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## Effectiveness of homemade herbal plaster application on knee joint pain among elderly

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### Abstract

Most of geriatric population is troubled by chronic knee joint pain. Herbal plaster also considered helpful in relieving muscle aches and fatigue feet. The most prominent reason for loss of joint mobility and function is chronic or episodic pain, which leads to psychological distress and impaired quality of life. The main purpose of this study to assess the effectiveness of homemade herbal plaster application on knee joint pain among elderly in selected Narayana Oldage home in Thirupathi. Quantitative approach and Quasi experimental design was used in this study. The sample size was 60 Elderly people. The independent variable in this study is homemade herbal plaster application and dependent variable is knee joint pain among elderly. Sample include elder people at Narayana old age home in Thirupathi, Who fulfils the inclusion criteria and were selected by Non-probability convenient sampling technique. The assessment of level of knee joint pain revealed that 58 (96.67%) had low knee joint pain and 2 (3.33%) had moderate knee joint pain. The mean score of knee joint pain among elderly people was 30.27 with standard deviation 8.20. The calculated paired 't' test value of  $t = 33.748$  was found to be statistically highly significant at  $p < 0.001$  level. This study should recommended clearly infers that homemade herbal plaster application on knee pain was found to be effective in reducing the level of knee joint pain among elderly.

**Keywords:** Homemade herbal plaster application, elderly people, old age home, knee joint pain

### Introduction

Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage. Most of geriatric population is troubled by chronic knee pain that has major effect on their quality of life. The physical disability arising from pain and loss of functional capacity and increase the risk of further morbidity. Ageing is the natural process that occurs in human life cycle with change the functional capacity of old age and life span <sup>[1]</sup>.

The real life consequences of knee joint pain need to be given adequate attention in home care setting. So, there is a need to have homemade herbal plaster application. Home remedy use is an often overlooked component of health self-management, particularly for who have limited access to medical care or discrimination by health care system <sup>[2-3]</sup>.

The pain can affect the ability to ambulate participate in daily activities and sleep comfortably. Knee pain causes many limitations and disability's, which include difficulty in floor level activities, ascending and descending stairs, squatting. High impact activities that include running or jumping can be detrimental and painful. These difficulties or limitations can significantly reduce the quality of life in an active individual <sup>[4]</sup>.

No curative treatment has yet been found for knee pain and treatment is directed towards symptom relief and preventing of further deterioration. Current modes of treatment helps to decrease pain and improve functioning range from information, education, physical therapy, and aids, analgesics, anti-inflammatory drugs, joint injections and knee replacement procedures <sup>[5-6]</sup>.

Poultices, compress and plasters are wonderful way of applying in herbal treatment externally to a specific area of the body. They are very like each other, and are both easy and effective in treating many common household ailments. Plasters are very powerful and it should be applied in thin layers to protect the skin and the area monitored to avoid any skin reactions to strong herbal application <sup>[7]</sup>.

The World Health Organization report identified knee pain, as the 8<sup>th</sup> leading cause of Non-fatal burden in the world 2018, accounting for 2.6% of total year lost due to disability.

The number of aged 60 was likely to be double in 2030. In India is the developing country in which the population pyramid is inverted which constitute the increasing number of Dependent age group especially above sixty years<sup>[8]</sup>. Older age is inevitably accompanied by an increasing risk of physical and psychological Disorder. It has become an issue of increasing concern with the rapid growth of the ageing population. Complications of knee pain are injuries and medical conditions, such as Osteoarthritis can lead to increasing pain, joint damage and disability if left untreated<sup>[9]</sup>.

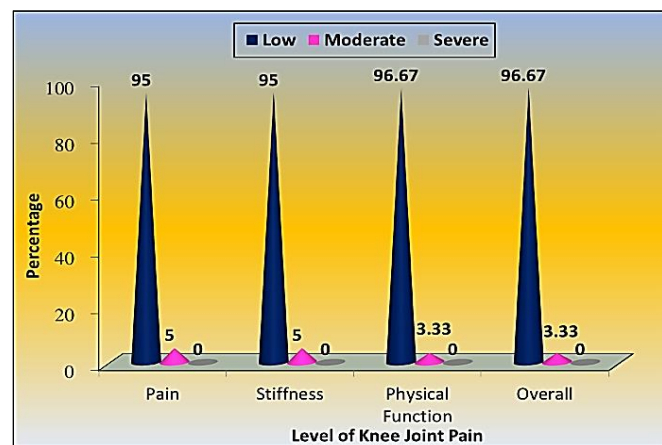
The purpose of this study is

1. To assess the pre-test and post-test level of knee joint pain among experimental group and control group
2. To determine the effectiveness of homemade herbal plaster application on knee joint pain among experimental group
3. To associate the level of knee joint pain with selected demographic variables

**Materials and Methods**

A quantitative approach with quasi-experimental design was used to conduct the study. The study was conducted in Narayana old age home in Thirupathi. The data were collected all elder people using non-probability convenient sampling technique with 60 elder receiving homemade herbal plaster application who met the inclusion criteria. The investigator introduced and explained the purpose of the study to all elderly people. The inclusion criteria for the sampling are who are all know to read and write in Tamil and are available at the time of data collection. The exclusion criteria antenatal mothers who are all have cognitive and sensory impairment. The survey has been thorough and was conducted from June 27, 2020. The data were collected obtaining written informed consent permission from Narayana old age home in Thirupathi. Data were assembled using structured interview schedule for Elder. The questionnaire contains 24 questions. The sample characteristics were described using frequency and percentage.

**Result and Discussion**



Percentage distribution of post-test level of knee joint pain among elderly

**Fig 1:** Frequency and percentage distribution of post-test level of knee joint pain among elderly

The above Figure 1 shows that in the post test, with regard to pain 57 (95%) had low knee joint pain and 3 (5%) had

moderate knee joint pain with respect to stiffness, 57 (95%) had low knee joint pain and 3 (5%) had moderate knee joint pain.

Considering the physical function, 58 (96.67%) had low knee joint pain and 2 (3.33%) had moderate knee joint pain. The overall post-test knee joint pain revealed that 58 (96.67%) had low knee joint pain and 2 (3.33%) had moderate knee joint pain.

**Table 1:** Comparison of pre-test and post-test level of knee joint pain among elderly

Knee joint pain	Mean	SD	Paired 't' test value
Pretest	77.27	7.80	t = 33.748
Post test	30.27	8.20	p = 0.0001 S***

\*\*\*p<0.001, S – Significant, N = 60

The table 1 depicts that the pre-test mean score of knee joint pain was 77.27 with standard deviation 7.80 and the post-test mean score of knee joint pain was 30.27 with standard deviation 8.20. The calculated paired 't' test value of t = 33.748 was found to be statistically highly significant at p<0.001 level. This clearly infers that homemade herbal plaster application on knee pain was found to be effective in reducing the level of knee joint pain among elderly.

Reva C Lawrence *et al.*, (2018) - conducted a study on prevalence of knee joint pain and selected musculoskeletal disorders in the United States. The results show 15% (40 million) of Americans had some form or arthritis in 1995. By the year 2020, an estimated 18.2% (59.4) will be affected. The Indian Scenario shows that arthritis affects 15% people i.e. Over 180 million people in India. More than 46 million Indians are currently victims of musculoskeletal problems.

**Conclusion**

The application of homemade herbal plaster is effective on reducing level of joint pain among elderly. Hence, reduction of knee joint pain increases the functional ability of elders which lead them a better quality of life.

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