

A Study to Assess the Effectiveness of Nursing Directives on Knowledge Regarding Lifestyle Modification among Diabetes Mellitus Patient Admitted at Dhiraj General Hospital, Waghodia Vadodara

Ravindra H.N.¹, Yogendra Rathod², Sonal Patel³

¹Principal, ²M.Sc. Nursing, ³Assistant Professor, Medical Surgical Nursing,
Sumandeep Nursing College, Sumandeep Vidyapeeth, Vadodara, Gujarat, India

Abstract

Background: Diabetes mellitus is characterized by hyperglycemia and disturbance of the carbohydrate, fat and protein metabolism that is associated with absolute or relative deficiencies of insulin action or secretion.

Objectives:

1. Assess the pre existing level of knowledge of patients with Diabetes mellitus regarding lifestyle modification.
2. Administer nursing directives on knowledge regarding lifestyle modification.
3. Evaluate the effectiveness of nursing directives on knowledge regarding lifestyle modification among diabetic patient.
4. Find out the association between pre-test knowledge score with selected demographic variables of patients diagnosed with diabetes mellitus.

Material and Method: A pre- experimental one group pre-test, post-test design was used for the study. 70 diabetes patients were selected by using Non-Probability Convenient sampling. Nursing directives was administered to every sample after the pre-test. Post-test administration was done on the 7th day after pre-test. Data was collected through self –structured questionnaires

Results: Among 70 patients in pre-test(94.3%) had inadequate knowledge, (5.7%) had moderate knowledge and none of them were had adequate knowledge In Post-test (58.6%) of had the moderate knowledge and (41.4%) having adequate knowledge. And none of respondent was in the inadequate knowledge. The mean of pre test knowledge score was (7.75), sd (1.79) and the mean percentage were (39.05%). The mean of post test knowledge score was (15.63), sd (1.42) and the mean percentage were (77.16%). From the entire socio-demographic variable only 4 variable that is age, gendre, education, occupation was associated with pre-test knowledge score The mean difference of pre and post level of knowledge is 7.88 which show the effectiveness of nursing directives. The paired t calculated value of knowledge is 29.588 at 0.05 level of significance which is more than table value of “t” test.

Conclusion: The result of the present study shows that there is a great need for the diabetic patients to update their knowledge regarding lifestyle modification.

Keywords: -Knowledge, Effectiveness, Diabetic patients, diabetes mellitus.

Introduction

Diabetes mellitus is an issue of universal health problem affecting human societies at all stages of

development. Around the world at least 30 million diabetic patient; the majority of them are lack even the rudiments of care. The Hindustan times newspaper

stated that the total number of people suffering in the country (India) as a whole is estimated at 15.2million¹.

Diabetes mellitus is a chronic condition that arises when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin it produce. Failure of insulin production, insulin action or both lead to raised glucose levels in the blood (hyperglycemia). This is associated with long-term damage to the body and the failure of various organ and tissue.²

One of the greatest challenges faced by the modern world is Diabetes mellitus (DM). The physical, social and economic factors involved in the management of diabetes are a continuous strain for the health sector and the government agencies. It is expected that approximately 366 million people will be affected by Diabetes mellitus by the year 2030.³

Diabetes is a disorder characterized by hyperglycemia or elevated blood glucose (blood sugar). Our body function best at a certain level of sugar in the blood stream. If the amount of sugar in our blood runs too high or too low, then we typically feel bad. **Diabetes is the name of the condition where the blood sugar level consistently runs too high.** Diabetes is the most common endocrine disorder. 16 million Americans have diabetic, yet many are not aware of it. Americans have a higher rate of developing diabetes during their lifetime. Diabetes has potential long term complication that can affect the kidney, eye, heart, blood vessels, and nerves.⁴

Need for the Study: Diabetes is key to management, except, possibly when the patient is ill with like secondary disease. The expert patient pilot Centre, the heart of Birmingham teaching primary care trust, has addressed the issue who has with diabetes mellitus. Diabetes specialist nurses alongside management and group discussion, health education, education sessions for the person about diet, exercise, drugs, education are include as norm for diabetic patient for lifestyle modification.⁵

