

Original Research Article

Efficiency of organized teaching programme on knowledge regarding low glycaemic index diet among the diabetes mellitus patients admitted in selected hospitals at Bellary

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ABSTRACT

Background: India leads the world with largest number of diabetic subjects earning the dubious distinction of being as “diabetic capital of world”. Diabetes is leading cause of death, disability and economic loss through the world. Prevalence of diabetes in the adults worldwide was estimated to be 4% in 1995 and is expected to be 5.4% by the year 2025.

Methods: The study conceptual frame work based on Kings Goal attainment theory. The approach used for this study was evaluative one. Pre experimental study one group pretest and posttest design is used to collect the data. The independent variable of the study is organized teaching programme on knowledge regarding low glycaemic index diet among diabetes mellitus patients and dependent variable is knowledge on low glycaemic index diet in the management of diabetes mellitus patients the tool used to collect data was structured knowledge questionnaire.

Results: The results of the study showed that the overall mean pretest knowledge of diabetes mellitus patients was 55.25% with the standard deviation of 2.77. The mean knowledge gain by the diabetes mellitus patients was 73.62% with the standard deviation of 1.89. The association was determined by using Pearson chi square test. The obtained "t" value 14.989 is greater than the table value at 0.01 level of significance. Therefore, "t" value is found to be significant. It means there is gain in knowledge level of diabetes mellitus patients. This supports that organized teaching programme on low glycaemic index diet is effective in increasing the knowledge level of diabetes mellitus patients.

Conclusions: The present study attempted to assess effectiveness of organized teaching programme on knowledge regarding low glycaemic index diet among the diabetes mellitus patients admitted in selected hospitals at Bellary and concluded that there was a significant improvement in the knowledge after organized teaching programme. Thus, organized teaching programme is effective in improving the knowledge of the diabetes mellitus patients.

Keywords: Organized teaching programme, Efficiency, Low glycaemic index, Diabetes mellitus, Knowledge

INTRODUCTION

A serious global health issue that affects human cultures at all phases of development is diabetes mellitus. At least 30 million people worldwide suffer with diabetes, and most of them do not even have access to basic medical treatment. According to a report in the Hindustan Times, there are an estimated 15.2 million individuals suffering throughout India.¹

Globally, diabetes mellitus especially type II is a serious public health issue. The world health organization predicts that throughout the next 20 years, the number of people with type II diabetes mellitus would rise alarmingly in both industrialized and developing nations. According to estimates, the number of people in the developed world will rise by around 46%, from 55 million in 2000 to 83 million in 2030, while in

developing countries, the number will rise by almost 150%, from 30 million in 2000 to 80 million in 2030.²

India holds the dubious title of "diabetic capital of world" due to having the highest number of diabetic subjects worldwide. Diabetes is the world's greatest cause of mortality, disability, and financial loss. In 1995, the global prevalence of adult diabetes was projected to be 4%; by 2025, it is predicted to reach 5.4%. Compared to wealthy countries, its incidence is higher in developing nations. According to reports, 2.1% of urban Indians had diabetes in 1970; now, that number is 12.1%. Approximately 150 million people worldwide suffer with diabetes mellitus. This number is predicted to double by the year 2025 with greatest number of cases being expected in India and china⁴. Indian studies have shown the prevalence rate of diabetes mellitus to be 2.4% in rural and 4 to 11% among urban dwellers due to industrialization and urbanization⁵. Previously a disease of middle aged and elderly Type 2 DM has escalated in all age groups and is now being seen in younger age groups including adolescents especially high risk population⁵. In addition to the undisputed strong genetic predisposition of DM studies have also revealed the influence of the interaction of host factors like age, sex, family history, obesity and environmental factors like sedentary life style, dietary pattern, socioeconomic status and habits like alcoholism and smoking.³

Through its consequences of retinopathy, nephropathy, neuropathy, and big blood vessel disease, diabetes mellitus is a primary cause of disability and a substantial contributor to early mortality and extended illness. It is a long-term, chronic sickness. Only by controlling nutrition, exercise, medication, blood glucose monitoring, urine testing for the presence of sugar, maintaining cleanliness, and other lifestyle changes can it be controlled. To maintain an active and healthy lifestyle, these patients needed frequent follow-up and health education. The patient and the medical staff must carefully prepare for successful readjustments to a healthy lifestyle.⁴

