



EFFECTIVENESS OF ICE MASSAGE ON NEUROPATHIC PAIN AMONG PATIENT WITH DIABETIC NEUROPATHY ADMITTED IN SELECTED HOSPITAL, TIRUVANNAMALAI.

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ABSTRACT

Diabetic neuropathy is the most common complication of diabetes mellitus (DM), affecting as many as 50% of patients with type 1 and type 2 DM. Diabetic peripheral neuropathy involves the presence of symptoms or signs of peripheral nerve dysfunction in people with diabetes after the exclusion of other causes. The aim of the study was to assess the effectiveness of ice massage on neuropathic pain among patients with diabetic neuropathy admitted to a selected hospital in Tiruvannamalai. Non- equivalent control group pre and post-test design which comes under quasi experimental design was adopted in this study. The diabetic neuropathy patients were selected based on convenience sampling technique. The level of diabetic neuropathic pain was assessed using the modified Galer neuropathic pain scale for the experimental and control group. The collected data were analysed using descriptive and inferential statistics. The results showed that there was a significant reduction in the level of neuropathic pain in the experimental group at ($P= 0.001$). The unpaired 't' value ($t = 3.99, P = 0.001$) showed that there was a significant difference in the mean post-test pain scores in the experimental and control group. The study findings suggested that the ice massage application administered to the patients in the experimental group had a significant decrease in their post test level of peripheral neuropathic pain than the control group.

Key words: Ice massage, Neuropathic pain, and Diabetic neuropathy.

1.Introduction:

Diabetic Neuropathy (DN) is the clinical condition and one of the most common complications of diabetes affecting approximately 50% of diabetic people. Out of it, 16% to 33% of the patients manifest Neuropathic Pain (NP) associated with Pheripheral Diabetic Neuropathy. Neuropathic Pain in PDN arises due to nerve fiber injury both at the central and peripheral level². The diabetic neuropathy varies, from asymptomatic to severe neuropathic pain and numbness. Diabetic neuropathy is associated with increased risk of foot ulcer, lower limb amputation mortality and impaired quality of life³. Management of PDN includes both preventions of hyperglycemia and cardiovascular risk factors known to exacerbate neuropathy and the treatment of

neuropathic pain. Several novel diagnostic techniques are available which may supplement clinical assessment and aid the early detection of diabetic neuropathy⁴. Glycemic control in diabetes treat to reducing the risk of developing diabetic neuropathy. However, either glucose control or pathogenetic treatments are effective in painful-neuropathy and symptomatic treatments are often inadequate. The treatment for DPN is currently on improving quality of life and preventing complications through effective screening, pain control and foot care⁵. Many alternative therapies were there to overcome diabetic neuropathy pain; one among them is ice massage which has a significant effect in reducing the level of neuropathy pain.

1.1 Objectives: A study to assess the effectiveness of ice massage on neuropathic pain among patient with diabetic neuropathy admitted in selected hospital, Tiruvannamalai.

1.2 Research Approach: The research approach used in this study is a Quantitative research approach.

2. Research Methodology

2.1 Research Design: The research design adopted for this study is non- equivalent control group pre and post-test design which comes under quasi experimental design.

2.2 Variables:

Independent Variable: Ice massage

Dependent Variable: Peripheral neuropathic pain (PNP)

Extraneous Variable: Age, gender, religion, educational status, occupation status, monthly income, type of family, physical activity, dietary pattern, habit of smoking, alcohol consumption, exercise, family history of DM, type of diabetes mellitus, duration of treatment, nature of treatment, site of peripheral neuropathic pain, duration of diabetic mellitus.

2.3 Setting of The Study: The study was conducted in male and female medical ward in government medical college and hospital at Tiruvannamalai government hospital which is 1000 bedded hospital with all the medical facility for patients admitted with Diabetes mellitus and its complication. Duration of study was 4 weeks.

2.4 Population:

Target Population: The target population for the study includes all the diabetic mellitic neuropathy patients.

Accessible Population: Accessible population for this study was patients with diabetic neuropathy, who is admitted at government medical college and hospital, Tiruvannamalai available at the time of data collection.

2.5 Sample Size: 60 Patients with diabetes neuropathy who fulfill the based on sample selection criteria.

2.6 Sampling Technique: In this study, a non-probability convenience sampling technique was used. The first selected 30 patients were assigned to the experimental group and the next 30 patients were assigned to the control group.

