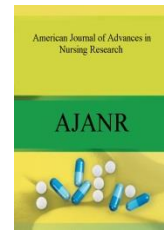




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AN EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF BURGER ALLEN EXERCISE ON IMPROVING LOWER EXTREMITY PERFUSION AND PAIN AMONG PATIENTS WITH TYPE 2 DIABETES MELLITUS

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ABSTRACT

Diabetes mellitus is a common disease that nurses frequently carry out which causes lower extremity perfusion and pain. Aim of the study: To determine the effectiveness of Burger Allen exercise upon reducing pain and improving lower extremity perfusion undergoing diabetic mellitus at the study setting. Methods: The research design used in Quasi experimental one group pre test and post test only design. The study setting included Tirunelveli Government medical college and hospital. 30 samples are selected by systematic random sampling technique in that 15 samples are experimental group by using Burger Allen exercise followed by routine technique that are corresponding to inclusion criteria. After the Burger Allen exercise the pain and lower extremity perfusion level was compared between the pre test and post test level in the experimental group. The tool developed and used for data collection were demographic variables and assessment of pain level with Wong backer face pain assessment scale and Amplitude pulse scale. Conceptual frame work: Modified Roy's adaption model was adopted for the study. Result: Burger Allen exercise helps to reduce pain and improve the lower extremity perfusion. Conclusion: Burger Allen exercise was effective in reducing pain and improving lower extremity perfusion of patients. Thus Burger Allen exercise can be used as an intervention to reduce pain and improved lower extremity perfusion associated with diabetes mellitus patient.

INTRODUCTION

Diabetes mellitus is a group or metabolic disease in which a person has high blood sugar either because the pancreas does not produce enough insulin that is produced. This high blood sugar produces the classical symptoms of polyuria, polydipsia and polyphagia.

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As per the "Healthy people program" (2007) prevention of problems of diabetic foot are the major goal. Peripheral neuropathy contributes to diabetic foot complications and the possibility of ulceration of lower extremities in the diabetic patients is approximately 15-59 times more than in the non diabetic individuals. Around 45-70% of diabetic traumatic amputations results from diabetic peripheral neuropathy.

A study conducts by Kiyomi Matsua, et al, 2013 from International University of Health and Welfare,



Japan on the basis of the effect of different positions on lower limbs skin perfusion pressure on diabetes clients. The subjects of this study were 10 healthy adolescent 11 patients with critical limb ischemia. Patients with critical limb ischemia, including both dorsum of foot and planter of foot, having foot, having SPP of lower limbs of less than 40 mmHg (supine position) where the object of this study SPP was measured on four positions (supine position, lower limbs elevation position, sitting position and reclining bed elevation of degree position). From the above study it is clearly meant that different steps of Burger's Allen exercise is useful in improving lower extremity perfusion.

Statement of the problem

"An experimental study to assess the effectiveness of Burger Allen exercise on improving lower extremity perfusion and pain among patients with type 2 diabetes mellitus Government Medical College and Hospital, Tirunelveli".

Objectives

- To assess the level of lower extremity perfusion and pain among type 2 diabetes mellitus patient.
- To determine the effectiveness of Burger Allen exercise on increase lower extremity perfusion and pain among diabetes mellitus patient.
- To assess the effectiveness of Burger Allen exercise among type 2 diabetes mellitus patient with their selected demographic variable.

Hypothesis

H1: There was a significance difference in the level of lower extremity perfusion and pain before and after administration of Burger Allen exercise among type 2 diabetes mellitus patients.

H2: There was a significance association the level of lower extremity perfusion and pain among type 2 diabetes mellitus patients with their selected demographic variables.

Sample technique

Sample random sampling technique is adopted to allot the samples to experimental group in this study.

Data collection procedure

Data collection was done for one week from 30 samples who satisfied the inclusive criteria by simple random sampling technique. Baseline investigation was collected from the client through structured interview schedule pre test was conducted using Wong Baker FACE pain assessment scale for the experimental group, the investigator was demonstrated Burger Allen exercise 3 times/ day at 4 hours interval (8am to 12 noon and 4 pm) for the period of six days under supervision of investigator, post assessment was done on the seventh day by using the same scale.