Low glycemic index diet in the management of diabetes is contentious having varying suggestions throughout the world. Low glycemic index diet has a minor but clinically use full effect on medium term glycemic management in people with diabetes mellitus. Oatmeal, peanuts, peas, carrots, kidney beans, hummus, skim milk, and the majority of fruits are foods with a low glycemic index (55 and below). If low glycemic index meals, as measured by lower fructosamine or HBA1c levels, improved overall glycemic management in diabetics as compared to high conventional or high glycemic index diets. low glycemic index diet reduced (HBA1c) by 0.43% points (c10.72-0.13) over and above that produced by high glycemic index diet. Low glycemic index diet breakfast cereals, oat bran 50 gm, rolled oats 51gm, special k 54gm, porridge 58gm. staples wheat pasta shapes 54 gm, new potatoes 54 gm, meat ravioli, egg fettuccini 32 gm, brown rice 50 gm,

buckwheat 52 gm, white long grain rice 50 gm, pearly barley 22 gm, yam 35 gm, sweet potatoes 48. Snacks and sweet foods, legumes (kidney beans, butter beans) vegetables (raw carrots 16 gm, boiled carrots 41 gm, cauliflower 15 gm, cabbage 10 gm, onions 10 gm, tomatoes 15 gm, lettuce 10 gm) fruits. Above mention these low glycemic indices diet reduces the blood glucose levels and preventing complications diabetes mellitus.⁵

Diabetes was predicted to be responsible for 109 thousand deaths, 1157 thousand years of life lost and for 2263 thousand handicapped adjusted life year in India during 2004. However, health systems have not matured to treat diabetes properly. Patients' knowledge and comprehension of the illness are inadequate, which causes consequences to go unnoticed. therapy compliance is significantly impacted by the expense of therapy, the requirement for lifetime medication, the scarcity of anti-diabetic drugs in the public and private sectors, and other factors.⁶

The urban population is mostly responsible for India's almost 44 million diabetes people, according to WHO data. The socioeconomic shift that is taking place in rural regions is also causing the situation to change quickly. Physical activity has dropped as a result of the availability of better transportation options and less demanding occupations in the area. Dietary habits have changed as a result of improved economic situations. The population already has a genetic and ethnic predisposition to diabetes, and the environment are more conducive to its manifestation. According to recent epidemiological data, the circumstances are comparable across the nation.⁷

Urban regions have the most rise. It is believed that the main causes of the rising incidence of diabetes in Africa include aging populations, shifting dietary habits, and changes in physical activity. Obesity is becoming more common as a result of the inexpensive availability of high-fat and high-energy foods combined with a decrease in physical activity. Impaired glucose tolerance brought on by obesity may enhance a person's vulnerability to the symptoms of diabetes.⁸

Research on the incidence and consequences of diabetes in Sub-Saharan Africa was carried out. It verified that the incidence of diabetes and its consequences has increased in Sub-Saharan Africa. The scientists came to the conclusion that the burden of diabetes in this area may be avoided if successful treatments are put into place soon. More data on prevalence and intervention regions is consequently required, as this calls for a change in global health priorities.⁹

Organized teaching is an effective programme in imparting the knowledge among staff nurses. Through this programme people gain knowledge on low glycemic index food on self-care activities. Hence the above information signifies the information burden of diabetes mellitus and its various complications which brought the

researcher attention to select the title. The recent trend in nurse's role is extended and expanded. Nurses' plays a major role in prevention of diseases helps in reducing the mortality rate and improvement of quality of life. Thus, the researchers being strong thinker to chosen this topic so as to prevent the complications of this devising disease condition and the motivate them to lead healthy life style.

The objectives of the study were to assess the knowledge of diabetes mellitus patients on low glycaemic index diet by pre-test score, to determine the effectiveness of organized teaching programme by comparing pre and posttest knowledge scores and to determine association between the knowledge scores of diabetes mellitus patients with selected demographic variables.

