



A COMPARATIVE STUDY TO ASSESS THE EFFECTIVENESS OF PLAIN HOT WATER FOMENTATION VERSUS HOT WATER WITH EPSOM SALT FOMENTATION TO REDUCE KNEE JOINT PAIN AMONG ELDERLY (60-90 YEARS)

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ABSTRACT

Knee pain affects nearly 35% of adults that has resulted in poor functioning of the knee joint. The prevalence of knee joint pain increased over the past 20 years, with osteoarthritis being the most common cause in individuals over the age of 50. Women are more likely to suffer from osteoarthritis than men. Knee injuries can occur as the result of a direct blow or sudden movement that strains the knee joint beyond its normal range. Knee pain can cause difficulty in performing activities such as walking, rising from chair, climbing stairs, or playing sports. Therefore, "A comparative study to assess the effectiveness of plain hot water fomentation versus hot water with epsom salt fomentation to reduce knee joint pain among elderly (60-90 years) nirashrit vridh ashrya garh (run by indian red cross society) tilwara road, jabalpur m.p." The study include 60 elderly person who suffering from knee joint pain. Pre test is conducted to assess the effectiveness of plain hot water fomentation and hot water with Epsom salt fomentation for reduce knee joint pain. Pre test and Post test is assessed by using Modified Numeric Pain Rating Scale. After the pre test the samples were given fomentation. For the convenience of the researcher samples of GROUP A were divided into two group of 15 sample each where they were given fomentation one by one for 15-20 min on every alternate day in a week. In a same way 30 elderly of GROUP B were given hot water with Epsom salt fomentation. After 12th day the post test was conducted to assess the effectiveness of plain hot water fomentation and hot water with Epsom salt fomentation for reduce knee joint pain, using same tool, Modified Numeric Pain Rating Scale. Result showed that the mean score of post for plain hot water fomentation was 4.4 and the hot water with Epsom salt fomentation mean score of post test is 2.46, mean difference of post test is 1.94, with Standard deviation 1.13, standard deviation error 0.27 and calculated "t" value is 7.15 is more than tabulated "p" value (2.00) at 0.05 level of significance. Findings revealed that hot water with Epsom salt fomentation is more effective than plain hot water fomentation in reducing knee joint pain among elderly.

KEYWORDS : Epsom Salt Fomentation, Modified Numeric Pain Rating Scale.

INTRODUCTION

The prevalence of persistent pain increases with age. In old age physiological process aging produces many changes in our body. These changes produce health problems and disabilities. Among the disabilities the problem in loco motor function makes the old age person slow, immobile and falls. The joint pain in old age mainly associated with osteoarthritis, gout, joint stiffness and injuries.

NEED FOR STUDY

According to the findings of the National Sample Survey Round reported that, the proportion of aged persons who cannot move and are confined to their bed or home ranges from 77 per 1000 in urban areas to 84 per 1000 in rural areas Morbidity. It is currently estimated that adults over 60 years make up 8 per cent of India's population and by 2021 that number will be 137 million. India now has the second largest aged population in the world.

Joint diseases affect millions of people throughout the world, causing pain and disability with great impact on individuals and on society as a whole.

Men are more often affected than women before the age of 50. Women are affected twice as often as men after the age of 50.

OBJECTIVES

1. Assess the pre test grade of knee joint pain in Group A and Group B elderly by using Modified Numeric Pain Rating Scale among elderly person in Nirashrit Vridh Ashrya Garh (Run By Indian Red Cross Society) Tilwara Road, Jabalpur M.P.
2. Administer the plain hot water fomentation in Group A & administer the hot water with Epsom salt fomentation in Group B elderly for reducing knee joint pain Nirashrit Vridh Ashrya Garh (Run By Indian Red Cross Society) Tilwara Road, Jabalpur M.P.
3. Assess the post test grade of knee joint pain after intervention among Group A and Group B elderly in Nirashrit Vridh Ashrya Garh (Run By Indian Red Cross Society) Tilwara Road, Jabalpur M.P.
4. Determine the effectiveness of plain hot water fomentation for reducing knee joint pain among Group A elderly in Nirashrit Vridh Ashrya Garh (Run By Indian Red Cross Society) Tilwara Road, Jabalpur.
5. Determine the effectiveness of hot water with Epsom salt fomentation for reducing knee joint pain among Group B elderly in Nirashrit Vridh Ashrya Garh (Run By Indian Red Cross

Society) Tilwara Road, Jabalpur.

