

## "Effectiveness of self instructional pamphlet on knowledge and attitude on management and prevention of arthritis among general public in Thodukadu village, Thiruvallur district"

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### ABSTRACT

**Aim:** The purpose of this study was to assess knowledge and attitudes about the prevention and treatment of arthritis.

**Context:** People with arthritis require enough information and comprehension in order to choose appropriate treatments, follow intricate schedules, and practice self-care.

**Participants and Methods:** A pre-experimental design with a quantitative approach was used, and one group was evaluated both before and after the intervention. Convenience sampling was used to recruit 81 participants from the general population. An attitude scale and a structured knowledge questionnaire were used to gather data.

**Statistical Analysis Used:** Data were analysed with descriptive and inferential statistics.

**Findings:** In the pre-test, the general public's mean knowledge of arthritis was 13.074, but in the post-test, it was 23.135. The test scores' standard deviation was 2.004 for the post-test results and 4.338 for the pre-test results. These findings demonstrated the efficacy of pamphlets on arthritis education, as they were statistically significant ( $p < 0.05$ ). The chi-square test confirmed a link between pre- and post-test knowledge levels, and the results showed a significant change in knowledge and attitudes after the intervention.

The research findings indicate that the self-instructional pamphlet proved to be efficacious in enhancing the general public's knowledge and attitudes on the management and prevention of arthritis.

**Keywords:** Self instructional pamphlet

### INTRODUCTION

Arthritis, derived from the Greek word meaning "joint disease", refers to inflammation of the joints, either acute or chronic, often accompanied by pain and structural damage. It is important to distinguish cancer from arthralgia, which refers to joint pain that occurs for various reasons, not necessarily inflammation (Dr. John N. K. Spencer).

This disease is very dangerous and disabling and affects people of all ages. With more than 100 types of cancer, an accurate diagnosis is essential for effective treatment (Linda Roth, June 9, 2022). Although joint pain is the most common symptom, arthritis can have more serious effects, affecting other organs and affecting the body's appearance. It affects emotional well-being, causing pain, fatigue or anxiety. Some types, such as psoriatic arthritis, are associated with skin problems such as scaly patches (Johns Hopkins).

People with cancer need a lot of knowledge to make decisions about treatment options, follow complex procedures, and participate in self-care. Providing this information is essential in clinical encounters and often forms the basis of many interventions. Good communication allows patients to control their condition, but also satisfies the need to be understood. Cancer affects about 1% of the world's adult population, with an estimated incidence of 0.1 to 0.2 per 1,000 in men and 0.2 to 0.4 per 1,000 in women. The incidence of rheumatoid arthritis (RA) is 2 to 3 times higher in women than in men, and this condition is found in different races and cultures. The peak age for the onset of RA is between 45 and 65 years (Falqifari, January 2024). Engaging in appropriate physical activity, such as aerobic and resistance training, as well as good sleep hygiene and smoking cessation, can have a positive effect on disease progression and related products (L. Chehade, 2019).

## **MATERIALS AND METHODS**

### **Study Design**

The study was conducted over a period of four weeks after approval by the ethics committee at Panimalar Medical and Research Institute, Chennai.

### **Study Design**

This study used a one-group pre-test and post-test design.

### **SAMPLE SIZE**

Convenience sampling was used resulting in a sample size of 81 participants aged 30-50 years from Thodukadu village, Tiruvallur district.

### **METHODOLOGY**

A quantitative approach was conducted using a self-administered questionnaire to assess knowledge and attitudes related to the management and prevention of infectious diseases among the population. wide in the village of Tudukado. Data collection was done in January 2024.

### **Inclusion criteria**

- Participants were 30 to 50 years old.
- Intention to participate was confirmed via a written informed consent form.
- Lack of prior exposure to cancer prevention programs.

### **Exclusion criteria**

- Individuals who suffered serious illness during data collection.
- Participants suffering from arthritis.
- Women refused to participate in the study..

### **Study tools and data collection methods**

Self-administered questionnaires, questionnaire development, questionnaires developed based on extensive literature review and available research tools in similar studies. It was collected and reviewed with research experts and their thoughts and opinions. Completed questionnaires based on entry and exit criteria were implemented publicly and with prior consent from participants. Respondents were asked to complete the questions based on their own opinion and were not allowed to get outside opinions on the questions. Help is available for clarifications on the question. Participants were encouraged to complete the questionnaire in one sitting, but no time limit was imposed. All completed questionnaires were subsequently analyzed.

### **Questionnaire Structure**

The structured questionnaire consisted of three sections:

#### **Section A: Demographic Variables**

This section gathered information on:

Age, Gender, Religion, Educational Status, Type of Family , Marital Status, Monthly Income  
Occupation, Source of Income, Source of Health Information

#### **Section B:**

Knowledge Questionnaire on Management and Prevention of Arthritis

This section included thirty closed-ended questions (dichotomous) assessing knowledge related to arthritis management and prevention, adapted from previous studies. Respondents received 1 point for each correct answer and 0 points for incorrect responses.

