



Effectiveness of video assisted teaching programme on knowledge regarding prevention, recognition and management of hypoglycemia among staff nurses

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Abstract

The study used a pre-experimental design (one group pretest post-test design). Non probability convenience sampling technique was used to obtain 60 staff nurses directly involved in patient care in critical care units and emergency department of a tertiary care hospital in Bangalore. An organized questionnaire developed by researcher was used to assess knowledge. After the implementation of Video Assisted Teaching Programme, highly significant improvement in knowledge was observed in staff nurses. The mean post test score (21.15) after VATP was higher than the mean pre-test score (14.48). The paired ‘t’ value is -21.726 giving ‘p’ value <0.0001 which is considered to be extremely significant improvement in knowledge of staff nurses regarding prevention, recognition and management of hypoglycemia. Based on the analysis of findings there was evident increase in the knowledge scores among staff nurses after administration of VATP

Key words: Hypoglycemia, Knowledge, Video assisted teaching programme, Staff nurse.

Introduction

Diabetes Mellitus is a chronic lifelong disease, marked by high levels of glucose in the blood. India had 69.2 million people living with diabetes as per the 2015 data. Of these, it remains undiagnosed in more than 36 million people. International Diabetic Federation (IDF) reports that prevalence of DM will be 72 million in India by year 2025 and WHO estimates 80 million cases of diabetes by year 2030 in India.¹ The National Urban Survey conducted across the metropolitan cities of India reported a prevalence of 12.4% in Bangalore.³ The WHO estimates that diabetes resulted in 1.5 million deaths in 2012, making it the 8th leading cause of death. However, another 2.2 million deaths worldwide due to hypoglycemia. ADA and Endocrine society define hypoglycemia in diabetes as “all episodes of an abnormally low plasma glucose concentration less than 70 mg/dl that expose the individual to potential harm⁵ .”

There is three-fold increase in hypoglycemic coma in intensively treated patients with type 1 Diabetes mellitus and they are experienced up to 2 episodes of symptomatic hypoglycemia per week and an episode of severe, at least temporarily disabling, hypoglycemia approximately once a year. An estimated 2-4% of deaths of people with type 1 Diabetes have been attributed to hypoglycemia. Hypoglycemia is one of the worrisome conditions especially for hospitalized patients. Hence nurses, physicians and other health care workers should be vigilant in detecting, treating and preventing hypoglycemia in patients⁶. Quality care has a direct effect on positive outcomes for diabetic patients like decreased length of hospital stay, decreased risk of chronic complications and improved quality of life⁷ Early detection and risk factor reduction of hypoglycemia increases life expectancy and lowers total health care costs. Educational interventions with current diabetic research, protocols and competency assessments helps to maintain the professional knowledge base of nurses and improve patient outcomes for diabetic populations. The present study assesses the effectiveness of VATP on knowledge regarding prevention, recognition and management of hypoglycemia among staff nurses.

Hypotheses:

Hypotheses was tested at $P < 0.05$ level of significance.

H1– There is a significant improvement in the level of knowledge among staff nurses after video assisted teaching programme on recognition, prevention and management of hypoglycemia than before the intervention.

H2– There is significant association between level of knowledge and selected socio demographic variables.

Materials & Methodology

Design and setting: The study used a PR experimental design (one group pretest post-test design). Population comprised of staff nurses directly involved in patient care in a tertiary care hospital, Bangalore. Sample size consists of 60 staff nurses working in critical care units and emergency department of a tertiary care hospital. Convenience sampling technique was used. The study was carried out at a tertiary care hospital in Bangalore.

Intervention

The intervention consisted of a Video Assisted Teaching Programme, which was prepared by researcher after an extensive review of literature and discussion with experts. The Video consisted of three sessions namely prevention, recognition and management of mild, moderate and severe hypoglycemia. Four students performed in the video as role of nurse and patient for a duration of 15 min. VATP was validated by nursing experts.

Instrument

Researcher developed a structured knowledge questionnaire comprising of 30 items to assess knowledge of staff nurses regarding prevention, recognition and management of hypoglycemia. The questionnaire included various items on common precipitating factors, classification, signs and symptoms, recognition and management of mild, moderate and severe hypoglycemia and its prevention. For right response a score of 1 was given and for wrong response score of 0 given. A total score of >75 interpreted as 'adequate knowledge', 50-75 as 'moderate knowledge' and <50 as 'inadequate knowledge'. The tool was tested for reliability using test-retest method ($r=0.734$).

