

# Effectiveness of Selected Intervention On Neuropathy Pain Among Clients with Diabetes Mellitus Patients at Selected Hospital in Varanasi, Uttar Pradesh

N. Vishnu

*Research Scholar, Department of Nursing, Shri Venkateshwara University, Amroha, India*

**Abstract:** This paper presents an overview on the effectiveness of selected intervention on neuropathy pain among clients with diabetes mellitus patients at selected hospital in Varanasi, Uttar Pradesh.

**Keywords:** Neuropathy pain, Diabetes mellitus patients.

## 1. Introduction

In India an unprecedented rise in diabetes prevalence is the outcome of lifestyle changes in the background of genetic predisposition. There is an extensive regional difference in diabetes prevalence and management. The highest prevalence of diabetes mellitus (DM) was noticed in southern region (Ernakulum, Kerala) and lowest prevalence was observed in North Eastern region (Manipur). Similarly, huge variations have been marked in overall awareness and diabetes care across the geographies within India. The regional challenges are mainly affected by poor disease attentiveness, socioeconomic inequality and underutilization of the public health-care services.

A recent diabetic survey in India (2013), showed Diabetes mellitus prevalence in Karnataka and Hyderabad was 12.9% and 16%. The total percentage of diabetes mellitus was 19.78%, 16.06% in males and 22.04% in females of Karnataka, India. The overall weighted prevalence of diabetes in Tamil Nadu was 10.4 per cent, Jharkhand 5.3 per cent, Chandigarh, 13.6 per cent and Maharashtra 8.4 per cent.

Neuropathy pain is a well-known complication arising out of diabetes mellitus. It has a huge impact on a person's daily life both physically and mentally. The origin of pain may be in the peripheral nerves of central nervous system. Clients who are suffering from chronic diabetes mellitus will experience neuropathy pain as hyperglycaemia alters the physiology of peripheral nerves which results in neuropathy pain. Many alternative therapies were there to overcome diabetic neuropathy pain; one among them is contrast bath which has a significant effect in reducing the level of neuropathy pain.

In the diabetic outpatient department, clients with neuropathy pain are been treated with various pharmacological

management. During the clinical experience in the neuropathy centre for DM, the researcher observed that taking analgesics (pain killer) has a greater impact on causing side effects to health. So the researcher developed an interest towards alleviating pain through various non-pharmacological treatment and was very particular in selecting a cost effective and easily accessible method of providing comfort to the diabetic clients. This motivated the researcher to conduct the study on effectiveness of contrast bath on reducing the level of neuropathy pain among clients with diabetes mellitus, since it is done with water which is easily available to all clients.

## 2. Methodology

The conceptual framework for the study was based on the modified wiedenbach's helping art clinical nursing theory and it provided a comprehensive framework for achieving the objectives of the study. The framework portrays that a positive outcome promotes the nurses action in reducing the level of neuropathy pain among clients with diabetes mellitus and also helps to evaluate the process of the study at each step. The researcher adopted an experimental between group pretest post test design to assess the effectiveness of contrast bath on neuropathy pain among clients with neuropathy pain. The study was conducted among the clients attending diabetic outpatient department at selected hospital in Varanasi, Uttar Pradesh.

The reliability of the tool was established by test retest method (Galer neuropathy pain scale) to assess the level of neuropathy pain. The reliability score was  $r=0.8$ . The 'r' value indicated the highly positive correlation, which showed that the tool is reliable, feasible and practicable to conduct the main study. The data collection for the main study was done at Diabetic Outpatient Department at selected hospital in Varanasi, Uttar Pradesh.

Clients who fulfilled the sample selection criteria were selected by using simple random sampling technique and sample size was 60 (30 each in experimental and control group). The ethical aspects were maintained throughout the study. Data collected was analyzed and interpreted based on the objectives

and null hypotheses using descriptive and inferential statistics. The findings revealed that there was a significant difference in the level of neuropathy pain between experimental and control group

### 3. Major findings of the study were as follows

In experimental group and control group, with regard to the age in years, 11(36.67%) were in the age group of 50 to 59 years, 19(63.33%) were female and 25(83.33%) belongs to Hindu religion. With regard to the educational status, 13(43.33%) were non literate, 21(70%) were unemployed and 15 (50%) had family income of Rs. 2,000-Rs. 5,000 per month. With regard to the duration of diabetes mellitus, 14(46.67%) belongs to more than 5 years, 13(43.33%) had neuropathy pain with the duration of <6 months, 23(76.67%) were under the treatment of oral hypoglycemic agents and 26 (86.67%) were not suffering from any co morbid illness.

The analysis in showed the pretest level of neuropathy pain, in experimental group, 22(73.33%) had severe level of neuropathy pain, 8(26.67%) had moderate level of neuropathy pain and none of them had mild level of neuropathy pain. Whereas in the control group, 18(60%) had moderate level of neuropathy pain, 12(40%) had severe level of neuropathy pain and none of them had mild neuropathy pain.

The post test level of neuropathy pain, in experimental group 30(100%) had mild level of neuropathy pain, and none of them had moderate and severe level of neuropathy pain. Whereas in the control group, 18(60%) had moderate level of neuropathy pain, 12(40%) had severe level of neuropathy pain and none of them had mild neuropathy pain.

Findings inferred that when comparing the pre test and post test level of neuropathy pain within the experimental group the pre-test mean value was 81.20 with SD of 7.54 and the post test mean value was 21.93 with SD of 5.44. The calculated 't' value 41.671 was higher than the table value which indicated that there was a high statistical significant difference in the pre and post test level of neuropathy pain among experimental group at  $p < 0.001$  level. This finding was suggestive of effectiveness of contrast bath in reducing the level of neuropathy pain.

Findings inferred that comparing the pre test and post test level of neuropathy pain within the control group, the pre-test mean value was 74.67 with SD of 6.79 and the post test mean value was 72.73 with SD of 7.15. The calculated 't' value 2.001 was higher than the table value which indicated that there was a low statistical significant difference in the pre test and post test level of neuropathy pain among control group at  $p < 0.05$ .

The findings inferred that in the pre test, the level of neuropathy pain for the experimental group the mean value was 81.20 with SD of 7.54 and mean value for control group was 74.67 with SD of 6.79. The calculated unpaired 't' value 3.526 at  $p < 0.001$  which indicated that there was a high statistical significant difference in the pre test level of neuropathy pain score among clients with diabetes mellitus between the experimental and control group. This finding was suggestive of

effectiveness of contrast bath in reducing the level of neuropathy pain. The findings inferred that in post test, the level of neuropathy pain for the experimental group the mean value was 21.93 with SD of 5.44 and mean value for control group was 72.73 with SD of 7.15. The calculated unpaired 't' value was 30.964 at  $p < 0.001$  which indicated that there was a high statistical significant difference in the post test level of neuropathy pain score among clients with diabetes mellitus between the experimental and control group.

### 4. Conclusion

The present study was conducted to assess the effectiveness of contrast bath on level of neuropathy pain among clients with diabetes mellitus in diabetic outpatient department at selected hospital in Varanasi, Uttar Pradesh. The result of the study projected that there was a statistically significant difference in the pretest and posttest level of neuropathy pain when compared between the experimental and control group, with the experimental group revealing that the contrast bath administered to them was indeed effective in reducing their level of neuropathy pain. Thus they expressed a greater level of comfort and also assured that they will practice it regularly in their homes.

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