



KNOWLEDGE OF DIFFERENT HOME CARE MEASURES FOR KNEE JOINT PAIN RELIEF AMONG MIDDLE-AGE GROUPS IN RURAL AREAS IN CHENNAI

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AUTHORS' CONTRIBUTIONS

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Background: Knee pain (KP) is a commonly diagnosed ailment that is more prevalent among Indians than in other ethnic communities, with 31.8%. Although they significantly decreased inflammation and discomfort, long-term follow-up studies revealed adverse side effects such as digestion problems, cardiac arrest, and nephrosis. As a result, we can focus on non-pharmacological choices available at home to reduce pain and enhance cardiovascular events. The present research aims to examine the knowledge about the different home care measures for knee pain in the middle age group.

Objectives: To examine the knowledge about the different home care measures for knee pain in middle age group.

Methods: 50 males and females within the age group of 50 to 59 years. A questionnaire consisting of the various home care measures was prepared the selected individuals were subjected to answer. The abstracted results were taken for statistical analysis.

Results: The findings of our investigation revealed a strong, negative, and reasonable association between knowledge and pain scores. It indicates that as their knowledge score rises, their pain score falls.

Conclusion: The results of our study was found that middle-aged adult people had moderate knowledge regarding the awareness on the home care measures like massage therapy, leaf application therapy, diet and rest. Hence, home care measures for knee joint pain relief effectively improve the level of functional immobility among middle-aged people with knee joint pain.

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1. INTRODUCTION

Knee pain (KP) is a highly prevalent musculoskeletal disease that is a primary cause of disability in adults over 50 years old, lowering their quality of life (QOL) [1-2]. Knee pain is more common among Indians than other ethnic groups, with 31.8% [3]. In this age range, about one in every four persons in the UK has KP, primarily due to knee osteoarthritis (OA) [2,4]. According to the International Association for the Study of Pain (IASP), chronic pain affects 20% of the adult population. The adult's ring is personal and subjective, and the inability to articulate pain vocally is a barrier. When pain cannot be expressed verbally, pain behavior such as guarding, facial expression, or altered movement may be used [5].

The treatment's major goals are to reduce pain, restore function, and halt the disease's development. Medicinal, non-pharmacological, and surgical therapies, as well as mixtures of these, have been categorized. Pharmacologic therapy was the most extensively used non-surgical treatment for KP. Anti-inflammatory medicines and non-opioid analgesics have been administered to help with inflammation and

pain relief. Although they significantly decreased inflammation and discomfort, long-term follow-up studies revealed negative side effects such as digestive issues, heart failure, and renal impairment [6-7]. As a result, long-term pharmaceutical therapy was restricted due to the risk of negative effects. Many people have resorted to alternate therapies, such as alternative medicines (CAM) [8-9]. We are in a position to concentrate on non-pharmacological choices available at home to reduce pain, enhance function, and delay disease progression [10-11]. The present research aims to examine the knowledge about the different home care measures for knee pain in the middle age group.

2. MATERIALS AND METHODS

A cross-sectional study was conducted on 50 Middle-aged people from January to March 2021 in a rural area of Earaiyur Chennai. We selected 50 males and females within the age group of 50 to 59 years. A questionnaire (Fig. 1) consisting of the various home care measures were prepared and, the selected individuals were subjected to answer it [8-10].

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Questionnaire:

1. Demographic details
 1. Age group a) 45-49 b) 50-54 c) 55- 59
 2. Sex
 3. Education a. Collegiate, b. High school, c. higher secondary school, d. Primary School
 4. Marital status a. Married, b. Divorced, c. Separated, d. Unmarried, e. Widow
 5. Type of family a. Joint family, b. Nuclear
 6. Nature of work a. Heavy work, b. Moderate work, c. Sedentary
 7. Family income (pm) a. >41430, b. 10357-15535, c. 15536-20714, d. 20715-41429, e. 6214-10356
 8. Hobbies a. Household work, b. Reading books, c. Watching T. V
 9. Duration of knee joint pain a. 0-1 yr., b. 1 - 3 yrs., c. c. More than 3 yrs., d. No pain
 10. Type of physical activity a. Exercise, b. Irregular, and c. Not doing, d. Yoga
2. How would you rate your overall degree of discomfort?
 1. No pain
 2. Mild pain
 3. Moderate pain
 4. Severe pain
2. Knowledge about the home- care management
 1. Oil therapy
 2. Massage
 3. Hot application
 4. Leaf application
 5. Warm rice bran application
 6. Exercise
 7. Weight reduction
 8. Use of cushioned shoes
 9. Diet
 10. Rest

