

The Efficacy of Structured Teaching Programme on Knowledge, Practice, Attitude and Glycemic levels of individuals suffering from type-2 diabetes mellitus at selected hospital, Tumkur, Karnataka.

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Abstract

Background of the study

In today's fast-paced life, people manage to get everything early-information, money, and even, diseases. Industrialization, socio-economic development, urbanization, changing age structure, changing lifestyle have placed India in a position where it is facing a growing burden of diabetes mellitus and being responsible for a major proportion of morbidity and mortality. India is currently experiencing an epidemic of type 2 diabetes mellitus and has the largest number of diabetic patients. It is estimated that every fifth person with diabetes will be Indian and every fifth adult in Indian urban areas is diabetic. Keeping in view the alarming increase in incidence and prevalence of diabetes in India, the WHO declared India as the 'Diabetic Capital' of the world. Increasing patient knowledge regarding diabetes and its complication has significant benefits with regard to patient compliance to treatment and to decreasing complications associated with diabetes. The real burden of the disease is however, due to its associated complications, which lead to increase in morbidity and mortality.

Awareness of various aspects of diabetes mellitus in diabetic individuals is low. Diabetes care aims at improving the quality of life of individuals with type 2 diabetes through good glycemic control, control of risk factors, lifestyle modification, prevent of complications and diabetes education. Diabetes education is the cornerstone of diabetes care.

Even after diagnosis, monitoring of diabetes is very poor. Most of the patients initially visits a doctor and then discontinue their therapy once their symptoms are controlled. Further, more patients with poor control avoid insulin for fear of injection and belief of addiction of insulin. The health personnel could spare limited time for their diabetic individuals and search for complications were ignored by most. By personal experience, the researcher found that the diagnosis of diabetes created anxiety and doubts among diabetics on how to adjust with restrictions imposed on them to control diabetes, and diabetic individuals had inadequate knowledge about selection of diet, exercises and improving health status and preventing complications of diabetes.

AIM

The aim of the study was to improve the knowledge, practice, develop positive attitudes, and reduce blood glucose levels among type 2 diabetic individuals.

METHODOLOGY

Quasi-experimental design was used in which a pre-test and post-test design was adopted for the study.

The setting of the study was the Govt. District Hospital, Tumkur. Type 2 diabetic individuals who fulfilled the inclusion criteria were considered as the population. The study consists of 200 samples, out of which 100 experimental group and 100 control group. Non-probability purposive sampling was adopted to select the subjects. Those who are newly diagnosed as type 2 diabetes and admitted to the ward formed the sample for the study. In the demographic data, age, gender, education, family income, residence, marital status, type of family food habits, smoking, alcohol, and type of management year of diagnosis of type 2 diabetes were collected. Assessment of glycemic levels was done by taking Random Blood Sugar (RBS) through subject's record (through lab investigation). The glycemic levels were categorized as 200-260 mg/dl, 261-320 mg/dl, and more than 320 mg/dl.

To assess knowledge and practice the structured interview schedule was used. To ascertain attitude, the diabetes attitude scale was used.

To assess glycemic levels (RBS) the patient clinical records were referred to. The knowledge questionnaire consisted of 85 items and the practice questionnaire of 65 items. The knowledge scores were interpreted in the following way: below 50% as inadequate knowledge, 50-75% as moderate knowledge, and above 75% as adequate knowledge. The practice scores were interpreted in the following way: below 50% as poor practice, 50-75% as moderate practice, and above 75% as good practice. The attitude scores were interpreted in the following way: below 50% as unfavourable attitude, 50-75% as moderately favourable attitude, and above 75% as favourable attitude.

The score was converted into percentage by using the following formula-

$$\text{Percentage} = \frac{\text{Obtained Score} \times 100}{\text{Total Score}}$$

Assessment of glycemic level was done by taking random blood sugar [RBS] through subjects' record (lab investigation). The glycemic levels were categorized as 200-260 mg/dl, 261-320 mg/dl, and more than 320 mg/dl.

Before collecting data, prior permission was obtained from the Medical Superintendent, Govt. District Hospital, Tumkur and from the study participants. The pretest was conducted on both, experimental group and control group. The Structured Teaching Programme includes knowledge and practice, stress, lifestyle modification, and health maintenance, which includes diabetic diet, exercises, rest and sleep, leisure activities, rest and sleep SMBG and urine test, food and skin care, uses of diabetes medication, and weight reduction and also meaning, causes, clinical manifestation, pathophysiology, diagnostic procedures, and complications of type 2 diabetes. It was administered with AV aids and its duration was 75 minutes. The SMBG, self-insulin administration, and diabetes exercises were shown through video clips. The control group was withheld from the structured teaching programme and exposed to the daily routine of the hospital. After 7 days of structured teaching programme, post-test was conducted for both experimental group and control group, and the questionnaire used in pretest was administered in post-test.