Lifestyle modification has resulted in changes in the way people obtain advice about health and using the internet are now common way of accessing health information and also from the radio, television, promotional agencies. So patient with diabetes therefore target-setting and determining priorities for managing their condition are important aspects of care or their worsening progression can be slowed. The target for

glycated hemoglobin (hbA1C) for those with type 1 diabetes is 7.5% and below for those with type 2. Blood pressure is known to be a factor in diabetic progression. Total cholesterol should be below 5mmol/l, with an HDL of greater than 1.0 and LDL less than 3. These targets may be set through diet for lifestyle modification⁶

Diabetes patients must have knowledge about medication, its effects and side effects, diet, exercise, disease progression, prevention strategies and blood glucose monitoring techniques. A crucial element in secondary prevention is self-care. That is the diabetic patient must take a major responsibility for his/her own care with medical guidance. Providing an appropriate knowledge and skills to a diabetic patients is the prime responsibility of a nurse.⁷

Statement of Problem: “A study to assess the effectiveness of nursing directives on knowledge regarding lifestyle modification among diabetes mellitus patient admitted at Dhiraj General Hospital Waghodia, Vadodara.”

Objectives:

- Assess the pre- existing level of knowledge regarding lifestyle modification among diabetes mellitus patient.
- Administer Nursing directives on knowledge regarding lifestyle modification among diabetes mellitus patient.
- Evaluate the effectiveness of nursing directives on knowledge regarding lifestyle modification among diabetes mellitus patient.
- Find out the association between pre-test knowledge and selected demographic variables of patients diagnosed with diabetes mellitus.
- Hypothesis

H₁: There will be a significant difference between pretest and posttest knowledge score of Patients regarding lifestyle modification after administration of nursing directives.

H₂: There will be a significant association between pre-test knowledge score and with selected demographic variables

Methodology

Research Design: The research design used for the study was Pre-experimental research design

Setting: The main research project was conducted at Dhiraj General Hospital of Vadodara city.

Sample: The 70 participants included in this study. The sample for the study was selected by non-probability sampling technique according inclusion criteria as availability of sample. **Inclusion criteria:**

1. Patients with diabetes mellitus who all are admitted in wards.
2. Patients who are available during the period of data collection.

Exclusion criteria for sampling:

1. Patients those who are suffering from gestational DM.
2. Patients who are acutely ill.

Tool for data collection

This consists of two parts:

Section 1: Demographic variables such as Patients age, Gender, occupation, education qualification, source of information of diabetic mellitus.

Section 2: Self-structured questionnaire will be used to assess the knowledge regarding lifestyle modification among patient with diabetic mellitus at Dhiraj General Hospital Waghodia, Vadodara.

Scoring interpretation of knowledge:

- Adequate knowledge - >67%
- Moderately adequate knowledge - 34-66%
- Inadequate knowledge - < 33%

Data collection procedure

The formal permission was obtained for the approval of the study from concerning authorities. The data collection done within a given period of 1 week.

The investigator selected the subject and established the rapport by explaining purpose of the study, the co-operation required and the anonymity assured before obtaining verbal consent. Initially the demographic tool, self structured questionnaire, administered to the sample to know existing level of knowledge regarding lifestyle modification. After 7 days post test was administered to assess the effectiveness of nursing directives on knowledge regarding lifestyle modification among diabetes patient.

Statistical Design: Data were verified prior to computerized entry. The Statistical Package for Social Sciences (SPSS version 20.0) was used. Descriptive statistics were applied (e.g., mean, standard deviation, frequency and percentages). Test of significance (chi square and paired t test) was applied to test the study hypothesis

Findings:

Section 1: Analysis of pre-test & post test knowledge score of patient regarding lifestyle modification.

Table 1: Distributions of pre test knowledge score of diabetes patient regarding lifestyle modification.

Sr. No.	Knowledge Score	Frequency	Percentage
1	Inadequate	66	94.3%
2	Moderate	4	5.7%
3	Adequate	00	00%

Table 2: Distributions of post test knowledge score of diabetes patient regarding lifestyle modification.

