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EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON SELF-CARE FOR PATIENTS WITH DIABETES MELLITUS IN A SELECTED COMMUNITY AT TUMKUR

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ABSTRACT

Background: Diabetes is a growing public health problem, especially in India. The global prevalence of Type 2 diabetes is expected to be 300 million by the year 2025. Self-care in diabetes is largely the responsibility of the patients and their families. There is a need for community-based intervention that improves knowledge and health behaviour on self-care of patients with diabetes mellitus. This study is aimed at assessing the effectiveness of planned teaching programme on self-care. Objectives of the study: Identify the knowledge of patients with diabetes mellitus. Assess the self-care practised by the patients with diabetes mellitus. Determine the effectiveness of the planned teaching programme on self-care. Method: A quantitative approach was adopted for this study and the study was conducted at gulur, Tumkur. Research design was quasi experimental, non-equivalent control group pre-test – post-test design. The sample was selected by using purposive sampling technique. The total number of subjects was 30, with 15 subjects each in Group I (experimental group) and Group II (control group). Data was collected by structured interview schedule. Planned teaching programme and tool for data collection were validated by experts. Planned teaching programme was given individually to the subjects in Group I in the families. Data was analysed by descriptive statistics, paired 't' test and chi-square test. Result: There was significant difference between the post-test knowledge score ('t'$_{28}$ = 23.27, $p < 0.001$) and self-care practice score ('t'$_{28}$ = 14.06, $p < 0.001$) of subjects in Group I and Group II. The computed chi-square value showed significant association between knowledge and education (χ_1^2 (0.05) = 5.56) and knowledge and practice score (χ^2 = 4.123, $p < 0.05$). Interpretation: Knowledge and self-care practices of patients with diabetes mellitus were poor. Planned teaching programme is effective to improve the knowledge and self-care practice of patients with diabetes. Conclusion: Planned teaching programme is one of the best methods to impart knowledge and to improve health behaviour.

INTRODUCTION

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The Greek word "diabetes" means "to go through" or a siphon, and the Latin word "mel" means "honey," which describes the pleasant smell of urine. These two words combine to form the name "diabetes

mellitus." According to the World Health Organization (WHO) there are three forms of diabetes mellitus: Type 1 (insulin-dependent diabetes mellitus, or IDDM), Type 2 (non-insulin-dependent diabetic mellitus, or NIDDM), and gestational diabetes mellitus. Diabetes affects the world. About 200 Americans die daily from it, making it the sixth biggest cause of mortality in the US. Diabetes is a "contributing factor" for nearly 400 US deaths/day. About 600 Americans die daily from diabetes. Global diabetes prevalence was 4.0% in 2015 and is anticipated to rise to 5.4% by 2025. Higher in wealthy nations. Worldwide, 300 million persons will have diabetes by 2025, up from 135 million in 2015. Emerging nations should lead this growth. From 51 to 72 million, developed countries will increase by 42%, while impoverished countries will increase by 170%, from 84 to 228 million. From 62% in 2015 to over 75% in 2025, more diabetics will live in developing countries. In 2025, the US, China, and India will have the most diabetes. Diabetics in developing countries are mostly 45–64 years old. Diabetes is most common in adults over 65 in developed countries. WHO declared India as the diabetes capital. People in India are more prone to diabetes. The Indian diabetes population is 30 million and estimated to reach 57 million by 2025. For diabetic patients to attain metabolic control, the choice of therapy and complaints is crucial. Although many individuals find that diet, exercise, and oral medications help control their diabetes, it is now known that insulin therapy is necessary for a significant portion of type 2 diabetic patients. It is beneficial to manage diabetes effectively. Complications from diabetes can be avoided. Despite diabetes, a long and healthy life is achievable. The goal of education is to empower people to take care of themselves without the assistance of medical professionals, which will lessen the strain and complexities on families, society, and the government.

Assumptions

- Self-care practised by the patients with diabetes mellitus can be assessed.
- Health education is a vital element in diabetes management and one of the primary responsibilities of the nurse.
- Health education to an individual improves knowledge and practice.
- Individuals have the right to participate in decision-making that influences their life.

Hypotheses

H_1: Mean post-test knowledge score will be significantly higher than the mean pre-test knowledge score of patients in Group I (experimental group).

H_2: Mean post-test self-care practice score will be significantly higher than the mean pre-test self-care practice score of patients in Group I.

H_3: Mean post-test knowledge score of patients in Group I will be significantly higher than the mean post-test knowledge score of patients in Group II (control group).

H_4: Mean post-test self-care practice score of patients in Group I will be significantly higher than the mean post-test practice score of patients in Group II.

Variables

Independent variable: Individual planned teaching programme on self-care.

Dependent variables

- Level of knowledge on self-care of patients with diabetes mellitus
- Self-care practices of patients with diabetes mellitus

Description of the tool

The tool consisted of 3 sections.

Section A: Comprised of demographic data with 7 items, viz., age, gender, religion, marital status, education, income of the family and occupation.

Section B: Consisted of clinical information with 9 items like duration of diabetes mellitus, age of onset, source of information about diabetes mellitus, body mass index, blood pressure, blood sugar level, associated health problems and family history of diabetes.

Section C: The structured knowledge questionnaire to identify the knowledge about diabetes mellitus and the self-care practices consisted of 40 items with a total score of 180. It is comprised of 21 items on knowledge with the score of 103 and 19 items on self-care practices with a score of 77.