6. Compare the effectiveness of plain hot water fomentation and hot water with Epsom salt fomentation for reducing knee joint pain among elderly in Nirashrit Vridh Ashrya Garh (Run By Indian Red Cross Society) Tilwara Road, Jabalpur M.P.

HYPOTHESES

- **H1**- There will be a significant effectiveness of plain hot water fomentation for reducing knee joint pain among Group A elderly in Nirashrit Vridh Ashrya Garh (Run By Indian Red Cross Society) Tilwara Road, Jabalpur M.P.
- **H2** - There will be a significant effectiveness of hot water with Epsom salt fomentation for reducing knee joint pain among Group B elderly in Nirashrit Vridh Ashrya Garh (Run By Indian Red Cross Society) Tilwara Road, Jabalpur M.P.
- **H3**- There will be a significant difference between effectiveness of plain hot water fomentation and hot water with Epsom salt fomentation for reducing knee joint pain among elderly in Nirashrit Vridh Ashrya Garh (Run By Indian Red Cross Society) Tilwara Road, Jabalpur M.P.

RESEARCH METHODOLOGY

- **RESEARCH APPROACH**:- Quantitative Research Approach
- **RESEARCH DESIGN**:- A True Experimental Research Design.
- **SETTING**:- Nirashrit Vridh Ashrya Grih, Tilwara Road Jabalpur.
- **POPULATION**:- In the study population includes all elderly people who live in Old Age Home in Jabalpur.
- **SAMPLING**:- Simple Random Sampling Technique.
- **SAMPLE SIZE**:-60

VARIABLES

- **INDEPENDENT VARIABLES**:- Plain hot water fomentation and hot water with Epsom salt fomentation for 2 weeks.
- **DEPENDENT VARIABLES**:- Knee joint pain among elderly person.
- **DEMOGRAPHIC VARIABLES**:- Age, gender, physical activity, duration of knee joint pain, use of other therapy for knee joint pain.

DESCRIPTION OF THE TOOL

SACTION-A Demographic proforma
Socio demographic variables of elderly which includes 5 items such as age, gender, physical activity, duration of knee joint pain, use of other

therapy for knee joint pain

SACTION—B MODIFIED NUMERIC PAIN RATING SCALE

. Modified Numeric Pain Rating Scale is use in the present study to assess knee joint pain, it consist of 11 points (0-10). And four segments i.e 0 none or no pain, 1-3 mild pain, 4-6 moderate pain and 7-10 severe pain.

SCORE INTERPRETATION

GRADE OF KNEE JOINT PAIN	SCORE
NO PAIN	0
MILD PAIN	1-3
MODERATE PAIN	4-6
SEVERE PAIN	7-10

DATA COLLECTION METHOD

A total of 60 samples are selected 30 for plain hot water fomentation and 30 for hot water with Epsom salt fomentation as participants through simple random sampling (Lottery method) i.e. 60 samples of elderly person who fulfilled the inclusion criteria.

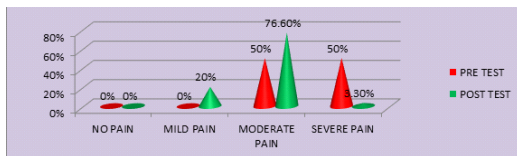
METHOD OF DATA COLLECTION

The main study started on 21/08/2018. The investigator collected data from elderly person in Nirashrit Vridh Ashrya Garh(Run by Indian Red Cross Society) Tilwara Road Jabalpur who all are having knee joint pain. After a brief explanation of the study consent is obtained from each elderly person.

- Pre test is conducted to assess the effectiveness of plain hot water fomentation and hot water with Epsom salt fomentation for reduce knee joint pain.
- Pre test and Post test is assessed by using Modified Numeric Pain Rating Scale.
- After the pre test the samples were given fomentation. For the convenience of the researcher samples of GROUP A were divided into two sub group of 15 sample each where they were given fomentation one by one for 15-20 min on every alternate day in a week. In a same way 30 elderly of GROUP B were given hot water with Epsom salt fomentation.
- After 12th day the post test was conducted to assess the effectiveness of plain hot water fomentation and hot water with Epsom salt fomentation for reduce knee joint pain, using same tool, Modified Numeric Pain Rating Scale.