Sr. No.	Knowledge score	Frequency	Percentage
1	Inadequate	00	00%
2	Moderate	29	41.4%
3	Adequate	41	58.6%

Section 2: Effectiveness of health teaching programme

Table 3: Comparison of pre test and post test knowledge score of diabetes patient

Variable	Pre test	Mean	Mean Difference	Std. Deviation	t- Value
Knowledge Regarding Lifestyle Modification	Pre-test	7.7571	7.8858	1.7972	29.588
	Post-Test	15.6329		1.4217	

Section 3: Association between pre test knowledge score with socio-demographic variables.**Table 4: Association between pre test knowledge score and socio-demographic variables**

Sr.No.	Variable	0-10	11-20	χ^2	D.F.	Level of significance
1	Age in Years			8.07	3	8.07>7.815 S
	41-45	11	0			
	46-50	14	1			
	51-55	15	1			
	>56	26	2			
2	Educational Status			13.125	3	13.125>7.815 S
	Illiterate	7	3			
	Primary	7	0			
	Secondary	27	1			
	Graduate	25	0			
3	Gender			5.52	1	5.52>3.84 S
	Male	37	3			
	Female	29	1			
4	Occupation			8.71	3	8.71>7.815 S
	Farmer	10	1			
	Business	29	2			
	Govt. employ	10	0			
	Private employ	17	1			
5	Source of Information			4.318	3	1.75<7.815 NS
	Society and friends	14	0			
	Mass media	4	0			
	Family member	39	2			
	Any other	9	2			

Discussion

The finding of the study based on its objectives

Assess the pre existing level of knowledge regarding lifestyle modification among diabetes mellitus patient.

Out of 70 diabetes patients (94.3%) had inadequate knowledge, (5.7%) had moderate knowledge and none of them were had adequate knowledge. In the pre-test level of knowledge. Thus the investigator assumes there is the need of imparting knowledge.

Administer the nursing directives on knowledge regarding lifestyle modification among diabetes mellitus patient.

Out of 70 diabetic patient in post-test level of knowledge were (58.6%) having adequate knowledge and (41.4%) having moderate level of knowledge. So

investigator assumes that the levels of knowledge were increased in the post test.

Evaluate the effectiveness of nursing directives on knowledge regarding lifestyle modification among diabetes mellitus patient.

Out of 70 diabetic patients had improved the level of knowledge regarding lifestyle modification after administering the nursing directives. The results were shown in post test. The (58.6%) having adequate knowledge and (41.4%) having score the moderate level of knowledge. So researcher assumes that the level of knowledge of effectiveness of nursing directives regarding lifestyle modification had increased.

Find out association between pretest knowledge and selected demographic variable of patient diagnosed with diabetes mellitus.

From the entire socio-demographic variable only four variables that is Sex, education, occupation and age were associated with pre test knowledge score and only source of information was not significant with pre test knowledge score.

There will be significant difference between pre test and post test knowledge score of Patients regarding lifestyle modification after administering the nursing directives.

The pre test means score of knowledge of diabetes patients is 7.75 and post test mean score of knowledge is 15.63. The mean difference of pre and post level of knowledge is 7.88 which show the effectiveness of nursing directives. The paired t calculated value of knowledge is 29.588 at 0.05 level of significance which is more than table value of "t" Hence, hypothesis H_1 is accepted.

There will a significant association between pre-test knowledge and selected demographic variables.

Socio-demographic variable are age of diabetes patients with χ^2 value 8.07, gender of diabetes patients with χ^2 value 5.52, occupation 8.71, education 13.125 so, for this variable hypothesis is accepted. The non significant demographic variable is Source of information. So, for this variable research hypothesis H_2 partially accepted.

Conclusion

One of the factors increasing diabetes patients was lack of lifestyle modification among them so it is important that health care provider should provide the knowledge regarding lifestyle modification to the diabetic patient.

This study was undertaken to assess the effectiveness of nursing directives on knowledge regarding lifestyle modification among diabetic patient. The study involves one group pre- test post-test pre experimental design with non probability convenient sampling technique, 70 samples of diabetic patients were selected on the basis of inclusion and exclusion criteria. A conceptual framework used for this study was modified "Ludwing Von Bertalanffy general system model." Analysis of obtained data was planned based on the objectives and hypothesis of the study, both descriptive and inferential statistics were used for the analysis of the data. The data is interpreted in the forms of tables and graphs.

Recommendations: Based on the findings of the present study recommendation offered for the future study:

- The similar study can be conducted in different settings.
- The similar study can be conducted on staff nurses.
- The similar study can be conducted on mothers to assess the knowledge & attitude regarding lifestyle modification.
- The similar study can be conducted in large sample.

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