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A Study To Assess The Effect Of Planned Teaching On Knowledge Regarding Arthritis Among The Individuals Residing In A Selected Community Of Mumbai

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Abstract

Arthritis is one of the most prominent musculoskeletal disorders, characterized by acute or chronic inflammation of the joints. It is recognized as a major public health concern in our country and remains one of the leading causes of disability. The condition significantly affects not only the physical health of individuals but also their psychosocial well-being, thereby imposing a considerable burden on families as well as on the nation's healthcare resources. Early diagnosis and timely treatment of arthritis are therefore crucial in minimizing its long-term impact.

Health education plays a pivotal role in this context, as it serves as the foundation for prevention, early recognition, and effective management of the disease. By imparting accurate knowledge, health education enables individuals to develop healthier habits, adopt positive attitudes, and make informed decisions about their lifestyle and treatment options. This, in turn, empowers communities to reduce the incidence and progression of arthritis.

The present study is designed to explore the importance of providing structured health education about arthritis at the community level. The intervention will be delivered through lecture-cum-discussion sessions within local communal areas, ensuring that the information is accessible and culturally appropriate. The program emphasizes lifestyle modifications, such as regular physical activity, balanced diet, proper posture, and stress management, which are known to play a preventive as well as therapeutic role in arthritis management.

By focusing on awareness creation and behavior modification, this study aims to enhance knowledge among individuals, encourage early health-seeking behavior, and ultimately contribute to reducing the burden of arthritis in the community. Through such initiatives, health education can emerge as a cost-effective and sustainable approach in addressing arthritis as a public health challenge.

Keywords: Arthritis, Musculoskeletal disorders, Health education, Community awareness, Lifestyle modification.

Aim

To improve the knowledge of individuals regarding arthritis after planned teaching.

Objectives

To assess the pre and posttest knowledge of individuals regarding arthritis before and after planned teaching.

Materials and method

One group pre-test post-test design. 60 individuals were selected from an urban area in the community of Mumbai. The nonprobability convenience sampling method was used. Data collection includes the use of planned teaching and, structured interview schedule.

Analysis

At the conclusion of findings regarding pre-test and post-test knowledge of individuals, revealed in the pre-test that nobody had excellent knowledge, and after planned teaching, the knowledge was improved. Comparison between pre-test and post-test mean knowledge scores of individuals regarding arthritis, it was found that the statistical value of the paired t test was(25.9) with p value (0.001). As the p-value is less than the significance level of 0.05, we can state that there was a difference in the knowledge of individuals. The association of post- test knowledge scores of individuals with their selected demographic variable, age, was less than 0.05. That means there was a strong association between the mean score of knowledge with the selected demographic variable, age.

Conclusion

Knowledge scores depicted marked improvement after planned teaching.

Implications

Planned teaching on knowledge regarding arthritis among individual can be taken in nursing service it can improve the knowledge of individuals, it can be used for preventive purposes, it can be used to teach a larger population in the community area. In nursing education, it can impart knowledge regarding the prevention of arthritis. In nursing research, the methodology, tools and findings can be added to the nursing literature, the tools and methodology can provide insight to future nurse researchers; it can be used as reference material for students; the same study can be replicated on a larger population.

Introduction

Musculoskeletal disorders comprise diverse conditions affecting bones, joints, muscles, nerves, tendons, connective tissues, and structures that support limbs, neck, and back. These disorders may result in pain and loss of function and are among the most disabling conditions.

Most types of arthritis have similar symptoms, including joint inflammation, pain, stiffness, and diminished range of motion. The location and severity of symptoms vary from one type of arthritis to another. Symptoms range from mild to severe and may come and go. Some symptoms may stay about the same for years, but can also progress and get worse over time.

Arthritis describes over 100 conditions that involve inflammation and damage in the joints, the tissues around the joint, and other connective tissues. Various types of arthritis are osteoarthritis, rheumatoid arthritis, gout, psoriatic arthritis, juvenile arthritis, and ankylosing spondylitis. The most common types of arthritis are osteoarthritis and rheumatoid arthritis.

Osteoarthritis (OA) is the most common form of chronic arthropathy and the leading cause of disability worldwide. It affects 10% of males and 18% of females over the age of 45, a figure that is set to rise as life expectancy increases. (Mahon et al., 2020)

Rheumatoid arthritis (RA) is an autoimmune disease. When the body's immune system does not operate as it should, white blood cells that usually attack bacteria or viruses attack healthy tissue instead in this case, joint tissue. It causes pain, stiffness, warmth, redness, and
swelling in joints.

