

# Effectiveness of castor oil massage with hot application on knee joint pain among women

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**Abstract** — The health of Indian women is directly linked to their status in society. Every woman is unique, but there are few health problems more common among them especially after 40 years old. In those common health problems one of them is osteo-arthritis. During the age group most of the women complaining about knee pain. Knee pain is a frequent ailment that can be experienced by women from young adults to older adults. Hence, a study was conducted to assess the effectiveness of castor oil with hot application on knee joint pain among women at Kuthambakkam village area. The study objectives were to assess the level of knee joint pain among women, to evaluate the effect of castor oil with hot application on knee joint pain among women in selected community area and to associate between selected demographic variables with post test score among women with knee joint pain in selected community area. One group pretest post-test design was used in this study. Totally 50 women, in the age of 30 to 60 years who met the inclusion criteria, were selected by random sampling method. In the pre test, 28% of the women had severe knee joint pain and 72% of the women had moderate knee joint pain and in the post test after 2 weeks of intervention of castor oil massage with hot water application 24% of the women had moderate knee joint pain and 76% of the women had mild knee joint pain.

**Index Terms**— castor oil massage, hot application, knee joint pain, women

## I. INTRODUCTION

In early stages, women were valued most of their roles as wives and mothers to preserve the family line and grandmothers for their lived experience. Each stage from her childhood till senescence has its own natural deformity which alters the overall health of the women and so women should concentrate in her wellbeing aspects throughout her life.

The health of Indian women is directly linked to their status in society. Research on women status has

found that the contribution of Indian women make towards family is overlooked, and instead they are viewed as economic burden. Every woman is unique, but there are few health problems more common among them. Most of the problems are usually arising at their after 40 years old. In those common health problems one of them is osteo-arthritis. During the age group most of the women complaining about joint pain especially knee pain.

Prevalence of knee pain is higher in females than males. Years of life lived with knee osteo arthritis increased from 10.5 million in 1990 to 17.1 million in 2010. Arthritis refers to the inflammation of the joints in the body. A person with arthritis used to experience unpleasant symptoms such as severe pain in the joint areas along with swelling and stiffness.

Castor oil comes from the seed, *Ricinus Communis* and is native to India. Due to its unusual composition, castor oil has a number of health benefits and healing properties. Castor oil is a triglyceride, comprised of fatty acids, 90 percent of which is ricinoleic acid.

One of the main benefits of castor oil is its use in the treatment of arthritis. While medication can provide pain relief and reduce inflammation, amore preferable long term solution for arthritis involves natural remedies or cures with fewer side effects. Castor oil is considered effective and safe as compared to some other natural remedies.

Hence the researcher wished to search for an alternative route of treatment [topical] which can be non invasive, safe and effective for the knee joint pain. Thus the study was undertaken to evaluate the effectiveness of castor oil massage with hot application on knee joint pain among women.

The study objectives were to

- assess the level of knee joint pain among women
- determine the effect of castor oil massage with hot application on knee joint pain among women
- associate the selected demographic variables with post test pain score among women.

II. METHODOLOGY

In pre-experimental study design, one group pretest post-test research design was used in this study. Totally 50 women, in the age of 30 to 60 years who met the inclusion criteria, were selected by using random sampling method under probability sampling technique.

The tool used for this study was

Section-A : Demographic data to assess the background information of women.

Section-B : It is the visual analogue pain scale to assess the level of knee joint pain.

Prior to the data collection written permission was obtained from the concerned women and also from the subjects with assured confidentiality. Pre test was conducted to assess by using visual analogue pain scale among women who met the inclusion criteria. Intervention started on the same day after pre test. On the knee joint 6 to 10 ml of castor oil was applied women with knee joint pain and it was massaged for 5 minutes. After that hot water bag was used to provide hot application on that area for 5-10 minutes. Post test was conducted after two weeks of intervention.