2.7 Criteria for Sample Selection

Inclusive Criteria	Exclusive Criteria
Patient who were ✓ willing to participate in the study ✓ between the age group of 40 to 60 years. ✓ Diabetic neuropathy pain felt in the legs and feet. ✓ type I and type II diabetes mellitus with 5 years of chronicity ✓ were available during the period of data collection	Patient who were, ✓ have swelling in their leg, foot ulcers or gangrene. ✓ intolerance to cold/warm temperature. ✓ visual/hearing impairment. ✓ on pain medications ✓ using special footwear. ✓ loss of sensation in the foot.

2.8 Intervention: Topical application of ice massage in the experiment group for 5 minutes applied to the legs and feet once a day for 7 consecutive days. In the control group, the hospital routine was followed.

2.9 Measurement and Tools: Data was collected by interview method and Modified Galer neuropathic pain scale was used to assess the neuropathic pain level.

3. Result and Discussion:

3.1 Percentage distribution of pre test and post test level of peripheral neuropathic pain in experimental and control group.

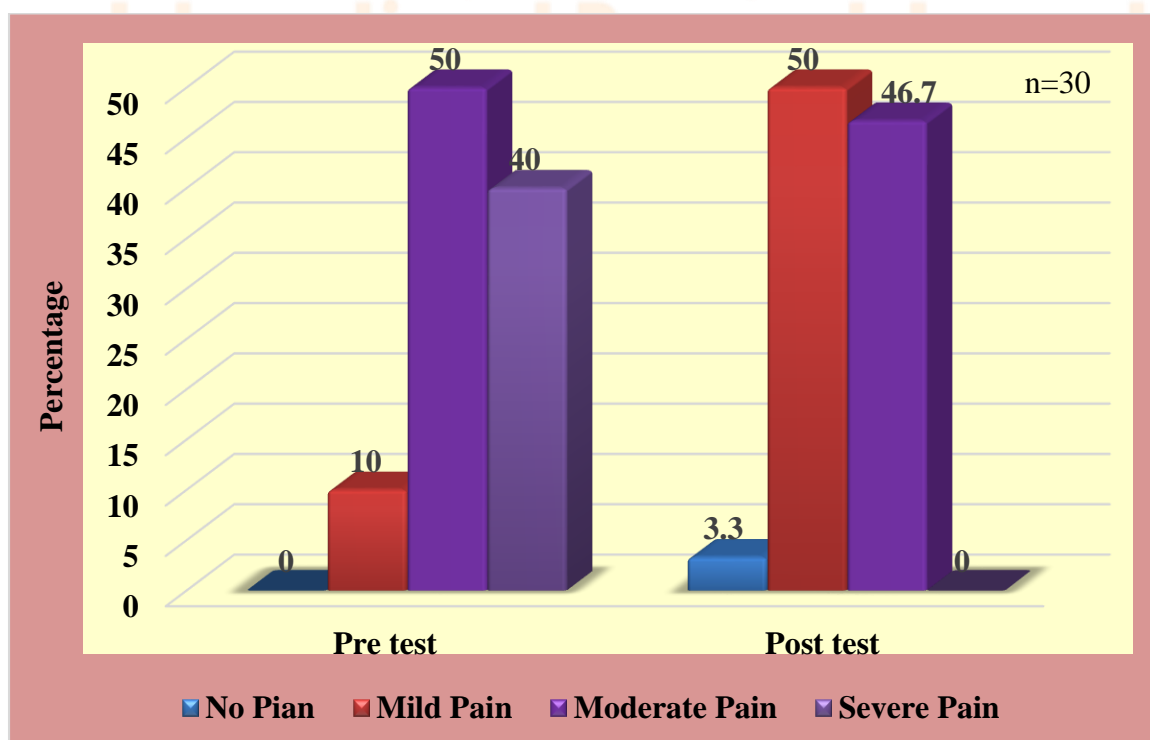


Fig No: 1 Percentage distribution of pre and post test level of peripheral neuropathic pain in experimental group among patient with diabetic neuropathy.

