side effects including local and systemic effects.Due to instant relief received from corticosteroid injections,patient tends to take injection for longer duration and rely on it for pain relief. Placebo effect is observed in such patients as they think as soon as they receive injection pain will vanish/or reduce instantly.This happens due to dependency and perceived efficacy achieved before.Some of these long term side effects include Cartilage damage in which corticosteroids can inhibit the synthesis of proteoglycans and collagen in cartilage,potentially leading to accelerated joint degeneration,particularly in weight bearing joints like knee

Osteoporosis; Prolonged use of corticosteroids can weaken bones and increase the risk of osteoporosis, especially in menopausal womensand older adults. Only 9% patients are aware about the side effects of long term corticosteroids injections. Other 91% patient were unaware about the side effects of long term corticosteroid injections.

Q9 was regarding Is your social participation restricted?

Social Participation is restricted due to pain fear avoidance, where patient has emotional response of fear due to increased pain threshold and avoid participation. Social participation is restricted due to various environmental factors such as lift facility is not available, travelling from public transport which is crowded. Patients avoid travelling or social gathering due to pain, reduced range of motion, altered gait and avoid travelling for longer duration as it may lead to increase swelling etc,42 % patients had restricted social participation whereas 58% had no restrictions in their social participation.

Previous research suggested that the attitudes and beliefs of the elderly with knee pain were the key determinants of their exercise and physical behaviour (57, 58). A study asserted that exercise adherence was not satisfactory despite the proven benefits in improving pain and function (59). Campbell et al. (2001) further reported that long-term physiotherapy exercise adherence was affected by a positive attitude to exercise, perceived exercise effectiveness, perceived causes of OA, and perceived symptoms severity (20). Similarly, a study demonstrated that some patients stopped exercising due to their symptoms, believed that exercisingdamaged their joints, and had not adapted their exercise habits. On the contrary, some patients continued to exercise due to beliefs that exercise would improve their symptoms (22).

Practice – The adoption of non-surgical interventions in the management of knee oa depends on various factors,including patient preferences, healthcare provider recommendations and access to resources.Patients who are proactive in managing their condition may be more likely to engage in regular exercise,adhere to prescribed medications and make lifestyle modifications to manage their symptoms.Healthcare providers play a crucial role in promoting the adoption of non-surgical intervention by providing education,treatment and support to help patients implement and sustain lifestyle changes.

It was necessary to discuss following question to assess patient perspective regarding surgical intervention among knee OA patients. Q5 is regarding Do you think surgery is the only option for a severe OA?

In cases of severe OA that do not respond to conservative treatments, surgical options such as joint replacementmay be considered to restore function and alleviate pain.26% patients believed surgery is only option for severe OA whereas other 72% did not believe surgery as option for severe OA due to fear, post-surgical complications, pain, and economical/financial factors.2% were not aware about surgery.

CONCLUSION

Conclusion of the study based on the findings of results reveals that the patient had good knowledge about non surgical intervention and showed positive attitude towards non surgical intervention with high level of practice performed.

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