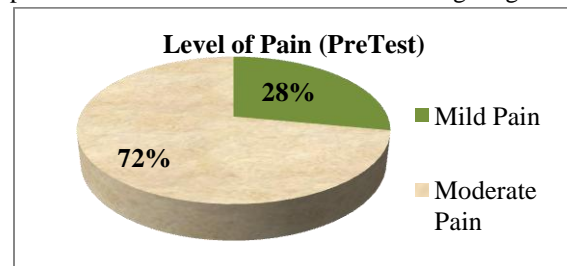
III. RESULTS & DISCUSSION

The collected data was tabulated and analyzed to interpret the findings. The first and foremost table was the frequency and percentage distribution of demographic variables among women with knee joint pain. Table.1 is showing the results of demographic variables of 50 women. Among them, 10% were in the age group of 30- 40 years, 40% were in 40- 50 years and 50% were in 50- 60 years. Regarding education, 36% had up to primary level education and 64% studied up to secondary education. Related to occupation, 64% were housewife and 24% were coolie workers. All the women were married and most of them 74% women were belonging to nuclear family.

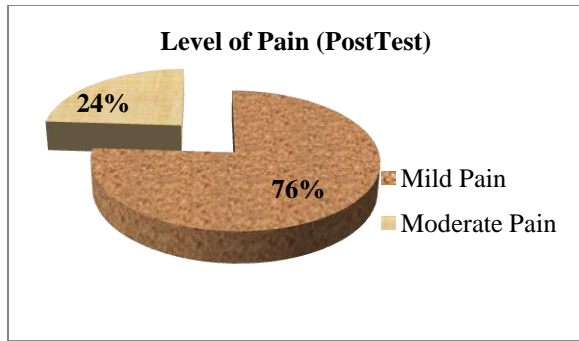
**Table. 1 Frequency and percentage distribution of demographic variables among women with knee joint pain.**

Demographic variables	No	Percentage
Age		
30- 40 years	5	10%
40- 50 years	20	40%
50- 60 years	25	50%
Education		
Illiterate	0	0
Primary school	18	36%
Secondary school	32	64%
Graduate	0	0
Occupation		
House wife	32	64%
Coolie	12	24%
Agriculture	6	12%
Income		
Below Rs.5000	28	56%
Above Rs. 5000	15	30%
Above Rs. 10,000	7	14%
Religion		
Hindu	42	84%
Christian	5	10%
Muslim	3	6%
Marital status		
Married	50	100%
Unmarried	0	0
Widow	0	0
Type of family		
Nuclear	37	74%
Joint	13	26%

Regarding the level of knee joint pain in pre test and post test results are shown in the following diagram.



**Figure.1 Percentage distribution level of knee joint pain in pre test**



**Figure.2 Percentage distribution level of knee joint pain in post test**

In the above 2 figures are showing the level of pain among women in pre and post test.

A cross sectional observational community based study was conducted to assess the disability of females among rural area of west Bengal, India. In the year of 2006 by making house to house visits, clinical examination, observation and interview with a predesigned pretested performance was carried out by Chakrabarty. The results showed that among 261 females 130(49.8) were suffering from severe knee joint pain due to osteoarthritis and also they had impaired physical mobility.

**Table.2 Effectiveness of intervention on knee joint pain among women.**

Pre test		Post test		Paired 't' test value
Mean	S.D	Mean	S.D	
5.86	41.9	2.94	3.04	t = 0.134 P = 0.001

The above table No.2 is showing the effect of intervention. The paired 't' test value is evidenced that there was statistically significant.

The finding of the study was supported by Banerjee (2007), studied the effect petroleum extract of Ricinus Communis exhibited significant and anti inflammatory activity against formaldehyde and adjuvant induced arthritis. It was also found that Ricinus Communis was safe and it had no analgesic effect but significant anti inflammatory activity.

In present study, there was no statistically significant association between the selected demographic variables with the post test score among women with knee joint pain after applying castor oil with hot application.

#### IV. CONCLUSION

Women have little autonomy, living under the control of first their father, then their husband and finally their sons. All of these factors exert a negative impact on the health status of Indian women. In that aspect knee joint pain is common symptom due to osteo arthritis among women. It needs careful evaluation and preventive care for women. Otherwise it leads to impaired quality of life and interfere with their daily lifestyle. Castor oil with hot application is the effective method to reduce knee joint pain and improve the quality of life among women, thus it is simple, easy to practice and also it is easily available.

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