

Effectiveness of Moist Heat Application on Elderly Orthopedic Clients at Selected Urban Community Area, Bengaluru

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Abstract

Pain is a distressing sensory and emotional experience that arises from actual or potential tissue damage. It is a multifaceted phenomenon that extends beyond physical discomfort, encompassing emotional and psychological aspects as well. Individuals who recognize that pain management not only enhances comfort but also accelerates the healing process are more inclined to seek or administer appropriate treatment. In order to educate the elderly orthopedic clients, this study was conducted to assess the effectiveness of moist heat application on elderly orthopedic clients at selected urban community area, Bengaluru. A pre-experimental design, with non-probability convenient sampling method was used. Information was collected from 50 elderly orthopedic clients at selected urban community area, using the numerical pain rating scale. Majority (41.7%) of respondents belongs to the age group of 65–70 years, 58% of respondents were females, 68% were Hindus, 65% of respondents were married, 34% of respondents were not having formal education, 48% of subjects were retired and not working, 54% of respondents had monthly income of Rs. 5,001–10,000, and 58% of respondents had associated illnesses like hypertension, diabetes mellitus and other chronic disorders. The respondents had a pre-test mean score of 4.46 with a standard deviation of 1.06. In contrast, the post-test results showed a mean score of 2.29 and a standard deviation of 0.08. The pooled standard deviation of post-test and pre-test is 0.05, independent 't' value is 15.14, df is 23 and probability of 't' is 2.07. Since the independent 't' value is greater than the probability of 't', the application of moist heat is effective for the reduction of pain among elderly orthopedic clients and thus the hypothesis is accepted. Analysis of the study showed that there is no significant association between pain scale rate and socio-demographic variables such as age, gender, education status, family income and associated illness. The level of significance is at 5% level ($P < 0.05$).

Keywords: Orthopedic, pain, elderly clients, assess, effectiveness, moist heat application

INTRODUCTION

"It always seems impossible until it's done."

—Nelson Mandela

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Individuals suffering from diseases, injuries, or disorders affecting the muscles, bones, and joints often experience pain. Bone pain is typically characterized as a deep, dull ache with a "boring" sensation, while muscle pain is commonly associated with soreness and may manifest as muscle cramps [1].

Management of pain includes a combination of medications such as various forms of analgesic agents and adjuvant drugs. Non-pharmacological

measures include cognitive behavior techniques like imagery, distractions, relaxation, music therapy, physical techniques like heat and cold application, massage therapy, transcutaneous electrical nerve stimulation and acupuncture to enhance quality of life.

Applying heat enhances blood circulation to the skin and nearby organs. The resulting vasodilation improves oxygen and nutrient supply to injured tissues while also promoting joint flexibility by enhancing muscle elasticity. Heat therapy can be administered through warm packs, either dry or moist, or by immersion in water [2].

Delayed and inadequate treatment, lack of facilities for investigations and poor status of people contribute to high prevalence of unalleviated pain. Because of lack of knowledge, the patients are unaware about the management which is used to relieve pain to some extent. The patients and family members also have some misconceptions regarding the pain that it cannot be relieved by any measures. So, we have to educate the family members and patients that although they cannot be relieved completely, we can reduce the intensity of pain by the non-pharmacological measures as well [3].

Besides patients and family barriers, other major factors include inadequate health care providers, education and lack of organizational support. Moreover, pain assessment and management are not given priorities in clinical practice. Health care providers also are likely to have misconceptions about pain.

Thus, it is necessary to impart knowledge to the patients, their family members regarding the therapies to relieve the pain in order to improve the quality of life. Patients should be educated about the use of drugs and other methods of pain relief as part of treatment plan. Patients should be emphasized that almost all kinds of pain can be effectively managed by adequate psychosocial support which leads to successful pain management [4–7].

OBJECTIVES OF THE STUDY

- To evaluate the impact of moist heat therapy on pain management among elderly orthopedic patients.
- To examine the relationship between selected socio-demographic factors and pain levels.

METHODOLOGY

To achieve the study's objectives, an evaluative research approach was adopted, utilizing a one-group pre-test post-test design with a non-probability convenient sampling technique. Data were gathered from 50 elderly orthopedic clients in a designated urban community using the Numeric Pain Intensity Scale to assess pain levels.

Hypotheses

- *Hypothesis 1:* The mean post-test pain score among orthopedic patients will be significantly lower than the mean pre-test score in the selected urban community, as determined by a paired t-test.
- *Hypothesis 2:* No significant association exists between pain levels and selected socio-demographic variables, as analyzed using the chi-square test.

Delimitations

1. The study is limited to 50 elderly orthopedic patients residing in a specific urban community in Bengaluru.
2. Elderly individuals unwilling to participate were excluded from the study.

