



COMPARE THE EFFECTIVENESS OF HOT FOMENTATION VS INFRA-RED RAYS ON PAIN AMONG ARTHRALGIC PATIENTS IN SELECTED HOSPITALS AT KANYAKUMARI DISTRICT, TAMILNADU, INDIA.

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ABSTRACT

Arthritis has a serious impact on people's life. It's a leading cause of disability in people that affects the lifestyle. Arthritic conditions do not usually cause death, but they affect quality of life of a person and leave them morbid. Arthritis limits the ability of people to work and care for themselves and their families. It costs nearly 86.2 billion annually to the nation's economy. To identify the effectiveness of Hot fomentation & Infra-red application on pain among arthralgic patients. The aim of the study is to compare the effectiveness of Hot fomentation and Infrared rays on pain among arthralgic patients. In this study an evaluative and comparative research approach was found to be suitable to evaluate the effectiveness of Hot fomentation Vs Infra-red rays application and the results of the findings are compared to choose the best application. Comparative pre-experimental two group pre-test, post-test design was used to answer the hypothesis. Study was at Ramachandra Hospital, Marthandam, Tamilnadu, India. The data was collected from the physiotherapy department, orthopedic wards and orthopedic inpatient and outpatient departments of the hospitals. The total size of the sample was 50 arthralgic patients with pain. A sample of 25 patients each was selected for Hot fomentation application and Infra-red rays application from Ramachandra Hospital. Convenient sampling technique was used in this study .Level of pain after Hot fomentation (group A) and after Infrared rays (group B) application among arthralgic patients are 6.20 and 4.36 respectively. The 't' value obtained for level of pain is 3.07 for group A and group B. This value is significant at 0.05 level. From the mean score it is clear that the patients in group B have an improved level of pain reduction after Infrared rays' application scores of than group A.

INTRODUCTION

Arthritis has a serious impact on people's life. It's a leading cause of disability in people that affects the lifestyle. Arthritic conditions do not usually cause death, but they affect quality of life of a person and leave them morbid. Arthritis limits the ability of people to work and care for themselves and their families. It costs nearly 86.2 billion annually to the nation's economy.

Overweight, inactivity and ageing population contributes to the rapid increase in arthritis. They put great strain on an already over-burdened health care system. Arthritis accounts for 39 million physician visits and more than half a million hospital visits each year. Chronic joint disease is characterized by progressive degenerative changes in the articulating cartilages that cover the joint surfaces especially in the freely movable joints.

Hot fomentations have been used for many years to treat people with various ailments. Hot fomentations are more commonly used than cold fomentations. Pain is the most common problem that is treated with Hot fomentations.

Infrared rays penetrate the skin, they come into contact with protein, collagen and fats. By stimulating micro-vibrations Infrared causes a thermal reaction which elevates tissue temperatures. The human body then reacts by dilating all the blood vessels regardless of size. Tissues are revitalized because of the improved (micro and macro) circulation.

The investigator realizes the need for creating awareness among nurses regarding the effectiveness of Hot fomentation Vs Infra-red rays among arthralgic patients with pain attending orthopedic out-patient department, and wards.

STATEMENT OF THE PROBLEM

A study to compare the effectiveness of Hot fomentation Vs Infra-red rays on pain among Arthralgic patients in selected hospitals at Kanyakumari District.

OBJECTIVES

- ❖ To assess the level of pain among arthralgic patients pre and post application of hot fomentation & Infra-red rays.
- ❖ To identify the effectiveness of Hot fomentation & Infra-red application on pain among arthralgic patients.
- ❖ To compare the effectiveness of Hot fomentation and Infrared rays on pain among arthralgic patients.

HYPOTHESIS

- H₁: There will be a significant difference in level of pain among arthralgic patients before and after application of hot fomentation & Infra-red rays.
- H₂: There will be a significant difference in the effectiveness between Hot fomentation and infra-red rays on pain among arthralgic patients.
- H₃: There will be a significant association between the post test score of Hot fomentation & Infra-red rays with selected demographic variables.

METHODS AND MATERIALS

In this study an evaluative and comparative research approach was found to be suitable to evaluate the effectiveness of Hot fomentation Vs Infra-red rays application and the results of the findings are compared to choose the best application. Comparative pre-experimental two group pre-test, post-test design was used to answer the hypothesis. Study was at Ramachandra Hospital, Marthandam, Tamilnadu, India. The data was collected from the physiotherapy department, orthopedic wards and orthopedic inpatient and outpatient departments of the hospitals. The total size of the sample was 50 arthralgic patients with pain. A sample of 25 patients each was selected for Hot fomentation application and Infra-red rays application from Ramachandra Hospital. Convenient sampling technique was used in this study.

FINDINGS

SECTION - I: DEMOGRAPHIC CHARACTERISTICS OF SAMPLES.

Table 1 Frequency and percentage distribution of demographic characteristic of arthralgic patients with pain.

N=50

Demographic variables		Group			
		Hot fomentation		Infra-red rays	
		F	%	F	%
Gender	Male	15	60	16	64
	Female	10	40	9	36
Religion	Christian	8	32	6	24
	Muslim	4	16	4	16
	Hindu	13	52	15	60
Occupation	Government job	8	32	7	28
	Private job	11	44	10	40
	Business	6	24	8	32
Monthly income	Below Rs. 2000	4	16	4	16
	Rs. 2001 – 3000	9	36	10	40
	Rs. 3001 – 4000	8	32	7	28
	Above Rs. 4000	4	16	4	16

SECTION – II: LEVEL OF PAIN BEFORE AND AFTER HOT FOMENTATION APPLICATION ON PAIN AMONG ARTHRALGIC PATIENTS. (Visual Analogue scale for pain and Behavioral changes to pain scale)
Frequency and percentage distribution of level of pain among arthralgic patients before and after application of Hot fomentation (group A).

