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A study to assess the effectiveness of planned teaching programme on knowledge regarding hypoglycemia and its complications among diabetic patients in selected hospitals at Belagavi district

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Abstract

Background of the study: A study, titled “A study to assess the effectiveness of planned teaching programme on knowledge regarding hypoglycemia and its complications among diabetic patients in selected hospitals at Belagavi”. Diabetes mellitus is a major health problem in the world. Diabetes mellitus is commonly referred as diabetes. Diabetes is a group of metabolic disorders in which there are high blood sugar levels over a prolonged period. Symptoms of high blood sugar levels includes frequent urination, increased thirst, and increased hunger. “Prevention is better than cure” Diabetes is a progressive disorder that leads to serious health complications which are associated with increased costs to the family, community, and healthcare system. Uncontrolled diabetes leads to increased risk of vascular disease i.e. macrovascular complications like cardiovascular (CV), cerebrovascular, and peripheral artery disease and microvascular complications like diabetic retinopathy, nephropathy, and neuropathy.

Approach: The research approach adopted for this study is an evaluative approach.

Design: The research design selected for this present study was pre –experimental.

Setting: The study was conducted at BIMS Teaching Hospital, Belagavi, Karnataka.

Participants: 60 diabetic patients were selected by simple random sampling technique, as a probability sampling method.

Pre-assessment: The tool was developed by preparation of knowledge questionnaires and content validity of the tool was established by taking corrections from experts. Later planned teaching programme was administered on the same day of pre assessment.

Post assessment: Knowledge questionnaire was administered after 7 days of administration of PTP to assess its effectiveness.

Results: The results of major findings indicated that, in pretest Percentage distribution of diabetic patients in pre-test reveals that out of 60 diabetic patients 80% had poor knowledge followed by 20% diabetic patients with average knowledge. No one have excellent, good and very poor knowledge regarding hypoglycaemia and its complication.

In post-test knowledge however after PTP (Post-test) 52.5% diabetic patients had excellent knowledge followed by 47.5% diabetic patients with good knowledge and no one had average, poor and very poor knowledge regarding hypoglycemia and its complication. It shows that planned teaching programme is an effective method in improving knowledge of diabetic patients.

As the calculated t value (22.9) was much higher than table ‘t’ value (2.02) the hypothesis: H₁ - There is a significant difference between pretest and posttest scores of diabetic patients regarding hypoglycemia and its complication was accepted. Findings revealing the presence of significant difference between pre-test and post-test knowledge scores, hence the planned teaching programme is proved to be effective.

Interpretation & Conclusion: The study concluded that PTP on pressure sore and its prevention was an effective method for providing moderate to adequate knowledge and help students to enhance their knowledge to provide effective nursing care to clients.

Implications for clinical practices: On the basis of findings, it is recommended that a similar study may be replicated issuing a large number of respondents.

Keywords: Assess, knowledge, effectiveness, diabetes, PTP, hypoglycemia

Introduction

Diabetes mellitus is a major health problem in the world. Diabetes mellitus is commonly referred as diabetes. Diabetes is a group of metabolic disorders in which there are high blood sugar levels over a prolonged period. Symptoms of high blood sugar levels includes frequent urination, increased thirst, and increased hunger ^[1].

Diabetes mellitus is a major health problem and causes considerable morbidity and mortality, primarily due to its complications like microvascular and macro vascular complications so only diabetes is a metabolic cum vascular disorder. In upcoming years India is predicted to be capital of diabetes. There are about estimated 70 million patients with diabetes in India and this number is projected to explode beyond 100 million by 2030 [2].

The burden of diabetes is increasing day by day globally, and in developing country like India. Mainly this is because of overweight/obesity and unhealthy lifestyles. The survey in 2019 showed that 77 million individuals had diabetes mellitus in India, which is expected to increase over 134 million by 2045 [3].

Approximately 57% of these individuals remain undiagnosed. Type 2 diabetes can lead to develop multiorgan complications like microvascular and macrovascular complications. These complications are a significant cause for increased premature morbidity and mortality among patients with diabetes which leads to reduced life expectancy and financial and other costs of diabetes leading to profound economic burden on the Indian health care system [3].

If diabetes left untreated it can cause many complications. Acute complications can include diabetic ketoacidosis, hyperosmolar hyperglycemic state, or death. Serious long-term complications include cardiovascular disease, stroke, chronic kidney disease, foot ulcers, and damage to the eyes [1].

