Assessment of Practice on Self-Care Management among Diabetic Mellitus

Renuga Dinesh, Renuka .K

Abstract: _**Background:** This study aims to further elucidate the demographic and diabetes characteristics of diabetic patients in India who with type II diabetes mellitus. **Methods:** This was a quantitative study questionnaire-based study of 120 patients with type II diabetes in community settings. **Results:** The mean score of level of knowledge in the control group was 14.83±4.330and the mean score in the experimental group was 26.84± 3.154 respectively. The 't' value -16.84was statistically significant at p< 0.001. The mean score of level of attitude in the control group was 67.96± 16.33 and the mean score in the experimental group was 86.33± 12.80 respectively. The 't' value -6.854wasstatistically significant at p< 0.001. The mean score of level of practice in the control group was 52.61± 12.01 and the mean score in the experimental group was 82.25± 13.93 respectively. The 't' value -12.47wasstatistically significant at p< 0.001. **Conclusions:** With the increasing burden of diabetes, health practitioners will need to be more vigilant and understanding of the potential impact of knowledge, attitude, practice use on diabetes self-care management._

Keywords: diabetes mellitus

1. Introduction

The WHO has declared India as the 'Diabetic Capital' of the world. In India 62.4 million people are affected in Diabetes Mellitus. India stands first in the prevalence of Diabetes Mellitus in the world and the prevalence is increasing rapidly. The prevalence in urban areas is about 9%and in rural areas 3%. By 2030 India will have 100 million people with Diabetes Mellitus and one in every 10 adults will have Diabetes Mellitus.

Successful management of diabetes mellitus requires ongoing interaction among the patient, the family, and the health care team. The diabetes nurse educator is involved in the care of the patient and the family. The major goal of patient care is to enable the patient or care giver to reach an optimal level of independence in self-care activities. The diagnosis of diabetes affects the patient in many profound ways. Patients with diabetes must continually contend with lifestyle. The nurse can help patients make adjustments by displaying an attitude that is supportive and non-judgmental. Thus, awareness on diabetes mellitus and its complications has become an integral and essential part of diabetes mellitus care for both health professionals and the patients themselves. Consequently, educational efforts to improve self-management are central components of any effective treatment plan. Self-care management education of diabetes mellitus includes nutritional therapy, drug therapy, exercise, self-monitoring of blood glucose level, foot care, self-insulin administration.

Diabetes Mellitus is a group of metabolic diseases characterized by either a deficiency of insulin or a decreased ability of the body to use insulin or both. Uncontrolled diabetes may result in long term damage, dysfunction, and failure of various organs. Diabetes Mellitus cannot be cured but it can be controlled. By its very nature diabetes can be significantly influenced by daily self-care. No other disease demands so much from patients own knowledge and skills. Thus, the professional nurse has the challenge and responsibility of helping patients gain the knowledge, attitude and skills necessary for self-care management of Diabetes Mellitus.

2. Materials and Methods

Research design adopted for the study was two group Randomized control trial design. This study was conducted in Puducherry. 120 patients with diabetes mellitus using purposive sampling technique from two different areas. Data collection was done using Rating scale to assess the practice of the patients. Glucometer to monitor the capillary blood glucose level of the patient during pre-test and post-test.

Data collection
After getting approval from the Institutional Ethical Committee and obtaining permission from concerned authority of primary health centre. The investigator informed the patients who were included in the study and obtained their informed consent. The investigator put the name of the patient's chit in the lottery box and took chits. Accordingly, 60 samples were selected. Structured Questionnaire and Rating Scale were used to assess thePractice and capillary blood glucose level of the samples respectively during pre-test and selected nursing interventions was administered. After 7 days again the same structured rating scale, capillary blood glucose level of the patient was used to assess the practice of self-care management and blood glucose level.