#### **Section C: Attitude Scale**

This section comprised eleven questions measuring attitudes toward the effectiveness of pamphlets on arthritis management and prevention, using a Likert scale. The responses were as follows:

0 = negative attitude

1 = positive attitude

2 = positive attitude

Respondents indicated their level of agreement with each statement, and more of signs indicating better attitudes. The total score for this category is 11 points, and higher scores indicate a better attitude.

### Statistical Analysis

The data from all the completed questionnaires collected from the participants in Thodukadu village, Tiruvallur district were analyzed using statistical analysis, using descriptive statistics and statistics.

### Ethical considerations

Confidentiality was maintained throughout the study and only relevant sections of the questionnaire were reviewed. Official approval was obtained from Panimalar Medical College, Hospital and Research Institute. The questionnaires included an explanation of the purpose of the study and assured the participants that their data would be used for scientific research only.

### RESULTS

The demographic characteristics of the 81 participants aged 30 to 50 years are shown below. Table 1: Frequency and percentage distribution of demographic variables of general public

n=81

S.No.	Demographic variables	Pre Experimental group	
		Frequency	Percentage
1.	<b>Age</b>		
	a) 30 - 40 years	33	41%
	b) 41 - 50 years	22	27%
	c) Above 51 years	26	32%
2.	<b>Gender</b>		
	a) Male	2	3%
	b) Female	79	97%
3.	<b>Religion</b>		
	a) Hindu	0	0%
	b) Christian	81	100%
	c) Muslim	0	0%
	d) Others	0	0%
4.	<b>Education status</b>		
	a) Illiterate	0	0%
	b) Primary education	29	36%
	c) Secondary education	40	50%
	d) college	12	14%
5.	<b>Type of family</b>		
	a) Nuclear family	51	63%
	b) Joint family	30	37%
6.	<b>Marital status</b>		
	a) Married	81	100%
	b) Unmarried	0	0%
	c) Widowed	0	0%
	d) Divorced / Separated	0	0%
7.	<b>Monthly income of the family</b>		
	a) Rs 10000-20000	2	2%
	b) Rs 20001 -30000	1	1%
	c) Rs 30001-40000	0	0%
	d) Above Rs 40000	78	97%
8.	<b>Occupation</b>		
	a) Agriculture	13	16%
	b) Professional	13	16%
	c) Business man	28	35%
	d) Daily wage	27	33%
9.	<b>Source of income</b>		
	A) Pensioner	12	14%
	B) Government aid	6	7%
	C) Proper	0	0%
	D) Dependent on others	63	78%
10.	<b>Source of health information</b>		
	a) Media	63	78%

S.No.	Demographic variables	Pre Experimental group	
	b) Health professional	0	0%
	c) Friends and relatives	17	22%

**Table 2: Frequency and percentage distribution of pretest and posttest level of knowledge on management and prevention of arthritis among general public.**

n=81

Level of knowledge	Pre test		Post test	
	No.	%	No.	%
Inadequate Knowledge	51	62%	0	0%
Moderate Knowledge	30	38%	69	85%
Adequate Knowledge	0	0%	12	15%

**Table 3: Frequency and percentage distribution of pretest and posttest level of attitude on management and prevention of arthritis among general public.**

n=81

Level of attitude	Pre test		Post test	
	no	%	no	%
Poor attitude	57	70%	0	45%
Moderate attitude	24	30%	35	43%
Excellent attitude	0	0%	46	57%

**Table 4: Mean and standard deviation of effectiveness of self instructional pamphlet among general public.**

Level of knowledge	Pre test		Post test		“t” value
	Pre Experimental group		Pre Experimental group		
	Mean	S.D	Mean	S.D	
Experimental group	13.074	4.338	23.135	2.004	4.403

**Table 5: Association of knowledge level with demographic variables for experimental group.**

S.No.	Demographic variables	Inadequate knowledge		Moderate knowledge		Adequate knowledge		Chi square test
		No.	%	No.	%	No.	%	
1.	<b>Age</b>							
	a) 30 - 40 years			10	30%	23	70%	1.02 P = 6 NS
	b) 41 - 50 years			5	23%	17	77%	
	c) Above 51 years			5	19%	21	81%	
2.	<b>Gender</b>							
	a) Male			0	0%	2	100%	0.46 P = 0.498 NS
	b) Female			15	19%	65	82%	
3.	<b>Religion</b>							
	a) Hindu			0	0	0	0	0 P = 1 NS
	b) Christian			6	7%	75	93%	
	c) Muslim			0	0	0	0	
	d) Others			0	0	0	0	
4.	<b>Education status</b>							
	a) Illiterate			0	0	0	0	0.54 P = 0.765 NS
	b) Primary education			5	17%	24	83%	
	c) Secondary education			6	15%	34	85%	
	d) College			1	8%	11	92%	
5.	<b>Type of family</b>							
	a) Nuclear family			6	12%	45	88%	0.55 P = 0.458 NS
	b) Joint family			2	7%	28	93%	