Hypothesis

H₁ There will be significant difference between pre and post-test knowledge scores. H₂ There will be significant association between pre-test knowledge scores of diabetes mellitus patients with selected demographic variables.

METHODS

The present study is evaluative research approach was adopted in ordered to assess the Efficiency of organized teaching programme on knowledge regarding low glycaemic index diet among the diabetes mellitus patients admitted in selected hospitals at Bellary, an one group pre-test post-test (pre- experimental) design has been used to attain the objectives of the present study. Study was conducted at selected hospitals at Bellary. The Independent variable is organized teaching programme on low glycaemic index diet and dependent variable is knowledge of diabetes mellitus patients regarding low glycaemic index diet. The target population of the present study comprises of diabetes mellitus patients admitted in selected hospitals of Bellary. By adopting purposive sampling technique 40 diabetes mellitus patients from selected hospitals of Bellary was used to collect data.¹⁰ Data collection was carried out for a period of two months from February 2024 to April 2024. This data was entered into the excel sheets and analyzed using SPSS for windows, version 16.0, Chi-square test was used for the evaluation of the level of significance. The researcher adhered to several critical ethical considerations regarding obligations and responsibilities in the recruitment of participants and data collection. Approval has obtained from Institutional human ethics committee. Formal administrative permission was obtained from a hospital administration. Informed printed agreement was taken from the subjects. Maintain the confidentiality of data.

Sampling criteria

The samples were selected with the following predetermined set of criteria.

Inclusion criteria

Who are having type 1 and type 2, who are available during the time of data collection, who are willing to participate in the study and who understands Kannada and English languages were included.

Exclusion criteria

Diabetes mellitus patients in life threatening condition and diabetes mellitus patients having hearing and visual deficits were excluded.

Selection and development of the tool

The structured interview schedule was used to obtain data. It is regarded as the most ideal device for eliciting responses from both literates and illiterates. It is divided into two Steps. Step-I: socio-demographic variables of the diabetes mellitus patients step-ii: structured knowledge questionnaire consists of the questionnaire with 40 items related to general information regarding diabetes mellitus, general concept of glycemic index, knowledge on low glycaemic index diet and knowledge on planning glycemic index diet. Section-I is created. Section-II scores of '1' and '0' are assigned to correct and incorrect responses. As a result, the highest possible score is 40.¹⁰

Development of structured teaching programme

The first draft of the structured teaching programme on low glycemic index diet was developed based on the objectives of the study and was given to 13 experts in the field of nursing along with objectives, criteria rating scale based on their suggestions and recommendations (i.e. expansions of abbreviations used and correction of certain items), the final draft of organized teaching programme was prepared. The title of the organized teaching programme on low glycemic index diet.

Reliability

In order to establish reliability of the tool, the technique called split half method was used and reliability co-efficient was calculated by using raw score formula. The calculated 'r' value is 0.83 and the developed tool was found to be highly reliable.

Method of data collection

After receiving official authorization from the relevant authority, data was gathered from 40 participants, with the mothers chosen using a purposive selection approach. The subject's willingness to engage in the study was determined after the investigator gave a self-introduction and described the objective of the investigation. The individuals have been guaranteed of their anonymity and the confidentiality of the information they have supplied, and signed informed permission has been acquired. The

pre-test was administered on the first day, followed by the structured interview schedule, followed with OTP on low glycemic index diet on the seventh day, and the post-test was administered using the same tool on the eighth day, each subject took 450 minutes to answer the Interview schedule.²⁴

RESULTS

The data were analyzed on the basis of the study objectives, using both descriptive and inferential statistics. Findings are organized in the following headings.