RESULTS

The largest proportion (41.7%) of participants belonged to the 65–70 years age group. 58% were females, and 68% identified as Hindus. 65% were married, while 34% had no formal education. 48%

were retired and not employed, 54% reported a monthly income between Rs. 5,001 and 10,000, 58% had pre-existing conditions such as hypertension, diabetes, and other chronic diseases. The mean pre-test pain score was 4.46, with a standard deviation of 1.06, whereas the mean post-test pain score was 2.29, with a standard deviation of 0.08. The pooled standard deviation for the pre-test and post-test was 0.05. The independent t-test value was 15.14, with 23 degrees of freedom, and the probability value was 2.07. Since the t-value exceeded the probability threshold, the study confirmed that moist heat therapy is effective in reducing pain among elderly orthopedic patients, supporting the hypothesis. Statistical analysis further indicated no significant relationship between pain levels and socio-demographic factors such as age, gender, education, family income, and associated illnesses. The level of significance was set at 5% ($P < 0.05$).

INTERPRETATION AND CONCLUSION

This study aimed to evaluate the effectiveness of moist heat therapy in managing pain among elderly orthopedic patients in a selected urban community in Bengaluru. An evaluative research approach was employed, and 50 elderly orthopedic participants were selected using a non-probability convenient sampling technique. Pain levels were assessed using the Numerical Pain Rating Scale, and statistical methods were applied to analyze and interpret the data [8–11].

The study was conducted with willing participation from elderly orthopedic clients in the chosen urban community. It was based on the open system model, which provides a structured and systematic approach to evaluating the effectiveness of moist heat therapy in pain management [12].

Findings on the Effectiveness of Moist Heat Therapy

The analysis revealed that the mean pre-test pain score was 4.46, with a standard deviation of 1.06. After the intervention, the mean post-test pain score decreased to 2.29, with a standard deviation of 0.08. These results indicate a significant reduction in pain levels following the application of moist heat therapy. The pooled standard deviation of post-test and pre-test is 0.05, independent 't' value is 15.14, df is 23 and probability of 't' is 2.07. Since the independent 't' value is greater than the probability of 't', the application of moist heat is effective for the reduction of pain among elderly orthopedic clients and thus the hypothesis is accepted. Findings related to association between pain level and selected socio-demographic variables with regard the association between pain level and selected socio-demographic variables it was found that, there is a no significant association between pain level and selected socio-demographic variables such as age, gender, education status, family income and associated illness at 5% level [13].

Implications of the Study

Nursing Practice

- The nurses working in the hospital and community setup could administer various exercise programs for the orthopedic clients.
- Moist heat applications can be applied for the clients to prevent long term pain.

Nursing Education

- As a nurse educator, there are numerous opportunities for nursing professionals to educate both elderly individuals and the community about the application and benefits of moist heat therapy.
- The study highlights the importance of short-term in-service training programs for nurses and peripheral health workers to enhance their ability to educate elderly clients on effective pain management using moist heat therapy.
- Raising public awareness about pain management strategies is crucial.
- The findings emphasize the significance of moist heat therapy in reducing pain among orthopedic patients.
- Postgraduate nursing students should focus on developing skills in creating educational materials on elderly healthcare and pain management strategies.

Nursing Administration

- Nurse administrators should organize continuing education programs for nursing staff to enhance their knowledge of moist heat therapy and its benefits for elderly patients.
- Developing educational materials for health education in both hospital and community settings will support effective pain management practices.
- Nurse administrators should encourage innovative teaching strategies to educate elderly individuals about moist heat therapy for pain relief.
- It is essential to mobilize resources such as manpower, funding, and materials to ensure the effective dissemination of health education on pain management by healthcare experts.
- The development of nursing audit tools, protocols, guidelines, and standards related to assessing pain levels in orthopedic patients is necessary.

Nursing Research

- This study serves as a foundation for nurse researchers to design appropriate educational tools for elderly clients, improving their awareness of moist heat therapy for pain relief.
- Research on moist heat application plays a significant role in advancing methodological approaches and encourages the integration of evidence-based practices in nursing.
- There is a need for research-based evidence to evaluate the cost-effectiveness of educational programs focusing on moist heat therapy for pain management.
- The study encourages further research on patient knowledge and awareness regarding different pain management techniques for orthopedic conditions.
- Nurses should actively engage in research on moist heat therapy, publish their findings, and contribute to nursing knowledge and public health awareness. Support from both public and private agencies through funding and resources is essential for advancing research in this field.

Suggestions

- Awareness programs can be organized for elderly orthopedic patients to educate them on the role of moist heat therapy in pain relief in community settings.
- A structured teaching program can be designed to improve knowledge, attitudes, and practices regarding moist heat therapy for orthopedic pain relief.

Recommendations

1. A similar study can be conducted on a larger sample size for broader generalization of results.
2. The study can be extended to include adult participants for comparison.
3. Educational resources such as manuals, booklets, and self-instruction modules should be developed to enhance awareness.
4. A comparative study can be conducted to assess the effectiveness of moist heat therapy in urban and rural community settings.
5. A pre-experimental study using a structured teaching program can be carried out to evaluate knowledge and attitudes regarding moist heat therapy for pain management.
6. The effectiveness of a video-assisted teaching program on moist heat therapy can be assessed in selected old-age homes.

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