S.No.	Demographic variables	Inadequate knowledge		Moderate knowledge		Adequate knowledge		Chi square test
		No.	%	No.	%	No.	%	
6.	<b>Marital status</b> a) Married b) Unmarried c) Widowed d) Divorced / Separated			8 0 0 0	10% 0 0 0	73 0 0 0	90% 0 0 0	0 P = 1 NS
7.	<b>Monthly income of the family</b> a) Rs 10000-20000 b) Rs 20001 -30000 c) Rs 30001-40000 d) Above Rs 40000			1 0 0 6	50% 0 0 8%	1 1 0 72	50% 0 0 100%	4.52 P = 0.105 NS
8.	<b>Occupation</b> a) Agriculture b) Professional c) Business man d) Daily wager			5 2 6 4	38% 15% 21% 15%	8 11 22 23	62% 85% 79% 100%	3.26 P = 0.353 NS
9.	<b>Source of income</b> a) Pensioner b) Government aid c) Proper d) Dependent on others			1 2 0 2	8% 33% 0 3%	11 4 0 61	92% 62% 0 97%	8.72 P = 0.013 S
10.	<b>Source of health information</b> a) Media b) Health professional c) Friends and relatives			2 0 2	3% 0 12%	61 0 15	97% 0 88%	2.08 P = 0.149 NS

Table 6: Association of attitude level with demographic variables for experimental group.

S.No.	Demographic Variables	Poor attitude		Good attitude		Excellent attitude		Chi square test
		No.	%	No.	%	No.	%	
1.	<b>Age</b> a) 30 - 40 years b) 41 - 50 years c) Above 51 years			13 7 8	39% 32% 31%	20 15 18	61% 68% 69%	0.58 P = 0.749 NS
2.	<b>Gender</b> a) Male b) Female			1 19	50% 24%	1 60	50% 76%	0.71 P = 0.401 NS
3.	<b>Religion</b> a) Hindu b) Christian c) Muslim d) Others			0 11 0 0	0 14% 0 0	0 70 0 0	0 86% 0 0	0 P = 1 NS
4.	<b>Education status</b> a) Illiterate b) Primary education c) Secondary education d) College			0 7 8 2	0 24% 20% 17%	0 22 32 10	0 76% 80% 83%	0.33 P = 0.847 NS
5.	<b>Type of family</b> a) Nuclear family b) Joint family			11 5	22% 17%	40 25	78% 83%	0.29 P = 0.593 NS
6.	<b>Marital status</b> a) Married			10	12%	71	88%	0 P = 1

S.No.	Demographic Variables	Poor attitude		Good attitude		Excellent attitude		Chi square test
		No.	%	No.	%	No.	%	
	b) Unmarried c) Widowed d) Divorced / Separated			0 0 0	0 0 0	0 0 0	0 0 0	NS
7.	<b>Monthly income of the family</b> a) Rs 10000-20000 b) Rs 20001 - 30000 c) Rs 30001-40000 d) Above Rs 40000			0 0 0 8	0 0 0 10%	2 1 0 70	0 0 0 90%	0.34 P = 0.843 NS
8.	<b>Occupation</b> a) Agriculture b) Professional c) Business man d) Daily wagger			3 2 5 5	23% 15% 18% 19%	10 11 23 22	77% 85% 82% 81%	0.27 P = 0.965 NS
9.	<b>Source of income</b> a) Pensioner b) Government aid c) Proper d) Dependent on others			2 1 0 3	17% 17% 0 5%	10 5 0 60	83% 83% 0 95%	2.89 P = 0.235 NS
10.	<b>Source of health information</b> a) Media b) Health professional c) Friends and relatives			3 0 3	5% 0 18%	60 0 15	95% 0 88%	2.89 P = 0.089 NS

## Discussion

This study was conducted with the aim of evaluating the effectiveness of a self-education manual to increase awareness and attitude towards the management and prevention of arthritis among the general population.

The first project focused on evaluating knowledge and attitude before and after the test. The results showed that before the intervention, 62% of the participants had a very low level of knowledge and 38% had an average level of knowledge. After the intervention, 85% showed moderate awareness and 15% showed fair awareness.

The second objective was to determine the effectiveness of the educational and attitudinal manual. The mean academic score increased from 13.074 in the pre-test to 23.135 in the post-test with a standard deviation of 4.338 and 2.004. These results are highly significant ( $p < 0.05$ ), indicating that the knowledge of this group is well-enhanced.

The third project examined the relationship between selected variables and knowledge and attitude. The analysis revealed a significant relationship between the effectiveness of the book and the knowledge and attitude levels at the post-test. A chi-square test confirmed a significant correlation between pre- and post-test scores.

## Conclusion

This study evaluated the effectiveness of a self-education manual on the general public's knowledge and attitude toward the management and prevention of arthritis. The findings show that the information presented in the booklet significantly increases the knowledge level of the participants.

## Abbreviations

ANOVA - Analysis of Variance

CI - Confidence Interval

SD - Standard Measure

United Nations - United Nations

USA - United States

WHO - World Health Organization

## Notes

Ethical approval and consent to participate: Institutional Review Board (IRB) approval was obtained prior to the initiation of the study (Panimalaar Medical College Hospital and Research Centre IRB (01/2020/ 005). Informed consent was obtained from all participants.

**Permission for publication:**

All authors have given permission for the publication of this article.

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