The age distribution revealed that majority 30% (n=12) of the subjects belong to each of 31-40 years and 41-50 years age group, 27.5% (n=11) were aged 51 years and above. Gender: It reveals that the majority 57.5% (n=23) of the subjects were males and remaining 42.5% (n=17) were females. Education: In relation to the education, it shows that majority 35% (n=14) of the subjects passed matriculation, 22.5% (n=9) of them completed PUC, 20% (n=8) of them completed diploma and 12.5% (n=5) of them completed degree and remaining 10% (n=4) of them were post graduates. Body mass index: Majority 40% (n=16) of the subjects had BMI between 23 to 25 kg/m², 35% (n=14) of them had BMI of 22 kg/m² and remaining 17.5% (n=7) of them had BMI greater than 30 kg/m². Occupation: Majority 30% (n=12) of the subjects were self-employed, 30% (n=12) of the subjects were government employees, 27.5% (n=11) of them were housewife, 10% (n=6) were private employees and remaining 2.5% (n=1) of them is a retired employee. Type of diabetes: Majority 77.5% (n=31) of the subjects had type II diabetes and remaining 22.5% (n=9) of them had type I diabetes. Duration of illness: In relation to the

duration of illness, majority 50% (n=20) of the subjects had diabetes for 5-8 years, 40% (n=16) of the subjects had diabetes for 1-4 years and remaining 10% (n=4) of the subjects had diabetes for 9-12 years. Type of diet: majority 60% (n=36) of the subjects take mixed diet, 20% (n=8) of them were vegetarians and remaining 20% (n=8) of them were non vegetarians. Family history of diabetes mellitus: Majority 80% (n=32) of the subjects had no history of diabetes mellitus in their family and remaining 20% (n=8) of the subjects had history of diabetes in their family. Previous knowledge: It reveals that majority 57.5% (n=23) of the subjects had no knowledge regarding diabetes and remaining 42.5% (n=17) of them had previous knowledge.

Table 2 reveals the assessment of knowledge among diabetes mellitus patients in terms of pre test scores regarding low glycaemic index diet. In general aspect the mean score is 5.75 with a mean percentage of 57.5 and a standard deviation of 1.391. In the aspect of general concept of glycaemic index, the mean score is 9.78 with a mean percentage of 57.2 and a standard deviation of 1.121. In knowledge on low glycemic index diet aspect the mean score is 2.62 with a mean percentage of 52.4 and a standard deviation of 0.740. In last aspect of planning glycaemic index diet mean score is 3.95 with a mean percentage of 49.7 and standard deviation of 1.679.

Table 3 reveals the comparison of knowledge scores on low glycaemic index diet before and after the video assisted teaching. In all aspects the diabetes mellitus patients have improved their knowledge after the administration of video assisted teaching. The difference between pretest and posttest knowledge score is large and it is significant. Statistical significance was calculated using student's paired t test.

Table 1: Distribution of diabetes mellitus patients by their demographic variables, n=40.

Variables	N	Percent (%)
Age (in years)		
21-30	5	12.5
31-40	12	30.0
41-50	12	30.0
51 years and above	11	27.5
Gender		
Male	23	57.5
Female	17	42.5
Education		
Matriculation	14	35.0
PUC	9	22.5
Diploma	8	20.0
Degree	5	12.5
Post graduation	4	10.0
BMI		
BMI lesser than 20 kg/m ²	3	7.5
BMI is 22 kg/m ²	14	35.0
BMI is 23 to 25 kg/m ²	16	40.0
BMI greater than 30 kg/m ²	7	17.5

Continued.

Variables	N	Percent (%)
Occupation		
House wife	11	27.5
Self employee	12	30.0
Govt employee	12	30.0
Private employee	4	10.0
Retired person	1	2.5
Type of diabetes		
Type I	9	22.5
Type II	31	77.5
Duration of illness		
1-4 years	16	40.0
5-8 years	20	50.0
9-12 years	4	10.0
Type of diet		
Vegetarian	8	20.0
Non vegetarian	8	20.0
Mixed	24	60.0
Family history of DM		
Yes	8	20.0
No	32	80.0
Previous knowledge		
Yes	17	42.5
No	23	57.5

Table 2: Mean, mean percentage and standard deviation for the pretest knowledge of diabetes mellitus patients, n=40.

Knowledge aspects	No. of items	Mean	SD	Mean (%)
General information regarding diabetes mellitus	10	5.75	1.391	57.5
General concept of glycaemic index	17	9.78	1.121	57.52
Knowledge on low glycaemic index diet	5	2.62	0.740	52.4
Knowledge on planning Glycaemic Index diet	8	3.95	1.679	49.37
Overall	40	22.10	2.772	55.25

Table 3: Comparison of pretest and posttest knowledge scores of Diabetes mellitus patients regarding low glycaemic index diet, n=40.

