ISSN 2063-5346

A Study to Evaluate the Effectiveness of Nurse Intense Diabetic Education on Knowledge and Level of Lower Extremity Tissue Perfusion among Subjects with type II diabetes mellitus at selected hospital in Puducherry

[a]Sunitha Therese. S, [b] Dr.N.Gayathri

Article History: Received: 15.05.2023 Revised: 20.06.2023 Accepted: 18.07.2023

ABSTRACT:

Aim: A Study to Evaluate the Effectiveness of Nurse Intense Diabetic Education on Knowledge and Level of Lower Extremity Tissue Perfusion among Subjects with type II diabetes mellitus at selected hospital in Puducherry. **Objectives:** To assess the level of Knowledge on lower extremity tissue perfusion among subjects with type II diabetes mellitus in group I and Control group in pretest.To evaluate the effectiveness of level of knowledge on lower extremity tissue perfusion in group I and control group among subjectswith type II diabetes mellitus.To find out the association between the pretest level of knowledge on lower extremity tissue perfusion among type II diabetes mellitus subjects with the selected demographic and clinical variables. **Materials and Methods:** Researcher adopted the quantitative research approach. In this study 150 samples at Sri Vengateshwara Medical College and Research Institute Puducherry by using purposive sampling technique. Results: Analysis of the results showed that of Nurse Intense Diabetic Education has a significance ($p<0.05$) on level of lower extremity tissue perfusion among type II diabetes and these findings are consistent with previous research studies. **Conclusion:** Conducted in Sri vengateshwara Medical College and Research Institute Puducherry with the sample size of 150 people with type II diabetic mellitus. And they had been administered Nurse Intense Diabetic Education. Which showed the remarkable changes in the health status the susceptible of people with type II Diabetic mellitus.

Keywords: Lower Extremity Strengthening Exercise, Diabetes Mellit

[a]Ph.D. Scholar, Annamalai University
[b]Lecturer in Rani Meyyammai College of Nursing

INTODUCTION:

According to **World Health Organization (2021)** Non-Communicable Disease accounted for 74% of deaths globally in 2019, of which diabetes mellitus resulted in 1.6 million deaths, thus becoming the 9th leading cause of death globally. Approximately 537

million adults are living with diabetes. The total number of people living with diabetes was projected to rise to 643 million by 2030 and 783 million by 2045. Three in four adults with diabetes live in low- and middle-incomecountries. Diabetes caused 6.7 million deaths. It caused at least 966 billion dollarsin health expenditure, 9% of total spending on adults. 541 million adults are at increased risk of developing type II diabetes mellitus**. (Diabetes Atlas, 2021).**

The above picture represents that every fifth person who suffers from diabetes in the world today was an Indian. India was the "second largest number of people with diabetes in the world. Total of 351.7 million people aged 20–64 years had diagnosed with diabetes. This number was expected to increase to 417.3 million by 2030 and to 486.1 million by 2045. India represented 62.2 million of the world's diabetes. In China 109.6 million and U.S.A 29.3 million estimated cases. This proportion was expected to increase drastically and it was expected to be doubled to 134 million by 2025 **(International Diabetes Federation, 2019)**.

INTERNATIONAl

Victoria et al. (2021) did a systemic review on factors influencing self- care behavior of socio economically disadvantages diabetic subjects. Around 9685articles were reviewed, findings identified that socially disadvantaged diabetic patients had lack of knowledge, physical activity, social support, Denial of illness and life disruptions. Further it emphasized self-care management supports such as enhancing knowledge, demonstrating exercise distributing medications with free of cost, contending life needs and hindrances to self-care and encouraging behavioral changes are essential needs for diabetic client as a holistic care to overcome the death and disability burden of the country.

NATIONAL:

Hanan et al. (2019) half of diabetic patients go undiagnosed, and four out of five live in low- and middle-income nations. Diabetes was a pandemic disease that affects more than 415 million adults globally, according to the World Health Organization (WHO). By 2040, and it was anticipated to climb to 642 million, making diabetes the world's sixth greatest cause of death, with diabetes deaths expected to rise by 50% in the following ten years.

TAMILNADU:

Gopalakrishnan and Muthu Lakshmi, (2018), did a study urban area of Kancheepuram district, Tamil Nadu. The average age of the participants ina study was

44.2 years. Females were 51.1 percent of the population, with 19.4 percent being known hypertensives, 10.9 percent being smokers, and 55.3 percent being overweight or obese. Type II diabetes mellitus was found to be prevalent in 21.2 percent of the population. Around 20% of those who were affected between the ages of 45 and 65. Obesity and overweight were found to be strongly linked to the development of diabetes mellitus

Statement of the Problem:

A Comparative Study to Evaluate the Effectiveness of Burger Allen Exercise and Lower Extremity Strengthening Exercise among Subjects with typeII diabetes mellitus at selected hospital in Puducherry.

