



A RETROSPECTIVE STUDY TO ASSESS THE PREVALENCE OF PERIPHERAL NEUROPATHY AMONG PATIENTS WITH TYPE II DIABETES MELLITUS IN A SELECTED HOSPITAL AT KELAMBAKKAM, TAMIL NADU.

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ABSTRACT

A retrospective study was conducted to assess the prevalence of peripheral neuropathy among patients with type II diabetes mellitus in a selected hospital at kelambakkam, Tamil Nadu. The objectives were to assess the prevalence of peripheral neuropathy among patients with type II diabetes mellitus by collecting the data from medical records department and to find out the association between peripheral neuropathy with the selected demographic variables among patients with type II diabetes mellitus. The review of literature was done and organised under various aspects on studies related to prevalence of peripheral neuropathy among patients with type II diabetes mellitus. The research approach used for the study was quantitative approach and the design selected was non – experimental retrospective research design. 108 samples were participated in the study by using convenient sampling technique. Demographic variables were assessed by using the statistical measurement and prevalence of peripheral neuropathy among patients with type II diabetes mellitus. The level of significance selected was $p < 0.05$ level. The collected data were tabulated and analysed by using descriptive and inferential statistics. The study showed that there is no significant association between peripheral neuropathy with the selected demographic variables of patients with type II diabetes mellitus like age ($\chi^2=8.22$), BMI ($\chi^2=13.89$), marital status ($\chi^2=63.28$), education ($\chi^2=17.5$), occupation ($\chi^2=13.67$), family income per month ($\chi^2=27.28$), dietary pattern ($\chi^2=100.14$), duration of diabetes mellitus ($\chi^2=8.022$), treatment of diabetes mellitus ($\chi^2=29.02$) and laboratory value of post prandial blood glucose ($\chi^2=34.93$). There is significant association between peripheral neuropathy with the selected demographic variables of patients with type II diabetes mellitus like sex ($\chi^2=0$), comorbid condition ($\chi^2=0$), fasting blood glucose ($\chi^2=1.35$), and residence ($\chi^2=1.48$).

KEYWORDS : Retrospective study, Assess, Prevalence, Peripheral Neuropathy, Diabetes mellitus (type 2)

INTRODUCTION

One of the most important and disability complications of diabetes mellitus is the diabetic peripheral neuropathy (DPN). Diabetes has become one of the largest global health care problems of the 21st century. Diabetic peripheral neuropathy is the most common complication associated with diabetes mellitus causes a broad spectrum of neuropathic complication including acute and chronic forms affecting each level of peripheral nerve, from the root of distal axon. The number of people with diabetes mellitus worldwide is predicted to double between 2000 and 2030, reaching a pandemic level of 366 million people. Diabetic peripheral neuropathy, which has a lifetime prevalence of approximately 50%, is the most common diabetic complication. Diabetic peripheral neuropathy is the leading cause for disability due to foot ulceration and amputation, gait disturbance and fall related injury. Diabetic peripheral neuropathy has become a major health care problem in India and estimated 66.8 million people suffering from diabetic peripheral neuropathy representing the largest number of any country in the world.

OBJECTIVES OF THE STUDY

1. To assess the prevalence of peripheral neuropathy among patients with type II diabetes mellitus by collecting the data from medical records department.
2. To find out the association between peripheral neuropathy with the selected demographic variables among patients with type II diabetes mellitus.

RESEARCH METHODOLOGY

A Quantitative approach with Non-experimental retrospective research design was used in the study. The study was conducted in Medical Records Department; CHRI. A Convenient sampling technique was used to select 108 samples.

TOOL FOR THE STUDY

It consists of demographic data- Age, Sex, Marital status, Education, Occupation, Monthly income, Comorbidity condition, Laboratory Value of fasting blood glucose, Laboratory value of post prandial blood glucose level, Residence.

STUDY FINDINGS

The finding related to the objective was from this year 2016, January to December, 1140 patients suffered from type II diabetes mellitus from those 108 patients had peripheral neuropathy. The study revealed that majority (36.11%) of the samples belonged to age group of 51-60 years, whereas only (5.55%) were in the age group of 31-40 years. (50%) of the samples belonged to male gender and (50%) of the samples belonged to female gender. A large proportion (45.37%) of sample belonged to BMI of 25.0-29.9 kg/m² whereas the small proportion (3.70%) of the sample belonged to BMI ≥ 35.0 kg/m². Almost (81.48%) were married and (2.77%) of the sample were unmarried. Among the samples (49.07%) belonged to primary education and (23.14%) belonged to high school. Majority (48.14%) of the samples are not working whereas only (9.25%) belonged to sedentary workers. A large proportion (58.33%) of sample belonged to family income of Rs.5,001-10,000 per month whereas the small proportion (12.96%) of sample belonged to Rs. \leq 5,000 per month. Almost (98.14%) sample belonged to non-vegetarian dietary pattern whereas only (1.85%) sample belonged to vegetarian dietary pattern. Among the samples (44.44%) having duration of diabetes mellitus for above 7 years and (13.88%) having duration of diabetes mellitus for 6-7 years. Almost (75.92%) samples belonged to regular treatment for diabetes mellitus and (26%) samples belonged to irregular treatment for diabetes mellitus. Among the samples (50%) having comorbid condition and (50%) samples having no comorbid condition. A large proportion (31.48%) of samples has laboratory value of fasting blood glucose of ≥ 200

mg/dl and small proportion (19.44%) having laboratory value of fasting blood glucose of 180-199 mg/dl. Among the samples (67.59%) has laboratory value of post prandial blood glucose of ≥ 200 mg/dl and small proportion (9.25%) having laboratory value of

fasting blood glucose of 180-199 mg/dl and Almost (51.85%) samples belonged to urban residence whereas (48.14%) samples belonged to rural residence.