Table 1:

Reveals the frequency and percentage distribution of samples according to the level of pain and improved lower extremity perfusion among patients in the experimental group and control group. It is evident from the above table that in the pre test level of pain among experimental group 5 patients (33.3%) of them had hurt worst and hurt even more of pain. In the post level of pain among experimental group after giving intervention 4 patients (26.6%) hurt little more pain. It is evident from the above table in pre test level of pain among control group 7 patients (46.6%) of them hurts worst pain. In the post level of pain among patients in control group whom not giving intervention 8 patients (53.3%) hurts worst pain. It is evident from the above the table that in pre test level of lower extremity perfusion among experimental group 10 patients (66.6%) of them had absent, not palpable pulse. In the post test level of lower extremity perfusion in experimental group after giving intervention 12 patients (80%) had diminished pulse. It is evident from the above table that in pre test level of lower extremity perfusion among control group 10 patients (66.6%) had diminished pulse. In the post level of lower extremity perfusion among patients in control group whom not giving intervention 12 patients (80%) of them had absent, not palpable pulse.

Mean value of the pre test level of improving lower extremity perfusion and reducing pain in the experimental group and control group.

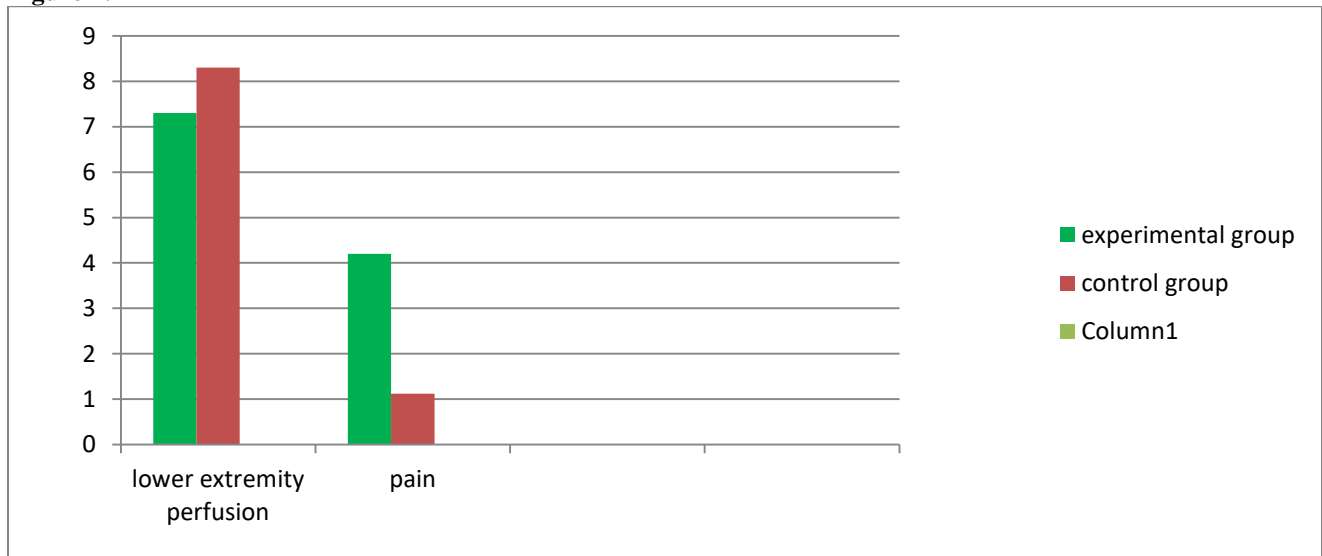
Table 1: Frequency & percentage distribution of sample on improving lower extremity perfusion and reduce pain before and after receiving Burger Allen exercise among experimental group and control group.

Level of pain and lower extremity perfusion	Experimental group				Control group			
	Pre test		Post test		Pre test		Post test	
	F	P (%)	F	P (%)	F	P (%)	F	P (%)



Level of pain:								
No hurt	0	%	4	26.6	0	0	0	0
Hurt little bit	0	0%	4	26.6	0	0	0	0
Hurt little more	2	13.3	2	13.6	2	13.6	5	33.3
Hurt even more	5	33.3	5	33.3	5	33.3	2	13.3
Hurt whole lot	3	20	0	0	1	6.6	3	20
Hurt worse	5	33.3	0	0	7	46.6	5	33.3
Lower extremity perfusion								
Bounding	0	0	0	0	0	0	0	0
Full increased	0	0	0	0	0	0	0	0
Expected	0	0	0	0	0	0	0	0
Diminished	5	33.3	12	80	10	66.6	3	20
Absent no palpable	10	66.6	3	20	5	33.3	12	80

Figure 1:



CONCLUSION

Diabetes mellitus is a “complex metabolic disease”. Anon-pharmacological natural healing approach is needed to overcome that problem. Berger allen exercise is simple, which is easy to do, has no notable side effects and most acceptable one to reduce Diabetes mellitus. The

finding of the study showed that the post level of lower extremity perfusion on Berger Allen exercise was statistically significant at $p < 0.05$ in the experimental group. Hence it could be concluded that there will be bean association between diabetes mellitus and Berger Allen exercise.

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