Objectives:

- To assess the level of Knowledge on lower extremity tissue perfusion among subjects with type II diabetes mellitus in group I and Control group in pretest.
- To evaluate the effectiveness of level of knowledge on lower extremity tissue perfusion in group I and control group among subjects with type II diabetes mellitus.
- To find out the association between the pretest level of knowledge on lower extremity tissue perfusion among type II diabetes mellitus subjects with the selected demographic and clinical variables.

Hypotheses:

H1: There will be a significant improvement in the level of knowledge lower extremity tissue perfusion.

H2: There will be a significant association between the level of knowledge on lower extremity tissue perfusion among type II diabetes mellitus with the selected demographic and clinical variables.

MATERIALS AND METHODS:

Researcher adopted the quantitative research approach. In this study 150 samples at Sri Vengateshwara Medical College and Research Institute Puducherry by using purposive sampling technique.

RESULTS AND DISCUSSION:

Table 1.1: Association between Level of Knowledge Score and Demographic Variables among Subjects with Type II Diabetes Mellitus.

Table 1.1 shows the as sociation between level of knowledge score and demographic variables among subjects with type II diabetes mellitus. There was an association exists between level of knowledge with age and religionother variables were found to be non-significant. It was confirmed using One way ANOVA F-test/'t' test.

Demographic Variables	Sub-Variables	No.	Level of Knowledge		One wayANOVA F-test/'t' test
			Mean	Standard Deviation	
Age (in years)	45-50 years	22	16.44	5.15	**F=2.65 p = 0.05* (S)**
	51-55 years	18	18.71	3.79	
	56-60 years	10	19.73	3.47	
Gender	Male	5	19.37	3.53	t = 0.21 p = 0.83(NS)
	Female	41	18.56	4.28	
Religion	Hindu	44	19.27	3.56	**t = 2.12 p = 0.05*(S)**
	Muslim	3	21.00	6.08	
	Christian	3	16.67	1.15	
	Others	0	18.60	2.41	
Level of Education	Illiterate	5	19.37	3.53	F=1.01 p = 0.37(NS)
	Primary school	8	17.13	2.55	
	Middle school	7	19.29	4.31	
	High school	17	20.82	4.03	
	Graduate	13	19.20	3.75	
Employment Status	Government employee	15	19.00	3.96	F=1.10 p = 0.34(NS)
	Private employee	16	19.94	3.26	
	Business / self employed	12	18.50	3.63	
	Unemployed	7	19.29	4.31	
Type of Family	Nuclear	43	18.98	3.52	F=1.59 p = 0.18(NS)
	Joint	7	21.98	5.53	
Family Income PerMonth (in rupees)	Below 5000	6	21.17	4.17	F=0.37 p = 0.78(NS)
	5001-10000	20	18.80	4.01	
	10001-15000	18	21.83	4.12	
	Above 15000	6	21.17	4.17	

Table 1.2: Association between Level of Knowledge on Clinical and Diabetic Variables among Subjects with Type II Diabetes Mellitus in Groups.

Table 1.2 shows the association between level of knowledge score and clinical variables among subjects with type II diabetes mellitus. There was no association exists between level of knowledge with other selected clinical variables were found to be non-significant. It was confirmed using One way ANOVA F-test/'t' test.

Clinical and Diabetic Variables	Sub-Variables	No.	Level of Knowledge		One way ANOVA F-test/'t' test
			Mean	Standard Deviation	
DietaryPattern	Adherence	47	19.15	3.59	t = 0.54 p = 0.59(NS)
	Non-Adherence	3	20.33	5.13	
Habit of Smoking	Yes	45	24.40	1.81	t = 0.38 p = 0.70(NS)
	No	5	24.00	1.41	
Do you come for regular follow up of diabetes?	Yes	46	24.43	2.24	t = 0.81 p = 0.42(NS)
	No	4	23.50	1.29	
Are you on any anti- diabetic medications?	Yes	39	24.59	2.00	t = 1.41 p = 0.16(NS)
	No	11	23.55	2.70	
Do you take your medicines regularly?	Yes	44	19.25	3.63	t = 0.16 p = 0.88(NS)
	No	6	19.00	4.10	

Table 1.3: Association between Level of Knowledge on Disease Related Clinical Variables among Subjects with Type II Diabetes Mellitus in Groups

Table 1.3 shows the association between level of knowledge score and clinical variables among subjects with type II diabetes mellitus. There was no association exists between level of knowledge with other selected clinical variables were found to be non-significant. It was confirmed using One way ANOVA F-test/'t' test.