Table-1: Association of demographic variables of type II diabetic patients with peripheral neuropathy. N=108

S. NO	DEMOGRAPHIC VARIABLES	CATEGORY	NUMBER OF SAMPLE	X ² CHI- SQUARE VALUE	P VALUE
1.	AGE	a) 31-40 YEARS	6	8.22	7.8147 (0.05) Not significant
		b) 41-50 YEARS	27		
		c) 51-60 YEARS	39		
		d) 61-70 YEARS	36		
2.	SEX	a)MALE	54	0	3.8415 (0.05) Significant
		b)FEMALE	54		
3.	BMI	a) 18.5-24.9 kg/m ²	20	13.89	7.8147 (0.05) Not significant
		b) 25.0-29.9 kg/m ²	49		
		c) 30.0-34.9 kg/m ²	35		
		d) ≥ 35.0 kg/m ²	04		
4.	MARITAL STATUS	a)MARRIED	88	63.28	7.8147 (0.05) Not significant
		b)UNMARRIED	03		
		c)DIVORCE	00		
		d)WIDOW	17		
5.	EDUCATION	a)GRADUATE	00	17.5	7.8147 (0.05) Not significant
		b)HIGH SCHOOL	25		
		c)PRIMARY EDUCATION	53		
		d)ILLITERATE	30		
6.	OCCUPATION	a)SEDENTARY WORKER	10	13.67	7.8147 (0.05) Not significant
		b)MODERATE WORKER	32		
		c)HEAVY WORKER	14		
		d)NOT WORKING	52		
7.	FAMILY INCOME PER MONTH	a)Rs. \leq 5,000	14	27.28	7.8147 (0.05) Not significant
		b)Rs.5,001-10,000	63		
		c)Rs.10,001-15,000	31		
		d)Rs. \geq 15,000	0		
8.	DIETARY PATTERN	a) VEGETARIAN	2	100.4	3.8415 (0.05) Not significant
		b) NON-VEGETARIAN	106		
9.	DURATION OF DIABETES MELLITUS	a)2-3 YEARS	26	8.022	7.8147 (0.05) Not significant
		b)4-5 YEARS	19		
		c)6-7 YEARS	15		
		d)ABOVE 7 YEARS	48		
10.	TREATMENT OF DIABETES MELLITUS	a) REGULAR	82	29.02	3.8415 (0.05) Not significant
		b) IRREGULAR	26		
11.	COMORBID CONDITION	a) YES	54	0	3.8415 (0.05) Significant
		b) NO	54		
12.	LABORATORY VALUE OF FASTING BLOOD GLUCOSE	a)110-139 mg/dl	30	1.35	7.8147 (0.05) Significant
		b)140-169 mg/dl	21		
		c)170-199 mg/dl	23		
		d) ≥ 200 mg/dl	34		
13.	LABORATORY VALUE OF POST PRANDIAL BLOOD GLUCOSE	a)140-159 mg/dl	14	34.93	7.8147 (0.05) Not significant
		b)160-179 mg/dl	11		
		c)180-199 mg/dl	10		
		d) ≥ 200 mg/dl	73		
14.	RESIDENCE	a) RURAL	52	1.48	3.8415 (0.05) S ignificant
		b) URBAN	56		

Table 1 showed that there is no significant association between peripheral neuropathy with the selected demographic variables of patients with type II diabetes mellitus like age, BMI, marital status, education, occupation, family income per month, dietary pattern, duration of diabetes mellitus, treatment of diabetes mellitus and laboratory value of post prandial blood glucose. There is significant association between peripheral neuropathy with the selected demographic variables of patients with type II diabetes mellitus like sex, comorbid condition, fasting blood glucose, residence.

age, BMI, marital status, education, occupation, family income per month, dietary pattern, duration of diabetes mellitus, treatment of diabetes mellitus and laboratory value of post prandial blood glucose. There is significant association between peripheral neuropathy with the selected demographic variables of patients with type II diabetes mellitus like sex, comorbid condition, fasting blood glucose, residence. With regard this research hypothesis is accepted.

CONCLUSION

The finding of the study revealed that there is no significant association between peripheral neuropathy with the selected demographic variables of patients with type II diabetes mellitus like

The Chi-square association revealed that there is no significant association between peripheral neuropathy with the selected demographic variables of patients with type II diabetes mellitus like

age, BMI, marital status, education, occupation, family income per month, dietary pattern, duration of diabetes mellitus, treatment of diabetes mellitus and laboratory value of post prandial blood glucose. There is significant association between peripheral neuropathy with the selected demographic variables of patients with type diabetes mellitus like sex, comorbid condition, fasting blood glucose and residence.

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