

A Study to Assess the Effectiveness of Ice Massage on the Hand in Relief of Dental Pain Among Dental Clients in Selected Hospitals at Ambikapur, Chhattisgarh

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Abstract:- Dental pain has a serious influence on a person's ability to sleep, eat, and perform daily tasks. This pain can be reduced with the help of a simple nursing intervention called cold application as a cutaneous stimulation technique. **Aim:** The study aimed to reduce pain naturally, by cold application and reducing drug dependency among people suffering from dental pain. **Methodology:** A Pre-experimental research design was conducted among 50 dental clients from selected hospitals in Ambikapur, Chattisgarh, India. The participants were recruited by adopting a purposive sampling technique. Data were obtained by self-structured socio-demographic data and standardized simple descriptive pain scales. **Result:** The mean pre-test score is 2.46 and the post-test mean score is 0.72. The mean difference is 1.74 which indicates that there is a decrease in the pain score. The pre and post-intervention pain scores were assessed using a Z value that is statistically significant and higher than the table value $Z = 4.62$ at a threshold of $P > 0.05$. **Conclusion:** Ice massage is a safe, non-invasive, and natural way to relieve pain. Therefore, it lessens the amount of suffering endured by dental patients and protects them from analgesic side effects and medication overdose.

Keywords:- Effectiveness, Ice Massage, Dental Pain, Dental Clients.

I. INTRODUCTION

Pain is a person's individual experience that may be confronting for the individual to define, and is frequently challenging for others to recognize, embrace, and evaluate¹. The American Pain Society (2003) refers to pain as being "the fifth vital sign" to stress its importance and increase knowledge among medical professionals of the necessity for effective pain management^[2,3].

Administering colds to the body parts that are being treated has analgesic effects. It has been demonstrated that nerve conduction decreases steadily with a decrease in temperature until it completely ceases inside the nerve fibers^[4,5]. People who feel pain, whether it is acute or chronic, want and deserve to be freed from their misery and functional loss^[6,7]. Opioid medicines, however, have the potential to cause tolerance, physical dependence, and addiction⁸. According to research, using cold treatment after lumbar disc surgery, lowers pain and the need for morphine by around 40% during the first 24 hours⁹.

➤ Objectives:

- To assess the level of pain in dental clients before the application of ice massage.
- To determine the effectiveness of ice massage in reducing dental pain among dental clients.
- To find the association with pre-intervention pain score and selected demographic variables.

➤ Research Hypothesis:

- **H₁** – There is a decrease in the level of post-intervention pain score among dental clients as measured by the pain scale at 0.05 level of significance.
- **H₂** – There is an association between pre-intervention pain score and selected demographic variables at a 0.05 level of significance.

II. METHODOLOGY

The effectiveness of ice massage was evaluated using a pre-experimental one-group pre-test and post-test design to achieve the research's objectives. Using a purposive sampling strategy, a total of 50 samples were collected. The information was gathered in December 2013.

A. Ethical Consideration:

- Obtained permission from
- Ethical Committee of District Hospital, Ambikapur, Chattisgarh.
- Smile dental clinic, Ambikapur, Chhattisgarh
- Principal of Holy Cross college of nursing, Ambikapur, Chattisgarh.
- Informed consent obtained from participants

B. Inclusion Criteria:-

- Dental Clients who:
- are of age groups above 18-65 years.
- have not received any painkillers 6-8 hrs before the assessment.
- are present in selected hospitals/clinics of Ambikapur, Chhattisgarh on the day of data collection.
- are willing to participate in the study.

C. Exclusion Criteria

- Dental Clients who:
- are of age groups less than 18 years and above 65yrs of age.
- are not willing to participate in the study.
- have received painkillers within 6-8 hrs of the assessment.

The study employed the following instruments to gather the data:

Tool 1: Self-structured demographic questionnaires

Tool 2: Standardized descriptive pain scales were used to collect the data and gauge the intensity of pain experienced by dental patients.

D. Statistical Analysis-

Using descriptive and inferential statistics the data is analysed by following the aims and hypothesis.

III. RESULTS

According to the study majority(40%) of the clients belonged to 18-19 years of age, most(64%) of the dental clients were females, majority (36%) of the clients had high school and higher secondary school educational status, most(82%) of the dental clients had previous experience of dental pain, majority (94%) of the clients didn't had previous experience of ice massage, majority (58%) didn't had any addiction, most(56%) of the clients didn't had had previous experience of any dental procedure, majority (76%) of the clients used toothpaste as daily dental care material, most (68%) of the clients had dental caries as the previous experience of any dental problem, majority (38%) of the clients had duration of dental problem < 1week, most (80%) of the clients had frequency of dental care once in a day and majority (64%) of the client had no history of gum bleeding. The pre-and post-intervention pain scores were assessed using a Z value that is statistically significant and higher than the table value. Z = 4.62 at a threshold of P > 0.05.

TABLE – 1 Overall Mean, standard deviation, Mean Difference, ‘Z’ tests value between pre-test and post-test intervention score

Time points of study	Maximum possible scores	Minimum possible scores	MEAN	SD	Mean difference	Z test value	Z value At df=50
Pre-intervention pain score	5	0	2.46	1.17	1.74	4.63	2(s)
Post-intervention pain score	5	0	0.72	1.08			

N=50

Table-1 depicts that the mean pre-test score is 2.46 and the post-test mean score is 0.72. The mean difference is 1.74 which indicates that there is a decrease in the pain score .

TABLE – 2 Overall mean, mean difference, standard deviation, standard error 'Z' tests value between pre-test and post-test intervention score
N=50

Aspects	Mean	Mean Difference	Standard Deviation	Standard Error	'Z' Value	'Z' Value At df=50	Inference
Pre-test pain score	2.46	1.74	1.17	0.376	4.63*	2	Significant
Post-test pain score	0.72		1.08				

Table-2 depicts that dental clients' pre- and post-intervention pain scores were assessed using a Z value that is statistically significant and higher than the table value. $Z = 4.62$ at a threshold of $P > 0.05$. This shows that the level of pain has reduced after ice application.

IV. DISCUSSION

The study shows that the mean pre-test score is 2.46 and the post-test mean score is 0.72. The mean difference is 1.74 which indicates that there is a decrease in the pain score of the subjects. The pre and post-intervention pain scores were assessed using a Z value that is statistically significant and higher than the table value $Z = 4.62$ at a threshold of $P > 0.05$. These results indicate that there is a reduction in dental pain among dental clients after the application of ice in the Hoku region. According to research by Hasanpour M, the first group in the trial underwent diversion, the second group had cold treatment, and the third group received standard medical care. The Oucher scale was used to gauge the degree of pain. The groups getting topical cold therapy, distraction, and controls, in that order, experienced average pain levels of 26.3, 34.3, and 83.3, respectively¹⁰. The results of the study show that cold treatment considerably lessens pain.

V. CONCLUSION

Ice is an inexpensive, readily available, and pain-relieving alternative treatment that may be used at home to ease tooth discomfort before the patient sees a dentist. It also has no negative effects. Ice massage is a handy way to manage pain in dental patients while reducing narcotic reliance and addiction.

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