Data collection procedures

Pre-test questionnaire was administered to all patients and data was collected by structured interview schedule. Average time taken for the pre-test was 40 minutes. Planned teaching programme was given individually to those patients in experimental group using flash cards followed by distribution of booklet and identity card. The average time taken was 50 minutes. The investigator checked the blood pressure, height, weight and urine sugar during the pre-test. Body mass index was calculated based on Quetelet's Index. The results were interpreted to them. Post-test was obtained on the 8th day after the pre-test by administering the same questionnaire. The average time taken for the post-test was 25 minutes. The investigator checked the urine sugar of all patients during post-test. The investigator explained the results to the patients and appraised them for reducing the urine sugar to those patients in the experimental group. The investigator expressed her gratitude to all the

patients for their participation and motivated them to control their blood sugar level within normal limits and to practice self-care.

RESULTS AND DISCUSSION

Table 1: Range, mean, median and standard deviation of pre and post-test knowledge score of patients in Group I and Group II N=15+15

Knowledge score	Group	Range	Mean	Median	Standard deviation
Pre-test	Study group	18-60	33.80	30	11.50
	Control group	17-50	30.00	29	8.15
Post-test	Study group	84-101	93.67	94	6.21
	Control group	17-50	30.00	29	8.15
Maximum score = 102					

The above Table 1 shows that the patients' post-test knowledge score range (84-101) was higher than their pre-test knowledge score (18-60). The data also depict that the mean post-test knowledge score is (x = 93.67) is apparently higher than the mean pre-test knowledge score (x = 33.8).

Table 2: Areawise pre and post-test knowledge score of patients in Group I N=15

Sl. No.	Area	Max. score	Mean % of knowledge score		Mean percentage of		Percentage of knowledge deficit after PTP
			Pre-test	Post-test	Actual gain	Possible gain	
1	Diabetes mellitus predisposing factors signs and symptoms	20	53.35	91.00	37.65	46.65	9.00
2	Diet	11	65.45	97.00	31.55	34.55	3.00
3	Drugs	33	23.24	75.76	52.52	76.76	1.00
4	Exercise	12	15.00	98.92	83.92	85.00	1.08
5	Urine sugar monitoring	11	0.00	90.27	90.27	100.00	9.73
6	Regular check up	8	58.38	98.38	40.00	41.62	1.62
7	Complications	8	23.38	94.13	70.75	76.62	5.87

The above Table 2 shows that the mean percentage of pre-test score (65.45%) is highest in the area of diet and lowest (0) in the area of urine sugar monitoring. Mean percentage post-test score is highest in the area of exercise (98.92%) regular check up (98.38%) and lowest (75.76%) in the area of drug. Percentage of knowledge deficit after PTP was calculated and found to be more in the area of urine sugar monitoring (9.73%) and diabetes mellitus (9%) and less in the area of drugs (1%) and exercise (1.08).

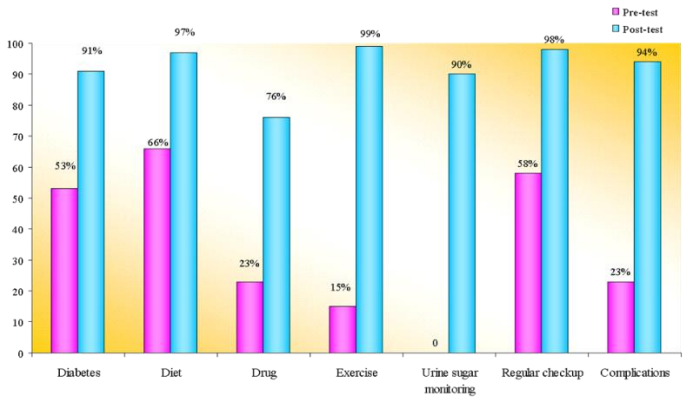

Figure 1: Bar diagram showing area-wise distribution of mean percentage of pre-test and post-test knowledge score of patients in Group I

Table 3: Mean, mean difference, standard deviation and 't' value between post-test knowledge score of patients in Group I and II **N=15 + 15**

Group	Post-test mean knowledge score	Mean difference	sd	SE (d)	Df	't' value
Group I	93.67	63.67	9.93	2.57	28	23.27*
Group II	30					

Table 3: Effectiveness of Structured Teaching Programme on knowledge regarding Chagas Disease among Nursing Students. N=84

Knowledge	Mean	S. D	Mean Difference & %	Paired "t" test& p-value
Pretest	7.53	2.48	10.83	**t=33.260**
Post Test	18.37	1.85	(43.4%)	**p=0.0001, S*** **

't'28 = 3.67, p < 0.001, highly significant

The data presented in Table 21 shows that mean post-test knowledge score in Group I (93.67) is higher than the mean post-test knowledge score in Group II (30). The computed 't' value showed that there is significant difference between the post-test mean knowledge score of patients in Group I and Group II ('t'_{28} = 23.27, P<0.001) Hence null hypothesis H_{03} is rejected and research hypothesis is accepted. This indicates that PTP is effective in increasing the knowledge score of patients with diabetes mellitus in Group I.

CONCLUSION

Planned instruction improves patients' knowledge and self-care in weak areas. The study found no correlation between patient knowledge, gender, monthly income, sickness duration, or disease onset age. Self-care practice score was unrelated to gender, education, monthly income, illness duration, or disease beginning age. Knowledge, education, and self-care routines were strongly linked.

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