Table 1: Frequency and Percentage wise Distribution of Demographic Variables among patients with type 2 Diabetes Mellitus in both the groups, N = 120(60+60)

Sl. No	Demographic Variables	Control Group		Experimental Group	
		N	%	N	%
1	**Age in years**				
	Below 40 years	5	8.3	20	33.3
	40-50	12	20	16	26.7
	51-60	21	35	11	18.3
	Above 60 years	22	36.7	13	21.7
2	**Gender**				
	Male	31	51.7	40	66.7
	Female	29	48.3	20	33.3
3	**Residential status**				
	Rural	26	43.3	28	46.7
	Semi Urban	34	56.7	32	53.3
	Urban	0	0	0	0
4	**Religion**				
	Hindu	52	86.7	43	71.7

	Christian	5	8.3	14	23.3
	Muslim	3	5	3	5
5	**Educational qualification**				
	Illiterate	0	0	5	8.3
	Primary school	37	61.7	16	26.7
	Secondary school level	12	20	15	25
	Higher secondary level	7	11.7	17	28.3
	Collegiate level	4	6.6	7	11.7
6	**Occupational status**				
	Unemployed/home maker	8	13.3	13	21.7
	Coolie	24	40	21	35
	Self-employed / business / pensioner	25	41.7	25	41.7
	Clerical	1	1.7	1	1.6
	Technical/ professional	2	3.3	0	0
7	**Type of work**				
	Sedentary	24	40	22	36.7
	Moderate	20	33.3	24	40
	Heavy	16	26.7	14	23.3
8	**Family income per month in rupees**				
	< 2000	6	10	4	6.7
	2001 – 4000	0	0	0	0
	4001-6000	41	68.3	45	75
	> 6000	13	21.7	11	18.3
9	**Marital status**				
	unmarried	0	0	0	0
	Married	56	93.3	56	93.3
	Widow /Widower	4	6.7	0	0
	Divorced/ separated	0	0	4	6.7
10	**Family history of diabetes mellitus**				
	Yes	20	33.3	46	76.7
	No	40	66.7	14	23.3
11	**Duration of diabetes mellitus in years**				
	< 1	0	0	0	0
	1-5	37	61.7	20	33.3
	6-10	14	23.3	30	50
	Above 10	9	15	10	16.7
12	**Are you under regular treatment**				
	Yes	50	83.3	41	68.3
	No	10	16.7	19	31.7
13	**Dietary pattern**				
	Vegetarian	4	6.7	7	11.7
	Non vegetarian	56	93.3	53	88.3
14	**Dietary practices**				
	High caloric diet	43	71.7	46	76.6
	High fiber diet	0	0	0	0
	More spicy diet	6	10	7	11.7
	Restricted diet	11	18.3	7	11.7
	Mixed options	0	0	0	0
15	**Unhealthy habits**				
	Smoking / Tobacco chewing	10	16.7	11	18.3
	Alcoholism	14	23.3	8	13.3
	Drug abuse	0	0	0	0
	None	36	60	41	68.4
16	**Specific healthy practices**				
	Regular exercises	4	6.7	4	6.7
	Yoga, meditation	5	8.3	3	5
	Herbal product	2	3.3	5	8.3
	Other therapy(alternative/complimentary)	0	0	0	0
	Nil	49	81.7	48	80
17	**Source of information**				
	Newspaper/media	44	73.3	11	18.3
	Family members	5	8.3	14	23.3
	Friends/relatives	0	0	7	11.7
	Health personnel	11	18.4	28	46.7