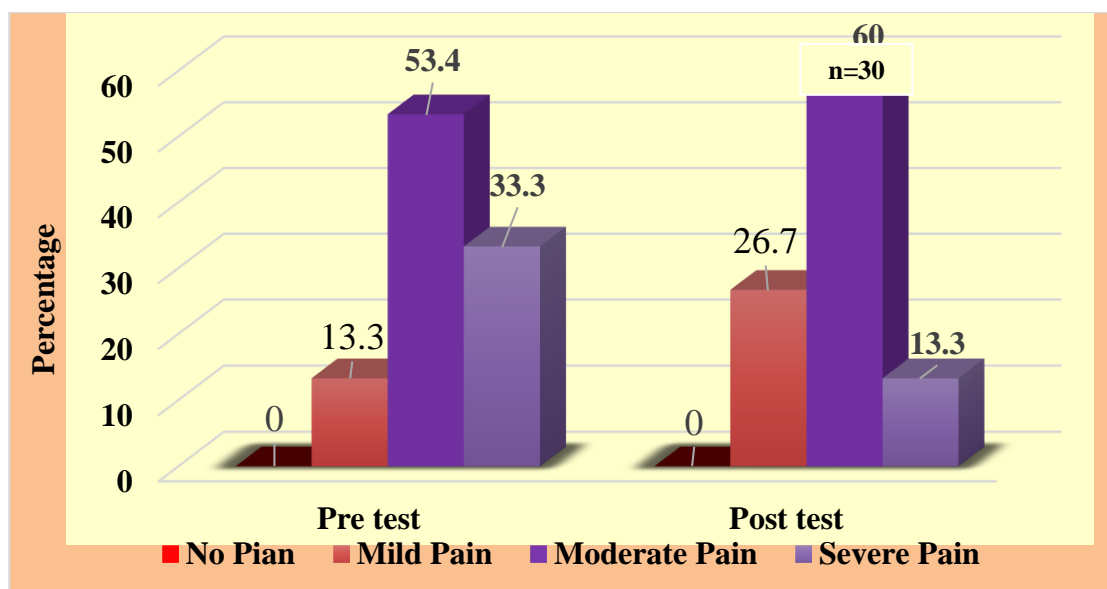


Fig No: 2 Percentage distribution of pre and post test level of peripheral neuropathic pain in control group among patient with diabetic neuropathy.

3.2 Comparison of pre test and post test level of diabetic neuropathic pain within experimental and control group among patient with diabetic neuropathy.

The comparison of pre test and post test level of diabetic neuropathic pain among patient with diabetes neuropathy in experimental group reveals that the pre test mean value of peripheral neuropathic pain was 5.56 with S.D 1.57 and the post test mean value was 3.2 with S.D 1.38. The calculated paired 't' value $t=6.18$ was found to be statistically significant at $p<0.001$ level. In control group the pretest mean value of peripheral neuropathic pain was 5.44 with S.D 1.58 and the post test mean value was 4.67 with S.D 1.49. The calculated paired 't' value $t=1.94$ was found to be statistically non-significant.

3.3 Comparison of pre test and post test level of Diabetic neuropathic pain between experimental and control group among patient with diabetic neuropathy.

The comparison of pretest mean value level of diabetic neuropathic pain in experimental group, was 5.56 with S.D 1.57 and the mean value of diabetic neuropathic pain in control group was 5.44 with S.D 1.58, the calculated unpaired 't' value $t=0.29$ was found to be statistically non significant. The post test mean value of neuropathic pain in experimental group was 3.2 with S.D 1.38 and the mean value of diabetic neuropathic pain in control group was 4.67 with S.D 1.49, the calculated unpaired 't' value $t=3.99$ was statistically found to be significant at $p<0.001$ level. This is clearly indicating that the ice massage application administered to the patient in the experimental group had significant reduction in their post test level of diabetic neuropathic pain than the control group who had undergone normal hospital routine care.

4. Conclusion:

The present study assessed the effectiveness of topical application of ice massage on relieving neuropathic pain among patients with diabetic neuropathy admitted at selected hospital in Tiruvannamalai. The study findings revealed that there is a significant reduction in the level of neuropathic pain among patients with diabetic neuropathy after applying ice massage. Therefore, topical application of ice massage is necessary to be provided as an alternative treatment used as a part of nursing intervention in the care of neuropathic pain, as diabetic neuropathy patients are at high risk of getting complications like amputation and neuropathic pain. Ice massage would enhance and speed up the relieving of neuropathic pain levels, and it is an excellent alternative therapy for imparting quality of nursing care.

5. References

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