Chronic synovial inflammation in rheumatoid arthritis (RA) leads to progressive damage to articular cartilage and bone, ultimately resulting in disability. Therefore, control of the articular inflammation is of great importance to prevent joint damage. A variety of disease-modifying antirheumatic drugs (DMARDs) are available for rheumatoid arthritis patients. Conventional synthetic DMARDs, and in particular biological DMARDs, have been shown to effectively inhibit joint destruction in RA.

The standard pharmacological treatment for osteoarthritis includes agents for control of pain and inflammation (non-steroidal anti-inflammatory drugs, analgesics including opioids, and intraarticular

corticosteroids) and a group of symptomatic slow-acting drugs for osteoarthritis such as glucosamine sulfate, chondroitin sulfate, diacerein, unsaponifiable extract of soybean and avocado administered orally and intraarticular hyaluronic acid. In addition, a number of studies investigate the efficacy of classic disease-modifying drugs used in inflammatory arthritis and antiresorptive agents as potential future therapies that could prevent the structural progression of the disease.

There are two main surgical treatments for osteoarthritis that is conservative treatments, where the damaged cartilage is left in place, and radical treatments, where the cartilage is replaced by an artificial endoprosthesis; this latter procedure is termed joint arthroplasty.

These treatments are only offered to symptomatic patients. Arthrodesis is yet another surgical intervention in cases of osteoarthritis.

Surgical approaches provide pain relief and restore the function of joints in patients with rheumatoid arthritis. Due to recent advances in the surgical field, numerous procedures are available: tens-synovectomy, radio synovectomy, arthroscopy, osteotomy, joint fusion, metatarsal head excision arthroplasties, or total joint replacement. Scientific evidence suggests that massage, positioning, hot and cold therapy, acupuncture, transcutaneous electrical nerve stimulation, and progressive muscle relaxation are complementary therapies that might be useful in nonpharmacological pain management. Nonpharmacological approaches should be associated with pharmacological treatments in order to maximize therapeutic success.

Research question

How much improvement in knowledge regarding arthritis among individuals?

Participants

The target population consisted of individuals belonging to the group of 35 to 75 years of age. Individuals who can understand and speak Marathi and individuals who are willing to participate were included in the study. Individuals who are chronically ill and individuals who are visually and auditory challenged were excluded from the study. The researcher selected individuals according to the inclusion criteria, knowledge assessed by a structured questionnaire. Planned teaching involved, lecture cum discussion using models, flash card, and a flip chart. On the 7th day, a post-test was administered, and a structured questionnaire was used.

Ethical consideration

The study was part of a larger research project approved by members of ethical committee for Research of Leelabai Thackersey College of Nursing S.N.D.T. Women's University. Participant's consent and information sheet was obtained prior by making them aware the steps of data collection.

Quantitative data analysis-

Data was analyzed by section I demographic variables included gender, age, marital status, education, occupation, health habits, diet, toilet type, type of exercise, exposure to sunlight, history of joint pain, history of medical illness, and diagnosed with arthritis.

Section II data about knowledge was analyzed under 7 subheadings:

1. Knowledge about anatomy, physiology of the musculoskeletal system and the concept of arthritis.
2. knowledge about the concept of osteoarthritis and rheumatoid arthritis.
3. Knowledge about causes and risk factors of arthritis.

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4. Knowledge about the pathophysiology of arthritis.