The main treatment for diabetes mellitus is controlling blood sugar levels through the insulin therapy like oral medication or insulin injections and dietary management. The treatment for diabetes mellitus is called as glucose lowering therapy [1].

“Prevention is better than cure” Diabetes is a progressive disorder that leads to serious health complications which are associated with increased costs to the family, community, and healthcare system. Uncontrolled diabetes leads to increased risk of vascular disease i.e. macrovascular complications like cardiovascular (CV), cerebrovascular, and peripheral artery disease and microvascular complications like diabetic retinopathy, nephropathy, and neuropathy [5].

As researcher observed the diabetes mellitus clients whether they had enough knowledge and awareness regarding the causes for hypoglycemia and complications due to the hypoglycemia. With the above aspect and background the current study was planned to promote the awareness on management of hypoglycemia among diabetic clients by giving the planned teaching programme.

Objectives

1. To assess the knowledge regarding hypoglycemia and its complications among diabetes patients.
2. To find the effectiveness of planned teaching programme on hypoglycemia and its complications among diabetes patients.
3. To find out the association between the post-test level of knowledge regarding home management with the selected demographic variables

Hypothesis

All hypotheses will be tested at $p < 0.05$ level of significance

H1: The mean pre-test knowledge score on aspects of

hypoglycemia will be less than mean post-test knowledge among diabetes patients.

H2: There will be a significant association between post-test knowledge scores of diabetes patients with their selected demographic variables.

Methodology

Research Approach: Evaluative approach

Research Design: Pre-experimental design

Sampling technique: Probability; Simple Random Sampling

Technique Sample size: 60

Setting of study: BIMS Teaching Hospital, Belagavi

The collected information was organized and presented in 4 sections as follows:

- **Section I:** Description of socio-demographic characteristics of diabetic patients
 - **Section II:** Assessment of knowledge of diabetic patients regarding hypoglycemia and its complication
 - **Section III:** Assessment of the effectiveness of the PTP on knowledge regarding hypoglycemia and its complication
1. **Part-I:** Comparison of knowledge level of diabetic patients in pre-test and post-test.
 2. **Part-II:** Area wise mean, S.D and mean percentage of the knowledge scores in pretest and post test.
 3. **Part-III:** Testing of Hypothesis

Section IV: Association between the knowledge scores of diabetic patients regarding hypoglycemia and its complication with their selected socio demographic variables.

Procedure of data collection

Data was collected after obtaining administrative permission from BIMS hospital, Belagavi. The investigator personally explained the participants the need and assured them of the confidentiality of their responses. Data was collected through knowledge questionnaires. The test was conducted based on their availability and convenience. Soon after the test, the PTP was administered.

Results

Section-I: The findings related to socio-demographic variables of participants.

Part I: Frequency and percentage distribution of socio-demographic variables of participants N=60

Percentage wise distribution of diabetic patients according to their age groups reveals that out of 60 diabetic patients, 41% diabetic patients belong age group of 51years and above followed by 41% in the age group of 41-50 years, 12% in the age group of 31-40 years, 6% in the age group of 30 years and below (Fig: 5.1]. It shows that majority of the diabetic patients under the study were coming under ie 41% belong age group of 51years and above followed by 41% in the age group of 41-50 years

Percentage wise distribution of diabetic patients according to their gender reveals that out of 60 diabetic patients, 62.5% were males and 37.5% were females

Percentage wise distribution of diabetic patients according to their professional qualification shows that out of 60 diabetic patients, 65% diabetic patients were studied SSLC, 22.5% diabetic patients were completed PUC and

12.5% diabetic patients were completed other short term course. It shows that majority of diabetic patients under the study ie, 65% diabetic patients were studied SSLC.

Percentage wise distribution of diabetic patients according to their professional qualification shows that out of 60 diabetic patients, 80% diabetic patients were belongs to less than 3000 rupees. 10% diabetic patients were 3001 – 5000 Rupees. 6% diabetic patients were belongs to 5001 -7000 income and 3% were above 7001.