Disease Related Clinical Variables	Sub-Variables	No.	Level of Knowledge		One way ANOVA F-test/'t' test
			Mean	Standard Deviation	
Duration of illness with diabetes mellitus	5 – 10 years	16	24.19	1.83	F = 0.65 p = 0.59(NS)
	11 – 15 years	17	24.41	2.62	
	15 – 20 years	11	25.00	2.45	
	More than 20 years	6	23.50	84	
Family History	Yes	39	24.59	2.00	t = 1.41 p = 0.16 (NS)
	No	11	23.55	2.70	
Do you practice exercise	Yes	46	24.43	2.24	t = 0.81 p = 0.42 (NS)

	No	4	23.50	1.29	
Body MassIndex	Desirable	8	24.63	2.77	t = 0.29 p = 0.77(NS)
	Border Line	18	24.50	2.46	
	Risk	24	24.17	1.81	
Blood Sugar Level	Desirable	8	19.25	4.77	F = 0.22 p = 0.80(NS)
	Border Line	19	19.63	3.42	
	Risk	23	18.87	3.53	
HbA1C	Desirable	6	3.33	4.97	F = 0.35 p = 0.72 (NS)
	Border Line	30	6.67	1.75	
	Risk	14	6.64	2.31	
Weight	Healthy Weight	8	27.00	5.63	F = 2.59 p = 0.09 (NS)
	Under Weight	19	21.89	5.93	
	Lower Weight	23	21.43	6.44	

CONCLUSION:

Conducted in Sri vengateshwara Medical College and Research Institute Puducherry with the sample size of 150 people with type II diabetic mellitus. And they had been administered Nurse Intense Diabetic Education. Which showed the remarkable changes in the health status the susceptible of people with type II Diabetic mellitus.

REFERENCES:

I. Aiowais, Mashail Mohammed AlOwais and Omer A Shido (2019) conducted a cross sectional study at a Primary Care Center in Security orces Hospital of Riyadh.

II. Aliya Jasmine and Akila (2020) International Journal of Diabetes in Developing Countries Prevalence of peripheral neuropathy among type II diabetes mellitus patients in a rural health centre in South India, 15-18.

III. Arunkumar V.N. (2020). A Study to Evaluate the Effectiveness of Buerger Allen Exercise in Improving Peripheral Vascular Tissue Perfusionamong Clients with Type II Diabetes Mellitus in Selected Hospital at Maharashtra. International Journal of Science and Research.

IV. Bhuvaneshwari, S. and Tamilselvi, S. (2018). A study to assess theeffectiveness of Buerger Allen exercise on lower extremity perfusion among patients with type II diabetes mellitus in Saveetha Medical College and Hospital in Chennai. International Journal of Advance Research and Development. 5(2): 19-22.

V. Esha Arora , Arun G Maiya , Tom Devasia , Rama Bhat , Ganesh Kamath (2019) peripheral arterial disease among type 2 diabetes mellitus in coastal Karnataka, PMID: 31336473Lawrence Sena Tuglo , Felix Kwasi Nyande , Percival Delali Agordoh , Eunice Berko Nartey , Zhongqin, (2022) Knowledge and practice of diabetic foot care and the prevalence of diabetic foot ulcers among diabetic patients of selected hospitals in the Volta Region, Ghana

VI. Marianne, M. Kasiya, Grieves, D. Mang'anda, Sue Heyes and Malawi Med Palash, C.B., Lingkan, B., Mohammad, M., Rajib, M., Farhana, Z., Liaquat, A., Banik, P.C., Barua, L. and Moniruzzaman, M. (2020). Risk of diabetic foot ulcer and its associated factors among Bangladeshi subjects: a multicentric crosssectional study.BMJ Open 10:e034058.

VII. Prevalence of Chronic Complications, Their Risk Factors, and the Cardiovascular Risk Factors among Patients with Type II Diabetes Attending the Diabetic Clinic at a Tertiary Care Hospital in Sri Lanka

VIII. Radhika J, Poomalai G, Nalini SJ, Revathi R. (2020), Effectiveness of Buerger-Allen exercise on lower extremity perfusion and peripheral neuropathy symptoms among patients with diabetes mellitus. Iran Journal Nursing Midwifery. 291.

IX. Rika, W.A., Dewy, H.P., Hendy, L. and Muhammad, T. (2018). Effect of Electrical Stimulation in Lower Extremity as Physical

Exercise in Type II Diabetes Mellitus

. Patients. The Indonesian Biomedical Journal. 62.

X. Suza, D.E., Hijriana, I., Ariani, Y. and Hariati, H. (2020). Effects of Lower Extremity Exercises on Ankle-Brachial Index Values among Type 2 Diabetes Mellitus Patients. Open Access Maced J Med Sci. 1-6.