Fig. 1. Pattern of questionnaire to analyze the knee joint pain

2.1 Statistical Analysis

The Statistical Package for Social Sciences was used for cons analyses, version 22). In categorical / dichotomous demographic data, frequencies and percentages were reported. The mean and standard deviation of the pain and knowledge scores were calculated. Correlation between pain and knowledge scores was analyzed the Karl Pearson correlation coefficient method. Association between the level of pain score and knowledge score with demographic variables were analyzed using chi-square test/yates corrected chi-square test. Influencing factors for pain and knowledge scores are identified using univariate and multivariate analysis. A simple bar diagram, a

simple bar with two standard deviation diagrams, and a Scatter diagram with regression estimate were used to represent the data. A p-value of ≤ 0.05 was considered statistically significant, and two-tailed tests were used for testing significance.

3. RESULTS

Knowledge of Different Home Care measures for knee Pain relief among Middle-aged groups in selected Rural Areas at Chennai. To examine the knowledge about the different home care measures for knee pain relief among the middle-aged group in a designated rural area in Chennai.

Table 1. Demographic variables

Demographic variables		Middle-aged group of people	%
Age group	45 - 49	10	20.00%
	50 - 54	18	36.00%
	55 - 59	22	44.00%
Sex	Female	31	62.00%
	Male	19	38.00%
Education	Collegiate	15	30.00%
	High school	12	24.00%
	Higher secondary school	16	32.00%
	Primary school	7	14.00%
Marital status	Divorced	3	6.00%
	Married	36	72.00%
	Separated	4	8.00%
	Unmarried	5	10.00%
	Widow	2	4.00%
Type of family	Joint family	21	42.00%
	Nuclear	29	58.00%
Nature of work	Heavy work	12	24.00%
	Moderate work	22	44.00%
	Sedentary	16	32.00%
Family income	>41430	5	10.00%
	10357-15535	13	26.00%
	15536-20714	14	28.00%
	20715-41429	10	20.00%
	6214-10356	8	16.00%
Hobbies	Household work	20	40.00%
	Reading books	8	16.00%
	Watching t. V	22	44.00%
Duration of knee joint pain	0-1 yr.	5	10.00%
	1 - 3 yrs.	20	40.00%
	More than 3 yrs.	17	34.00%
	No pain	8	16.00%
Type of physical activity	Exercise	22	44.00%
	Irregular	1	2.00%
	Not doing	19	38.00%
	Yoga	8	16.00%

Table 1 displays the statistical profile of middle-aged persons who took part in the current analysis on “knowledge of different home care measures for knee pain relief among the middle-aged group in a selected rural area at Chennai. The age-wise sex distribution of cases is shown in Table 2.

Males mean age is 51.63 years, and females suggest age is 53.68 years. Overall, elders represent age is 52.90 years, and SD is 4.02 years. The percentage level of numerical pain score among a middle-aged group of people living in a rural area is maximum.

In general, 10.00% of the male have no pain level score, 40% possess a mild level of pain score, 48.00% have a reasonable level of pain score, and 2% have the severe level of level pain score (Fig. 2).

Table 3 and Fig. 3 shows the percentage level of Knowledge score among a middle-aged group of people living in a rural area. In general, 62% of males have an inadequate level of performance, 38% have a moderate level of performance, and none have an adequate level of performance.