RESULTS

The study findings revealed that the two groups were homogenous with regard to demographic variables as analyzed by frequency and percentage calculation through coding and tabulation. The mean pretest knowledge scores of type 2 subjects was 29.90 with standard deviations 6.597 in the experimental group, and in the control group was 28.69 with a standard deviation of 6.195. It depicts the homogeneity of subjects in both experimental group and control group. While the mean post-test knowledge was 61.09 with a standard deviation of 6.034 in the experimental group, it was 29.01 in the control group with a standard deviation of 6.316. The mean pretest practice scores was 20.92 with a standard deviation of 3.72 in the experimental group, and in the control group was 20.98 with a standard deviation of 3.902. It depicts homogeneity of subjects in both experimental group and control group and the mean post-test practice scores was 53.48 with standard deviation of 4.29 in the experimental group, and in control group, the mean post-test practice scores was 20.92 with a standard deviation of 3.90.

The pretest mean attitude scores obtained in the experimental group was 97.16 with a standard deviation of 3.41 and the post-test mean attitude scores was 112.33 with a standard deviation of 4.99. The pretest mean attitude scores in the control group was 96.46 with a standard deviation of 1.29, and the post-test mean attitude scores was 98.26 with a standard deviation of 2.32 in the control group.

The pretest mean glycemic score of type 2 diabetic individuals in the

experimental group was 267.17 with a standard deviation of 39.96 and the post-test mean glycemic score was 243.47 with a standard deviation of 34.04. Whereas, the pretest mean glycemic score of the subjects in the control group was 297.16 with a standard deviation of 48.14, and the post-test mean glycemic score was 290.75 with a standard deviation of 45.23.

The findings reveal that the knowledge scores and practice scores of subjects in the experimental group increased significantly after STP, whereas in the control group there was no improvement. There was improvement in the attitude scores of the subjects in the experimental group, while the subjects in the control group showed no improvement in the attitude scores. There was reduction in the glycemic level of the subjects in the experimental group and there was no significant reduction in the glycemic level of the subjects in the control group. The study shows the effectiveness of the structured teaching programme in increasing knowledge, practice, attitude scores, and glycemic level of type 2 diabetes individuals. The Pearson's correlation was used to find the correlation between knowledge and practice, knowledge and attitude, and knowledge and glycemic level of type 2 diabetic individuals.

There is a positive correlation between pretest ($r=0.620$) and post-test ($r=0.655$) knowledge and practice scores of the type 2 diabetic individuals in the experimental group and Pretest ($r=0.728$) and post-test ($r=0.716$) knowledge and practice scores in the control group. There is no correlation between knowledge and attitude scores, knowledge and glycemic level, practice and attitude scores, and practice and glycemic level of type 2 diabetic individuals in the experimental group and control group.

The Chi-square test was used to find an association between knowledge, practice, attitude and glycemic level scores with selected demographic variables. The subjects in the higher income ($P = 0.041$) group had more knowledge in pretest in the experimental group and subjects residing in urban areas ($P = 0.016$) had more knowledge in pretest in the control group. Subjects belonging to Hindu religion ($P = 0.045$), had completed their graduation ($P = 0.021$), and who ate non-vegetarian food twice in a month ($P = 0.049$) had good practice in post-test in the experimental group, and married women ($P = 0.042$) had good practice in pretest in the control group. The subjects in the urban areas ($P = 0.004$) and subjects belonging to nuclear family ($P = 0.002$) had favourable attitude in pretest in the experimental group and teachers and professionals ($P = 0.018$) had favourable attitude in post-test in the experimental group, whereas in the control group, subjects aged less than 55 years had favourable attitude ($P = 0.0001$) in the post-test. In the experimental group, subjects who fasted for religious purposes ($P = 0.016$) had good glycemic control in the post-test.

Conclusion

The study concluded that the structured teaching programme is effective in improving knowledge, practice and developing a positive attitude and in reducing the glycemic level of type 2 diabetic individuals.

Key words:

Type 2 diabetic individuals, lifestyle modifications, health maintenance behaviour, stress, attitude, glycemic level, and structured teaching programme.