Data collection procedure

Permission to conduct study was obtained from hospital authority. Ethical clearance was obtained from hospital ethics committee. Staff nurses who met inclusion criteria were selected for the study using convenience sampling technique. Informed consent was obtained from all the subjects. Pretest was conducted to assess the knowledge on recognition, prevention and management of hypoglycemia using structured knowledge questionnaire for duration of 20-30 minutes. On the same day video assisted teaching programme was played for a duration of 15 minutes. After 5 days, post test was conducted among the subjects using the same tool. The collected data were coded and entered in the master sheet.

Results:

The data analysis was done by using descriptive and inferential statistics. SPSS (version 20) was used to analyze the data. The collected data were analyzed

according to the objectives of study. The findings are presented below.

I: Socio demographic characteristics of the subjects.

Frequency and percentage distribution were computed for sociodemographic characteristics of the subjects. It is observed shows that majority of the subjects 66.7% were in age group of 21-30 whereas 6.7% were in age group 41-50 years. With regard to gender, majority of the subjects 85% were females and 15% were males. Majority of subjects 70% had done BSc nursing course, whereas 25% had done post BSc nursing and 5% GNM course. Most of subjects 33.3% were working in medical ICU and 11.7% were working in casualty. With regards to years of experience, most of the subjects 35% were having 4-6 years and 11.7% were having less than 1 year of experience. None of the subjects had attended training programme on management of hypoglycemia.

II. Frequency and percentage distribution of pre-test and post-test level of knowledge.

Sl.no	Knowledge variable	Pre test						Post test					
		Inadequate		Moderate		Adequate		Inadequate		Moderate		Adequate	
		f	%	f	%	f	%	f	%	f	%	f	%
1	General aspect	15	44.1	10	40	1	100	2	25	7	25	8	33.3
2	Prevention and recognition of hypoglycemia	8	23.52	10	40	0	0	2	25	8	28.5	6	25
3	Management of mild, moderate and severe hypoglycemia	11	32.35	5	20	0	0	4	50	13	46.4	10	4.6
	Overall knowledge	34		25		1		8		28		24	

III. Effectiveness of video assisted teaching programme on knowledge regarding recognition, prevention and management of hypoglycemia

The paired 't' test used to assess effectiveness of video assisted teaching programme found that 't' value -21.726 at p value 0.000, so the video assisted teaching programme was effective in improving knowledge of staff nurses.

IV. Association between pre-test level of knowledge and socio demographic variables

Chi square was used to find the association between sociodemographic characteristics and knowledge of the staff nurses. It was observed that there was no significant association between socio demographic characteristics and knowledge regarding prevention, recognition and management of hypoglycemia.

Discussion

Hypoglycemic episodes increase patients' morbidity, mortality, significant financial loss and increase length of hospital stay. Staff nurses need an utmost knowledge regarding recognition, prevention and management of hypoglycemia to avoid serious consequences. This study aims to assess effectiveness of video assisted teaching programme on knowledge regarding prevention, recognition and management of hypoglycemia. Based on the result of present study, 56.7% have inadequate level of knowledge 41.7% have moderate level of knowledge and only 1.7% have adequate level of knowledge regarding recognition, prevention and management of hypoglycemia before video assisted teaching programme. A similar study conducted in Kolkata 2015 showed that only 51% had formal training in hypoglycemia management and only 28% nurses know the common symptoms of hypoglycemia. The study concluded that there is a lack of knowledge among nurses regarding

hypoglycemia management and further training is necessary. The present study result showed that mean knowledge score of subjects was 14.48 with standard deviation of 4.538 in pre-test whereas in the post-test mean knowledge score was 21.15 with standard deviation of 4.524. The study finding supported by a PR experimental study conducted to assess the effectiveness of structured teaching programme on knowledge regarding complications of diabetes among staff nurses at Punjab. Pretest mean % on knowledge of hypoglycemia was 31.71% and posttest mean % was 53%. The study findings concluded that structured teaching programme was effective in improving knowledge among staff nurses regarding complications of diabetes.

The findings of the study showed that there was no statistical association between knowledge regarding recognition, prevention and management of hypoglycemia and socio demographic variables. Nurses being part of the health care realm need adequate knowledge to prevent, recognize and manage hypoglycemic episodes.

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