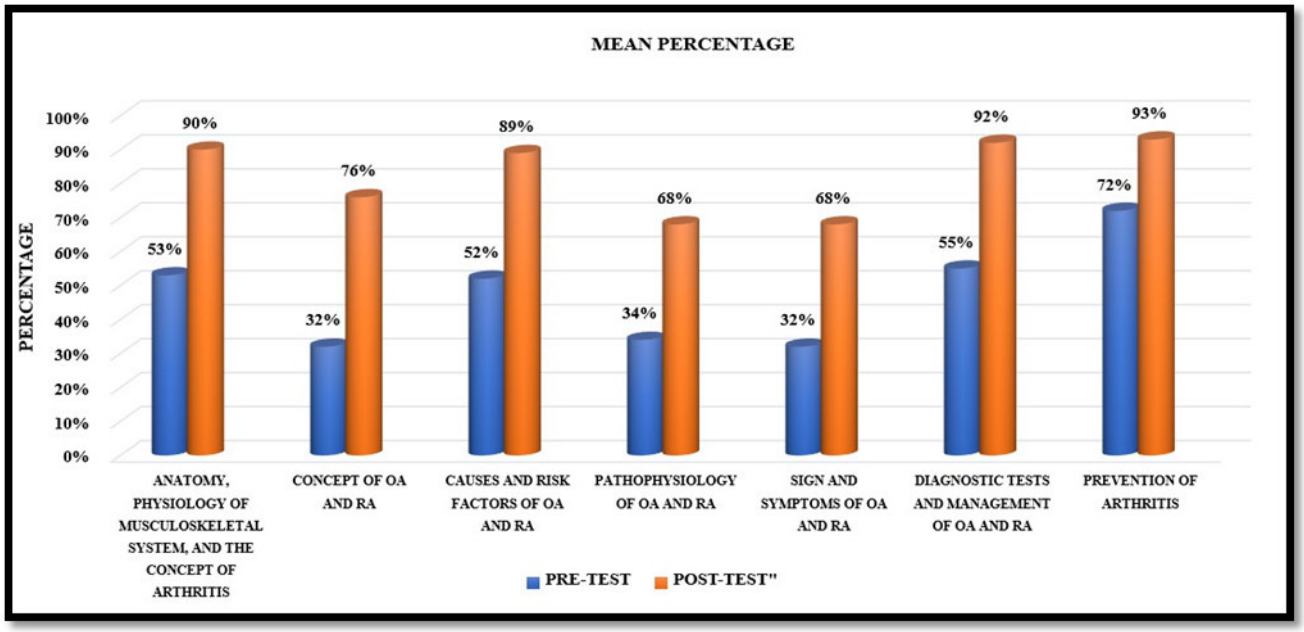
5. knowledge about signs and symptoms of arthritis.

6. knowledge about diagnostic tests and treatment for arthritis.
7. Knowledge about the prevention of arthritis.

The questionnaire consists of 30 questions, which were multiple-choice questions. Each question had four options. A score of one was awarded to the correct answer.

Results Fig 1

Distribution of individuals according to mean percentile knowledge scores of overall participants regarding arthritis.



As per the above graph, it is evident that during the pre-test, individuals had a minimum knowledge score of 32% about the signs and symptoms of arthritis. A maximum knowledge score of 72% was found in the prevention of arthritis. In the post-test, individuals had a minimum knowledge score of 68% about the signs and symptoms of arthritis, whereas a maximum knowledge score of 93% was found in the prevention of arthritis.

Table 1: COMPARISON OF OVERALL KNOWLEDGE OF INDIVIDUALS BEFORE AND AFTER PLANNED TEACHING.

n= 60

SR. NO.	AREA OF KNOWLEDGE	M	SD	t-VALUE	p-VALUE
1	Pretest knowledge regarding arthritis	14.47	2.9	25.9	0.001
2	Post test knowledge regarding arthritis	24.88	2.07		

While comparing the means of pre-test and post-test knowledge scores of individuals regarding arthritis, it was found that the mean of the pre-test was 14.47 whereas the mean of the post-test was 24.88. the standard deviation for the pre-test was 2.9 whereas for the pot-test standard deviation was 2.07. The test statistics value of the paired t-test was 25.9 with a p-value of 0.001. As the P value is less than the significance level of 0.05, we reject the null hypothesis. Therefore, we can state that the mean score of post-test knowledge of individuals regarding arthritis was found to be significantly greater than the mean score of pre-test knowledge.