Table 2. Age-wise sex distribution

Sex	Number	Mean age	Standard Deviation	Student independent t-test
Male	19	51.63	3.66	t=1.78 p=0.08(NS)
Female	31	53.68	4.09	

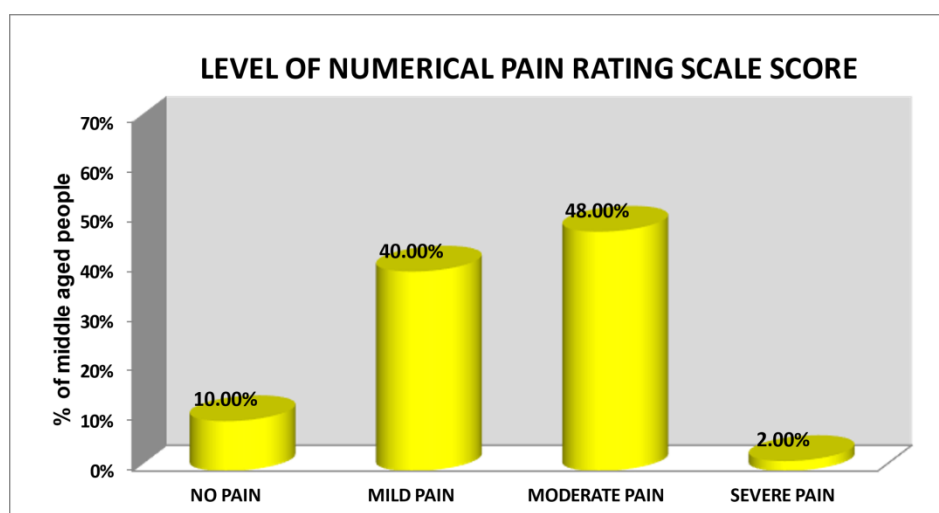


Fig. 2. Simple bar diagram of level of numerical pain rating scale score

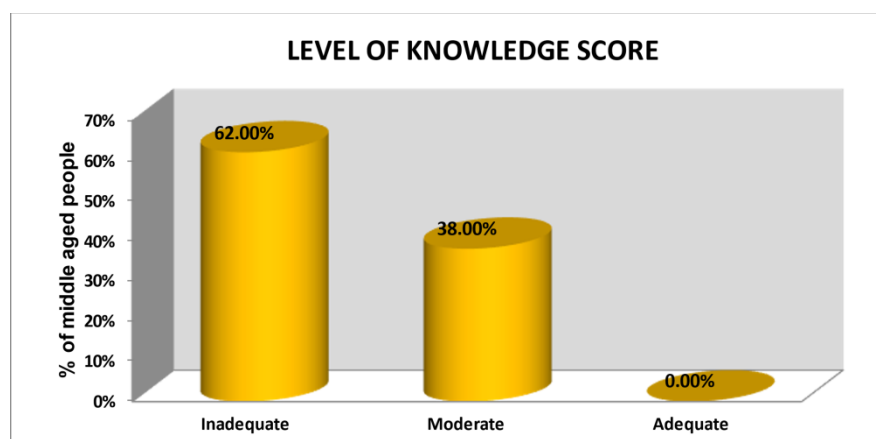


Fig. 3. Simple bar diagram of level of knowledge score

Table 3. Knowledge about home care measures

		Middle-aged group of people	%
Oil therapy	Camphor oil	18	36.00%
	Coconut oil	16	32.00%
	Eucalyptus oil	16	32.00%
Massage	No idea	30	60.00%
	Useful	20	40.00%
Hot application	No idea	28	56.00%
	Useful	22	44.00%
Leaf application	No idea	24	48.00%
	Useful	26	52.00%
Warm rice bran application	No idea	23	46.00%
	Yes	27	54.00%
Exercise	Benefit	30	60.00%
	No idea	20	40.00%
Weight reduction	No idea	27	54.00%
	Yes	23	46.00%
Use of cushioned shoes	No idea	28	56.00%
	Useful	22	44.00%
Diet	No idea	30	60.00%
	Yes	20	40.00%
Rest	No idea	26	52.00%
	Yes	24	48.00%

Table 4. Association between level of knowledge score and middle-aged people demographic variables