Knowledge aspects	Pre test		Post test		Mean difference	Students paired t test
	Mean	SD	Mean	SD		
General information regarding diabetes mellitus	5.75	1.391	7.65	1.252	1.90	7.675
General concept of glycaemic index	9.78	1.121	12.62	1.079	2.850	12.061
Knowledge on low glycaemic index diet	2.62	0.740	4.20	0.823	1.575	9.402
Knowledge on planning glycaemic index diet	3.95	1.679	4.98	1.310	1.025	3.386

Table 4: Determination of overall mean knowledge scores before and after the organized teaching programme, n=40.

Pre test	Post test	Mean difference	Students paired t test
22.10	29.45	7.35 (SD=3.101)	14.989

HS, p=0.000, Df=59

Table 4 reveals the comparison of overall knowledge scores on low glycaemic index diet before and after the video assisted teaching. The mean pretest score 22.1 and the mean post test score is 29.45.

The mean difference is 7.35 with a standard deviation of 0.3.101. The student's paired t test value t=14.989 and is significant.

DISCUSSION

Based on the data analysis, the following findings were reached: The current study sought to determine the efficiency of organized teaching programme on insight regarding low glycaemic index diet among the diabetes mellitus patients admitted in selected hospitals at Bellary based on the objectives

Objective 1: To assess the knowledge of diabetes mellitus patients on low glycaemic index diet by pre-test score

Based on the above objective of the study, the data collected by the investigator during the pretest was analyzed and the findings revealed that the pretest knowledge of diabetes mellitus patients on low glycaemic index diet was 72.5%. This level of knowledge was considered as Moderate.

According to the study findings the pretest means knowledge score of the Diabetes mellitus patients on low glycaemic index diet, the mean score is 22.10 with a mean percentage of 55.25 with a standard deviation of 2.77.

Results include the assessment of knowledge among diabetes mellitus patients in terms of pretest scores regarding low glycaemic index diet. In general aspect the mean score is 5.75 with a mean percentage of 57.5 and a standard deviation of 1.391. In the aspect of general concept of glycaemic index, the mean score is 9.78 with a mean percentage of 57.2 and a standard deviation of 1.121. In Knowledge on low glycaemic index diet aspect the mean score is 2.62 with a mean percentage of 52.4 and a standard deviation of 0.740. In the last aspect of planning Glycaemic Index diet the mean score is 3.95 with a mean percentage of 49.7 and a standard deviation of 1.679.

Peres's study, The health effects of low glycemic index and low glycemic load interventions on prediabetes and type 2 diabetes mellitus: a literature review of RCTs, supported the study's conclusions.¹¹ The results of the study indicated that people with prediabetes and type 2 diabetes may benefit from adopting low-GI and low-GL diets and including low-GI/GL items into their regular meals. According to the findings of our assessment of the literature, low-GI and -GL therapies can help reduce adiposity and promote weight loss while also having definite advantages for short-term glycemic control.

Objective 2: To determine the effectiveness of organized teaching programme by comparing pre and posttest knowledge scores

The above objective is supported by this study reveals the comparison of overall knowledge scores on low glycaemic index diet before and after the video assisted teaching programme. The mean pretest score 22.10 and

the mean post test score is 29.45. The mean difference is 7.35 with a standard deviation of 3.101. The student's paired t test value $t=14.989$ and is significant.

The knowledge scores on low glycaemic index diet before and after the video assisted teaching programme. In all aspects the diabetes mellitus patients have improved their knowledge after the administration of video assisted teaching programme. The difference between pretest and posttest knowledge score is large and it is significant. Statistical significance was calculated using student's paired t test.

The study's conclusions aligned with those of Eliza who investigated the impact of nutrition education on patients with diabetes mellitus's knowledge of the glycemic index. The dependent t-test revealed a significant difference ($p=0.024$; $\alpha<0.005$) between the treatment group's average knowledge prior to and after nutritional counseling using booklet media.¹² Through booklet media, a nutrition education campaign about the glycemic index has the potential to improve patients' nutritional literacy.