DATA ANALYSIS & INTERPRITATION

- SECTION I: Frequency and percentage distribution of elderly person according to their socio demographic variables.
- SECTION II: Grade wise distribution of pre and post test score of plain hot water fomentation and hot water with epsom salt fomentation.
- SECTION III: Determine the effectiveness of plain hot water fomentation and hot water with epsom salt fomentation.
- SECTION IV: Significance of difference between plain hot water fomentation and hot water with epsom salt fomentation by using "t" test.

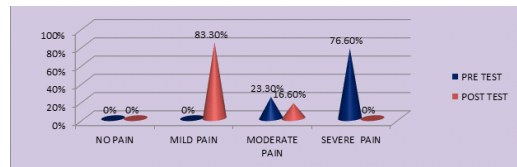


- Cone diagram representing the Grade of knee joint pain distribution percentage of pre test and post test of plain hot water fomentation .

TABLE 1: Grade wise knee joint pain distribution of pre test and post test score of plain hot water fomentation. N=30

S.NO	Test	Grade	Range	F	%	Mean	SD
1	Pre Test	No Pain	0	0	0%	6.75	2.12
		Mild Pain	1-3	0	0%		
		Moderate Pain	4-6	15	50%		
		Severe Pain	7-10	15	50%		
2	Post Test	No Pain	0	0	0%	4.51	1.40
		Mild Pain	1-3	6	20%		
		Moderatepain	4-6	23	76.6%		

Grade	Pre Test (%)	Post Test (%)
Severe Pain	76.60%	3.3%



Cone diagram representing the Grade of knee joint pain distri bution percentage of pre test and post test of hot water with Epsom salt fomentation.

TABLE 2: Grade wise knee joint pain distribution of pre and post test score of hot water with Epsom salt fomentation N=30

S.NO	Test	Grade	Rating	f	%	Mean	SD
1	Pre Test	No Pain	0	0	0%	7.68	1.47
		Mild Pain	1-3	0	0%		
		Moderate Pain	4-6	7	23.3		
		Severe Pain	7-10	23	76.6%		
2	Post-test	No Pain	0	0	0%	2.5	1.11
		Mild Pain	1-3	25	83.3%		
		Moderate Pain	4-6	5	16.6%		
		Severe Pain	7-10	0	0%		

TABLE 3: Significance of difference between pre test and post test score of plain hot water fomentation by using "t" test. N=30

S. NO	Plain Hot Water Fomentation	Mean	Mean Difference	SD	SED	"t" Value	Significance
1	Pre-test	6.93	2.53	1.39	0.35	7.12	t=7.12 p>0.05 significant at58 df p=2.00
2	Post- test	4.4					

Hence research hypothesis H1 "There is a significant effectiveness of plain hot water for reducing knee joint pain among Group A elderly in Nirashrit Vridh Ashrya Garh Tilwara Road Jabalpur (M.P) is accepted.

TABLE 4:-Significance of difference between pre test and post test score of hot water with Epsom salt fomentation by using "t" test N=30

S. NO	Hot Water With Epsom Salt Fomentation	Mean	Mean Difference	SD	SED	"t" Value	Significance
1	Pre-test	7.33	4.8	1.29	0.31	15.50	t=15.50 p>0.05 most significant at 58 df p=2.00
2	Post- test	2.46					

Hence research hypothesis H2 "There is a significant effectiveness of hot water with Epsom salt fomentation for reducing knee joint pain among Group B elderly in Nirashrit Vridh Ashrya Garh Tilwara Road Jabalpur (M.P). is accepted.

RESULT

TABLE 5: Significance of difference between plain hot water and hot water with Epsom salt fomentation N=60 (30+30)

S. NO	Post Test	Mean	Mean Difference	SD	SED	"t" Value	Significance
1	Plain Hot Water Fomentation	4.4	1.94	1.13	0.27	7.18	t=7.15 p>0.05 significant at 58 df p=2.00
2	Hot Water With Epsom Salt Fomentation	2.46					

Hence research hypothesis H3 - There is a significant difference between effectiveness of plain hot water fomentation and hot water

with Epsom salt fomentation for reducing knee joint pain among elderly in Nirashrit Vridh Ashrya Garh (Run by INdin Red Cross Society) Tilwara Road Jabalpur (M.P) is accepted.

CONCLUSION

The findings of study revealed that hot water with Epsom salt fomentation is most effective than plain hot water fomentation in reducing knee joint pain among elderly.

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