Table 1 shows that Demographic Variables among patients with type 2 Diabetes Mellitus in both the groups. In control group, majority 22 (36.7%) were in above 60 years whereas in experimental group, most of them 20 (33.3%) were in below 40 years. Both control 31 (51.7%) and experimental groups 40 (66.7%), most of them were male. Majority was belonged to Semi Urban in both controls 34 (56.7%) and experimental 32 (53.3%) groups. Majority were belonging to Hindu in both controls 52 (86.7%) and experimental 43 (71.7%) groups. In control group, majority 37 (61.7%) had completed Primary school whereas in experimental group, most of them 17 (28.3%) had completed Higher secondary school. Both control and experimental groups, most of them 25 (41.7%) were Self-employed / business / pensioner. In control group, majority 24 (40%) had Sedentary work whereas in experimental group, most of them 24 (40%) had moderate work. Both control 41 (68.3%) and experimental groups 45 (75%), most of them were belongs to rupees 4001-6000 Family income per month. Both control and experimental groups, most of them 56 (93.3%) were married. In control group, majority 40 (66.7%) had no Family history of diabetes mellitus whereas in experimental group, most of them 46 (76.7%) had Family history of diabetes mellitus. In control group, majority 37 (61.7%) had 1-5years of diabetes mellitus whereas in experimental group, most of them 30 (50%) had 6-10 years of diabetes mellitus. Both control 50 (83.3%) and experimental groups 41 (68.3%), most of them were under regular treatment. Both control 56 (93.3%) and experimental groups 53 (88.3%), most of them were belongs to Non vegetarian. Both control 43 (71.7%) and experimental groups 46 (76.6%), majority had High caloric Dietary practices. Both control 36 (60%) and experimental groups 41 (68.4%), majority had none Unhealthy habits. Both control 49 (81.7%) and experimental groups 48 (80%), majority does not have Specific healthy practices. In control group, majority 44 (73.3%) has got information through Newspaper/media whereas in experimental group, most of them 28 (46.7%) has got information through Health personnel.

Table 6: Frequency and percentage wise distribution of Pre-test and post- test of the level of Practice regarding self-care management among patients with type 2 Diabetes Mellitus in control group, (N = 60)

Level of Practice	Pre Test			Post Test		
	Frequency (N)	Percentage (%)	Mean Standard Deviation	Frequency (N)	Percentage (%)	Mean Standard Deviation
Poor	30	50	43.3+13.51	24	40	52.6+12.01
Good	30	50		36	60	
Total	60	100		60	100	

Table –6: Frequency and percentage wise distribution of Pre-test and post- test of the level of practice regarding self-care management among patients with type 2 Diabetes Mellitus in control group. In pre-test, half of the's patients 30 (50%) had good level of practice and 30 (50%) had poor level of practice. The mean and standard deviation of the level of

practice regarding self-care management among patients with type 2 Diabetes Mellitus in in pre-test in control group is (43.3±13.51).

In post-test, Majority of the patients 36 (60%) had good level of practice and 24 (40%) had poor level of practice. The mean and standard deviation of the level of practice

regarding self-care management among patients with type 2 Diabetes Mellitus in post-test in control group is (52.6±12.01) respectively.

Table 7: Frequency and percentage wise distribution of Pre-test and post- test of the level of Practice regarding self-care management among patients with type 2 Diabetes Mellitus in experimental group, (N = 60)

Level of Practice	Pre Test			Post Test		
	Frequency (N)	Percentage (%)	Mean Standard Deviation	Frequency (N)	Percentage (%)	Mean Standard Deviation
Poor	23	38.3	47.1±14.07	7	11.7	82.2±13.93
Good	37	61.7		53	88.3	
Total	60	100		60	100	

Table –7: Frequency and percentage wise distribution ofPre-test and post- test of the level of practice regarding self-care management among patients with type 2 Diabetes Mellitus in experimental group. In pre-test, majority of the's patients 37 (61.7%) had good level of practice and 23 (38.3%) had poor level of practice. The mean and standard deviation of the level of practice regarding self-care management among patients with type 2 Diabetes Mellitus in in pre-test in experimental group is (47.1±14.07).

In post-test, Majority of the patients 53 (88.3%) had good level of practice and 7 (11.7%) had poor level of practice. The mean and standard deviation of the level of practice regarding self-care management among patients with type 2 Diabetes Mellitus in post-test in experimental group is (82.2±13.93) respectively.

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