Objective 3. To determine association between the knowledge scores of diabetes mellitus patients with selected demographic variables

The findings of the study revealed that the association between socio-demographic variables and the pretest level of knowledge regarding low glycaemic index diet. All the selected demographic variables such as age, gender, education, BMI, occupation, type of diabetes, duration of illness, type of diet and previous knowledge are not significantly associated with the pretest knowledge scores. The association was determined by using Pearson chi square test.

Implications of the study

The nurses offer holistic treatment, which includes curative, rehabilitative, promotive, and preventative measures. Prevention is the most important of those. Patients with diabetes mellitus should be trained to become active members of their diabetes care team rather than passive recipients, as treating or curing the condition is extremely risky.

Every student and staff should be encouraged to explain the diabetes patient the value of low glycemic index diet. It will improve the quality of life of the diabetic patient as well as prevent complications, control diabetes and avoid economic loss. In order to develop their teaching programs in both hospital and community settings, nursing students need also have the skills and information necessary to evaluate patients' needs.

Advanced practice certified nurses and clinical nurse specialists should be ready. One area where nurses' clinical, instructional, and nursing skills are extremely

important is in diabetic care. For other nurses, diabetic nurse experts act as a resource.

Adding to the corpus of nursing knowledge and broadening the field's reach are two of nursing research's most crucial goals. This is only feasible if nurses take the initiative to carry out research studies to improve diabetes patients' understanding and capacity to effectively plan low-glycaemic index diet activities in order to enhance their quality of life and avoid or lessen difficulties.

Limitations

Only one domain that is knowledge was considered in the present study. The study was conducted in one area, which restricts the generalization.

CONCLUSION

Organized and implemented teaching programme on awareness of diabetes mellitus patients regarding low glycaemic index diet had beneficial effects for diabetes mellitus patients in terms of awareness scores in improving knowledge level on low glycaemic index diet and preventing complications. This study confirmed that teaching programme can lead diabetes mellitus patients to be motivated in adopting low glycaemic index diet in their day today life.

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REFERENCES

- Goodall TA. Self-management in a diet. Food Nutrition. 2017;62-7.
- Shilubanc HN, Potgieter E. Patients and family member's knowledge and views regarding and its treatment. Curationis. 2017;30(2):58-65.
- Joshi YK. Text book of Clinical Nutrition. J P Brothers. New Delhi. 2023;258.
- Park K. Textbook of Preventive and Social Medicine. 18th edition. Jabalpur. Banasidas Bhanot Publishers. 2020;413-5.
- Jabakani S. Statistics of Diabetes Mellitus. Health Herald. 2008;4-5.
- Zipitis CS, Akobeng AK. Overweight is the risk of Diabetes Mellitus. Arch Dis Childhood. 2008;93:512-7.
- Jotkowitz AB, Rabinowitz G. Internal Medicine F, Soroka. J Manaj Care Pharm. 2013;9(6):552-8.
- Murtaugh MA, Jacobs DR JR. Epidemiological support for the protection of whole grains against Diabetes. Proc Nutr Soc. 2003;62(1):143-9.
- Martinez-Gonzalez MA, Fuente-Arrillaga CD, Nunez-Cordoba JM, Basterra-Gortari FJ, Beunza JJ, Vazquez Z, et al. Prevalence and risk of developing Diabetes. Brit Med J. 2006;336(7657):1348-51.
- Chandrasekhar M. A study to assess the Knowledge of Adolescent Girls Regarding the Prevention of Iron Deficiency Anemia in Selected Rural Areas of Mysore with a View to Develop an Information Booklet on Prevention and Management of Iron Deficiency Anemia. Asian J Nur Edu Res. 2016;6(1):74-8.
- Peres M, Costa HS, Silva MA, Albuquerque TG. The Health Effects of Low Glycemic Index and Low Glycemic Load Interventions on Prediabetes and Type 2 Diabetes Mellitus: A Literature Review of RCTs. Nutrients. 2023;15(24):5060.
- Eliza E, Sumarman S, Yunianto AE, Fadly D. Nutrition Education Regarding the Glycemic Index on the Knowledge of Patients with Diabetes Mellitus. Open Access Maced J Med Sci. 2022;10(E):1174-7.

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