Demographic variables		Level of knowledge score				n	Chi test/corrected square test	square their- square test	Odds Ratio (95%CI)
		Inadequate		Moderate					
		n	%	n	%				
Oil therapy massage hot application	No	0	0.00%	0	0.00%	0	$\chi^2=0.00$ P=1.00(NS)		0.0(0.0 -0.0)
	Yes	32	64.00%	18	36.00%	50			
Massage	No idea	23	76.67%	7	23.33%	30	$\chi^2=5.22$ P=0.05*(S)		4.0(1.2 -13.6)
	Useful	9	45.00%	11	55.00%	20			
Hot application	No idea	18	56.25%	10	55.56%	28	$\chi^2=0.11$ P=0.96(NS)		1.1(0.3 -3.3)
	Useful	14	43.75%	8	44.44%	22			
Leaf application	No idea	20	62.50%	4	22.22%	24	$\chi^2=7.49$ P=0.01**(S)		5.8(1.6 -21.9)
	Useful	12	37.50%	14	77.78%	26			
Warm rice bran application	No idea	15	46.88%	8	44.44%	23	$\chi^2=0.02$ P=0.87(NS)		1.1(0.3 -3.5)
	Yes	17	53.13%	10	55.56%	27			
Exercise	No idea	14	43.75%	6	33.33%	20	$\chi^2=0.52$ P=0.47(NS)		1.6(0.5 -5.2)
	Benefit	18	56.25%	12	66.67%	30			
Weight reduction	No idea	19	59.38%	8	44.44%	27	$\chi^2=1.03$ P=0.31(NS)		1.8(0.6 -5.9)
	Yes	13	40.63%	10	55.56%	23			
Use of cushioned shoes	No idea	20	62.50%	8	44.44%	28	$\chi^2=1.51$ P=0.22(NS)		2.1(0.6 -6.7)
	Useful	12	37.50%	10	55.56%	22			

Demographic variables		Level of knowledge score				n	Chi square	Odds
Diet	No idea	23	76.67%	7	23.33%	30	$\chi^2=5.22$ P=0.05*(S)	5.0(1.2 -13.6)
	Yes	9	45.00%	11	55.00%	20		
Rest	No idea	20	62.50%	6	33.33%	26	$\chi^2=3.92$ P=0.05*(S)	3.3(1.0 -11.2)
	Yes	12	37.50%	12	66.67%	24		

Table 4 shows the association between the level of pain score and demographic variables. More middle-aged, older adults were known to have more moderate knowledge regarding massage, leaf application, diet and rest. Statistical significance was assessed using the chi-square test/yates corrected chi-square test [11]. Univariate odds ratio with 95% confidence shows each variable wise number of times more knowledge of middle-aged people in a rural area. The validity of the tool was assessed using content validity [12-14]. Experts from nursing and Medical determined content validity. They suggested certain modifications in the device. After the changes, they agreed on this tool for assessing Knowledge of Different Home Care measures for knee Pain relief among Middle-aged groups in selected Rural Areas in Chennai. After the pilot study reliability of the tool was assessed by using the inter-rater method and test-retest method [15]. Pain score reliability correlation coefficient value is 0.92, and knowledge score reliability correlation coefficient value is 0.82. These correlation coefficients are very high. It is a good tool for assessing Knowledge of Different Home Care measures for knee Pain relief among Middle-aged groups in selected Rural Areas in Chennai.

4. DISCUSSION

This cross-sectional study was aimed to examine the knowledge and awareness on various home care measures in the management of Knee joint pain among middle-aged people. Our study questionnaire was prepared regarding the different home care measures, which were said to be helpful in the direction of knee joint pain. Subjects were made to answer, and data collection was achieved and used for statistical analysis. Our findings suggest that 2.00% of the middle-aged people have a severe level of pain score, 48% of them have a moderate level of pain score, and 40% of them have a mild level of pain score. Regarding the awareness and the knowledge, more middle-aged older adults were known to have more moderate knowledge than others regarding massage therapy, leaf application therapy, diet and rest. Association between the pain score and the knowledge score revealed that middle-aged older adults with more moderate knowledge regarding oil therapy (camphor oil), leaf application therapy, diet and rest has been found to have less pain score. Our

study suggests that increased knowledge on various home care measures has a beneficial effect on knee joint pain management. It is understood that there is a significant, negative, fair correlation between knowledge score and Pain score. It means knowledge score increases their pain score decreases fairly.

5. CONCLUSION

Our study concludes that 50 middle-aged people were provided with the questionnaire, and the data were collected and subjected to statistical analysis. The results showed that the middle-aged adult's people had more knowledge and awareness regarding various home care measures like massage therapy, leaf application therapy, diet and rest. Our study concludes that the home care measures for knee joint pain relief effectively improve the level of functional immobility among middle-aged people with knee joint pain.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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