Percentage wise distribution of diabetic patients according to their previous knowledge about hypoglycemia and its complication shows that out of 60 degree students, 75% diabetic patients were got information from friends. 21.6% diabetic patients were got information from Internets. 3.3% diabetic patients were got information from media and 3% from others

Section II: Assessment of knowledge of diabetic patients regarding hypoglycemia and its complication

Table 1: Percentage wise distribution of diabetic patients according to levels of knowledge in pre-test. N=60

Test	Levels of knowledge	Number (f)	Percentage (%)
Pre test	Excellent	0	0
	Good	0	0
	Average	18	20
	Poor	32	80
	Very poor	0	0

Percentage distribution of diabetic patients in pre-test reveals that out of 60 diabetic patients 80% had poor

SL. No	Socio demographic variables	Df	Chi-square value	Table value	Level of significance	Significance
1.	Age	2	1.51	5.99	0.05	Not significant
2.	Gender	1	0.036	3.84	0.05	Not significant
3.	Education	1	0.25	3.84	0.05	Not significant
4.	Previous cases in family	1	1.008	3.84	0.05	Not significant
5.	Income	1	0.06	3.84	0.05	Not significant

Chi square was calculated to find out association between post-test practice scores of diabetic patients with their selected sociodemographic variables by using 2x3 & 2x2 contingency table. There was no significant association was found between the post-test practice scores and their socio-demographic variables: age, gender, education, income and previous cases in family

So H₂, there is a significant association between the knowledge scores of diabetic patients regarding hypoglycemia and its complication with their selected socio demographic variables is rejected.

It reveals that no extraneous variable was affected the study and the study had internal consistency. The planned teaching programme is the only measure which increased the knowledge of diabetic patients

It reveals that when knowledge increase practice also increases. So administration of planned teaching programme is sufficient to increase the knowledge of diabetic patients.

Conclusion

The conclusions drawn from the study are as follows: Majority of diabetic patients were willingly participated in the study. The diabetic patients had some knowledge about hypoglycaemia and its complication. Further, the conclusion drawn on the basis of the findings of

knowledge followed by 20% diabetic patients with average knowledge. No one have excellent, good and very poor knowledge regarding hypoglycaemia and its complication (Table -1).

It reveals that majority of the diabetic patients are poor in knowledge regarding hypoglycaemia and its complication. So they need an educational programme to update their knowledge regarding hypoglycaemia and its complication.

Section III

Assessment of the effectiveness of ptp on knowledge regarding hypoglycemia and its complication among diabetic patients

Test	Mean	Std. Error	Mean Diff.	SD Diff	Paired Table t-value
Pre-test (x ₁)	7.64	0.43	12.02	2.69	22.9
Post-test(x ₂)	19.64	2.02			

As the calculated t value (22.9) was much higher than table ‘t’ value (2.02) the hypothesis: H₁ - There is a significant difference between pretest and posttest scores of diabetic patients regarding hypoglycemia and its complication was accepted. Findings revealing the presence of significant difference between pre-test and post-test knowledge scores, hence the planned teaching programme is proved to be effective (Table -2).

Section IV

Association between post-test knowledge scores of diabetic patients regarding hypoglycemia and its complication with their selected socio demographic variables.

the study includes:

- 41% diabetic patients belong age group of 51 years and above, followed by 41% in the age group of 41-49 years
- 62.5% were males and 37.5% were females
- 65% diabetic patients were not having formal education, 22.5% diabetic patients degree.
- 80% diabetic patients were belongs to less than 3000 rupees. 10% diabetic patients were 3001 – 5000 Rupees
- Knowledge wise comparison of diabetic patients in pre-test and post-test reveals the following results. In pre-test, out of 60 diabetic patients 80% had poor knowledge followed by 20% subjects with average knowledge. No one had excellent, good and very poor knowledge regarding hypoglycaemia and its complication. However after PTP (Post-test) 52.5% diabetic patients had excellent knowledge followed by 47.5% diabetic patients with good knowledge and no one had average, poor and very poor knowledge regarding hypoglycaemia and its complication
- As the calculated t value (22.9) was much higher than table ‘t’ value (2.02) the hypothesis: H₁ - There is a significant difference between pretest and posttest scores of diabetic patients regarding hypoglycaemia and its complication was accepted. Findings revealing the presence of significant difference between pre-test and

post-test knowledge scores, hence the planned teaching programme is proved to be effective

- Chi square was calculated to find out association between post-test knowledge scores of diabetic patients with their selected sociodemographic variables by using 2×3 & 2×2 contingency table. There was no significant association was found between the post-test practice scores and their socio-demographic variables: age, gender, education, income and previous cases in family.

Conflict of Interest

Not available

Financial Support

Not available

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