TABLE 2

ASSOCIATION OF POST TEST KNOWLEDGE SCORES OF INDIVIDUALS AS PER THEIR DEMOGRAPHIC VARIABLES

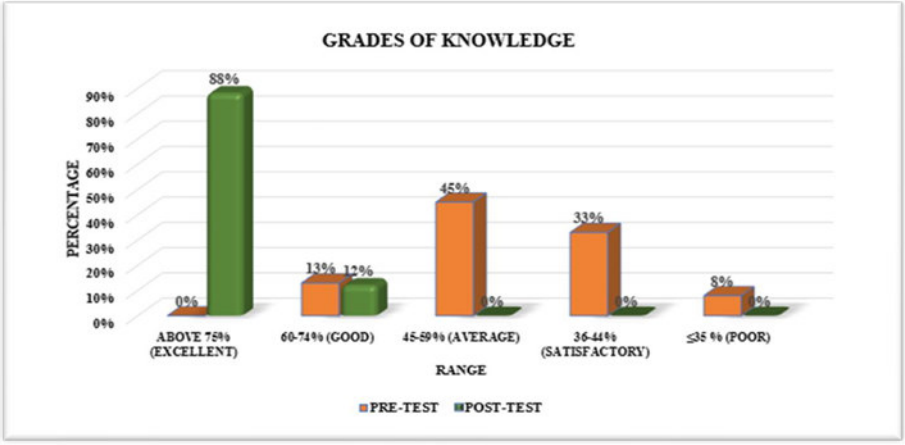
Sr. no.	Variable	Knowledge		X2 (chi-square)	d.f.	P Value	significance
1.	**Gender** Male Female	 6 14	 16 24	0.574	1	0.449	Not Significant
2.	**Age** **36-45 Years** **46-55 Years** **56-65Years** **66-75 Years**	 **4** **3** **5** **8**	 **18** **8** **10** **4**	8.455	3	0.037	significant
3.	**Marital status** **Married** **Unmarried** **Divorced** **Widow**	 **13** **0** **0** **7**	 **26** **3** **2** **9**	3.281	3	0.35	Not significant
4.	**Education** **Illiterate** **Primary** **Secondary** **Graduate**	 **1** **9** **9** **1**	 **2** **17** **19** **2**	0.037	3	0.998	Not significant
5.	**Occupation** **Retired Service** **Business** **Laborer** **Home maker**	 **4** **4** **1** **0** **11**	 **4** **4** **3** **4** **14**	5.694	4	0.223	Not significant

Age

For the demographic variable that is the age of the individuals, the p-value of the association test with post-test level of knowledge was less than 0.05 ($P<0.05$). That means the post-test knowledge was associated with age of the individuals. Therefore, we can state that the individuals with age 36- 45 years

have better knowledge than individuals more than the 45 years of age. Thus, the null hypothesis is rejected and the research hypothesis is accepted. Therefore, we can state, that there was a significant relation between knowledge and the age of the individual.

Fig 2 Distribution of individuals according to their grades of knowledge



The above figure reveals that nobody had excellent knowledge that is above 75% in the pre- test, 13% of individuals had good knowledge, ranging between 60-74%, 45% of individuals had average knowledge 45-59%, 33% of individuals had satisfactory knowledge 36-44%, eight percent of individuals had poor knowledge less than or equal to 35. However, in the post-test the majority of individuals, that is 88% had excellent knowledge and 12% individuals had good knowledge that is ranging between 60-74%. None of the participant had poor knowledge after planned teaching.

Discussion

In the current study, the major gain was found in the level of knowledge regarding the concept of arthritis and its preventive measures among the individuals after planned teaching. The findings of the current study are more or less similar to the study done by Dar and Qadir (2022) to assess the effectiveness of planned teaching on the prevention of osteoarthritis among women in the selected area, of Kashmir. Similar findings were reported in another earlier study (David & David 2022), where it was revealed that the planned teaching program had a positive effect on improving the level of knowledge regarding the prevention of arthritis. Similar findings were made in another research study conducted (Rani et. al 2020) which showed that the post-test mean knowledge score was more than the pre-test mean knowledge score.

Kong et. al (2017) conducted a systematic review and meta-analysis to find out the association between smoking and the risk for knee osteoarthritis and revealed that there is an inverse association between smoking and the risk of knee OA. In the analysis of the current study, the researcher found that among 60 individuals 12 per cent of individuals have a habit of smoking cigarette.

Due to the limitation of time and sample size, the repetitive measures of planned teaching were not possible in the current study but the investigator believes that the knowledge might fade after a certain period. A previous study tried to determine the effect of the use of interactive video media on knowledge regarding arthritis. The investigator was not able to assess the effect of intervention repetitively but she believes that there should be reinforcements of such interventions to the individuals to enhance their knowledge.

Conclusion

In this study, planned teaching improved the knowledge of individuals. After statistical analysis of data, it

was seen that there was a major increase in the knowledge of individuals regarding arthritis. Also, there was a significant difference found between the pre-test and post-test score knowledge. Thus, planned teaching is an effective way to improve the knowledge of the individuals.

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