N= 25

S.No	Group	Level of pain	Hot fomentation	
			Frequency	Percentage
1.	Group A (before Hot fomentation application)	Mild	4	16%
		Moderate	10	40%
		Severe	11	44%
	Group A (after Hot fomentation application)	Mild	5	20%
		Moderate	11	44%
		Severe	9	36%

Table 2 shows that before Hot fomentation application (4) 16% of them had mild pain, (10) 40% of them had moderate pain and (11) 44% of them had severe pain. After Hot fomentation application (5) 20% of them had mild pain, (11) 44% of them had moderate pain, (9) 36% of them had severe pain.

SECTION – II:LEVEL OF PAIN BEFORE AND AFTER INFRA RED RAYS APPLICATION ON PAIN AMONG ARTHRALGIC PATIENTS. (Visual Analogue scale for pain and Behavioural Changes to Pain Scale).

Frequency and percentage distribution of level of pain among arthralgic patients before and after application of Infra red rays (group B).

N= 25

S. No	Group	Level of pain	Infra red rays	
			Frequency	Percentage
1.	Group B (before Infrared rays application)	Mild	2	8
		Moderate	9	36
		Severe	14	56
	Group B (after Infrared rays application)	Mild	13	52
		Moderate	9	36
		Severe	3	12

Table 3 shows that before Infrared rays application (2) 8% of them had mild pain, (9) 36% of them had moderate pain and (14) 56% of them had severe pain. After Infrared rays application (13) 52% of them had mild pain, (9) 36% of them had moderate pain, (3) 12% of them had severe pain.

SECTION III: A) EFFECTIVENESS OF HOT FOMENTATION APPLICATION ON PAIN AMONG ARTHRALGIC PATIENTS. (Visual Analogue scale for pain and behavioral changes to pain).

Mean, standard deviation and paired 't' test scores on level of pain among arthralgic patients before and after Hot fomentation.

N = 25

S.No	Group	Mean	SD	't'	Table value
1.	Group A Pre test	36.48	7.22	3.351	* 2.060 p < 0.05
2.	Group A Post test	31.64	7.59		

t (24) = 2.060 (P < 0.05)

* Significant

The mean scores of hot fomentation on pain for group A before and after application is 36.48 and 31.64 respectively. From the mean scores it is clear that the patients in group A have a lower level of score after Hot fomentation. This indicates that there is an improvement after Hot fomentation. It can also be seen that the 't' value of group A on level of pain is 3.351 score. The value is significant at p(<0.05) level. This indicates that the difference in level of pain before and after Hot fomentation application is significant in group A.

SECTION III: EFFECTIVENESS OF INFRARED RAYS APPLICATION ON PAIN AMONG ARTHRALGIC PATIENTS. (Visual Analogue scale for pain and behavioural changes to pain).

Mean, standard deviation and paired 't' test scores on level of pain among arthralgic patients before and after Infrared rays application.

N = 25

S.No	Group	Mean	SD	't'	Table value
1.	Group B Pre test	34.60	7.02	12.102	* 2.060 p < 0.05
2.	Group B Post test	23.76	5.62		

t (24) = 2.060 (P < 0.05)

* Significant

From the table 3.2, the mean scores of Infra red rays on pain for group B before and after application is 34.60 and 23.76. From the mean scores it is clear that the patients in group B have a lower level of score after Infrared rays. This indicates that there is an improvement after Infrared rays application. From the table 3.1 it can also be seen that the 't' value of group B on level of pain is 12.102. The value is significant at $p < 0.05$ level. This indicates that the difference in level of pain before and after Infrared rays' application is significant in group B.

SECTION IV: COMPARISON OF POST TEST SCORE WITH HOT FOMENTATION Vs INFRARED RAYS APPLICATION ON PAIN AMONG ARTHRALGIC PATIENTS (Visual Analogue scale for pain and behavioural changes to pain).

Mean, Standard deviation, independent 't' value scores on level of pain among arthralgic patients before and after application of Hot fomentation and Infra red rays.

N = 50

S.No	Group	variables	Mean	SD	't'	Table value
1.	Group A	Post test (After Hot fomentation)	6.20	2.29	3.07	2.000 $p < 0.05$
2.	Group B	Post test (After Infrared rays)	4.36	1.98		

$t(49) = 2.000$ ($p < 0.05$)

* significant

Table 6 shows that the mean level of pain after Hot fomentation (group A) and after Infrared rays (group B) application among arthralgic patients are 6.20 and 4.36 respectively. The 't' value obtained for level of pain is 3.07 for group A and group B. This value is significant at 0.05 level. From the mean score it is clear that the patients in group B have an improved level of pain reduction after Infrared rays' application scores of than group A.

CONCLUSION

The following conclusions were drawn from the findings of the study.

- ❖ Infra red rays application was more effective than Hot fomentation application in minimizing level of pain among arthralgic patients.
- ❖ An improvement in the level of pain status and thereby improving the quality of life of clients could be brought by performing Infra red rays applications.

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