

Effectiveness of Education Program on Knowledge Regarding Gestational Diabetes among Nurses

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Abstract

Background: India has got highest number of the cases with gestational diabetes mellitus (GDM), In India, prevalence of GDM is about 16.55%, common among young girls.

Objectives: The main objective of this study was to assess the effect of education programme on gestational diabetes among nurses by assessing the nurse's knowledge before and after educational programme.

Methods and materials: One group pre and pre experimental one group pre and post-test research design was developed and implemented. Setting of the study was municipal corporate and private hospitals of Pune city was randomly selected. The total sample size was 160 nurses, they were selected by using simple random sampling technique. A self-administered structured on knowledge regarding gestational diabetes was developed and administered.

Results: Mean values of pre-test regarding GDM among nurses was 14 and the score was enhanced to 15.4 in post-test. In this study, t-value was 3.1 with 159 degrees of freedom. P-value matching to this evaluation was 0.00, it was less than 0.05. The awareness program on GDM was proved to be meaningfully effective in refining the awareness of nurses regarding gestational diabetes.

Key words: Education program, knowledge, gestational diabetes

Introduction

Diabetes mellitus is one of the important metabolic disorder, in this condition blood glucose levels are high from normal values, it happens due to the deficiency of insulin in blood. The complications of diabetes mellitus are enormous, which damage the vital organs such as hear, nerves, eyes, kidneys and blood vessels. ^{1,2}

During pregnancy, remarkable metabolic changes occur, especially in fat and carbohydrate metabolisms. Low fasting plasma levels and high postprandial levels

are noticed in glucose mentalism during antenatal period. ³

In India approximately 50.8 million people are living with DM, it is considered to be India is the capital for DM ⁴

Gestational diabetes mellitus (GDM) is the branch of Diabetes, cases with GDM consistently high in India. GDM is mainly diagnosed by glucose tolerance test (GTT) in antenatal period.⁵ GDM is associated with an increased risk of pre-eclampsia for mothers in the antepartum period. The conditions includes large for gestational age, jaundice, RDS, premature destruction of RBC are common in new-born of mother with GDM. ⁶

During post-delivery, the blood glucose levels may come to normal values, however some women might develop type 2 Diabetes Mellitus and the new-born baby of GDM mother is prone to develop metabolic

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syndrome.⁶

The complications related to GDM can retain under control with proper monitoring of blood glucose levels, dietary modifications, exercise, and good insulin regime.

Nursing officers are the front line workers, who regularly meet the antenatal women in antenatal OPDs, and even in community. They have huge opportunity to expand the knowledge on gestational diabetes.⁷

Awareness of gestational diabetes, or diabetes induced by pregnancy among nurses is less than what is necessary. Therefore researcher has taken special interest to impart the education to the staff nurses by conducting this research study.

Materials and Methods

The study was intended to evaluate the outcome of education programme on awareness regarding Gestational diabetes. In this study, researchers have used evaluative research method. Pre experimental research design was applied to for the conduct this study.

Educational programme was independent variable and knowledge of Nurses on Gestational diabetes was dependent variable. Setting of the Study was Municipal corporate hospitals and private hospitals of Pune, Maharashtra. Samples were Nurses of these hospitals. Sample size was 160. These samples were selected by applying sampling random sampling method. A self-administered planned knowledge questionnaire administered and it consisted of 2 divisions. Part I contains of personal characteristics of subjects and part II had knowledge on Gestational Diabetes Mellitus. This training programme conducted in the form of workshops covered the topics of meaning of diabetes and gestational diabetes, pathophysiology, impact of diabetes on pregnancy and fetus, care of pregnant women with GDM, complications of GDM and newborn care of mother with GDM. Pre test was administered after obtaining consent from the participants. Post test also was administered after 7 days of two hours of education on Gestational diabetes.

Results

Table I: Description of demographic variables in terms of frequency and percentage

n=160

Personal characteristics of subjects	Freq	%
Age		
20-25 years	28	17.5%
26-30 years	11	6.9%
31-35 years	16	10.0%
More than 35 years	105	65.6%
Gender		
Male	7	4.4%
Female	153	95.6%
Qualification		
GNM	137	85.6%
BSC/PBBN	21	13.1%

Cont... Table I: Description of demographic variables in terms of frequency and percentage

n=160

MSC	2	1.3%
Experience		
Less than 2 years	27	16.9%
2-5 years	19	11.9%
5-10 years	11	6.9%
More than 10 years	103	64.4%
Training attended		
Yes	24	15.0%
No	136	85.0%

Table 2: Pre-test and post-test knowledge scores of nursing officers regarding Gestational Diabetes

n=160

Knowledge	Pretest		Posttest	
	Freq	%	Freq	%
Poor knowledge (Score 0-8)	62	38.75	10	6.3%
Good knowledge(Score 9-17)	90	56.25	99	61.9%
Very good knowledge (Score 18-25)	8	5	51	31.9%

In pretest, 30.75 % of the nursing officers had poor knowledge, with the scores of 0-8, only 5 % of nursing officers had good knowledge with the scores of 18-25. In post-test 31.9% of the nursing officers had acquired the very good knowledge with the score of 18-25.

Table 3: pre-test and post-test Mean knowledge scores of nursing officers regarding gestational diabetes

n=160

	Mean	SD	T	df	p-value
Pretest	12.0	5.2	3.1	159	0.001
Posttest	15.4	4.3			

Researcher has administered paired t-test to check the association between pre-test and post-test knowledge values of nursing officers. In pre-test, mean score was 12.0, it was increased to 15.4 in post-test. t value was 3.1 at 159 degrees of freedom. Matching P value was 0.001, which is smaller than 0.05 that means hypothesis is rejected. It is said to be the awareness programme has a greater impact in refining the knowledge of nurses regarding gestational diabetes.

Table 4: Association between knowledge scores and personal characteristics of nursing officers

n=160

Personal characteristics of subjects		Knowledge			p-value
		Poor	Good	Very good	
Age	20-25 years	10	1	17	0.011
	26-30 years	0	4	7	
	31-35 years	4	2	10	
	More than 35 years	29	14	62	
Gender	Female	40	20	93	0.013
	Male	3	1	3	
Qualification	GNM	36	20	81	0.043
	BSC/PBBN	7	1	13	
	MSC	0	0	2	
Experience	Less than 2 years	6	2	19	0.165
	2-5 years	7	2	10	
	5-10 years	2	2	7	
	More than 10 years	28	15	60	
Training attended	No	34	19	84	0.013
	Yes	9	2	12	

Subsequently p-values matching to personal characteristics includes age, gender, qualification and training attended were showed less than 0.05 that means null hypothesis is rejected. Above mentioned characteristics were found to be significant association between knowledge of nursing officers about gestational diabetes.

Discussion

In current research , the mean knowledge values of pretest and post-test was 12 and 15. The teaching package on gestational diabetes was showed to be meaningfully had impact in enhancing the knowledge of nursing officers regarding gestational diabetes.

A comparable results are identified in study of Upendra Sheela, ⁸ in which mean knowledge scores of nursing students in pretest test poor (15.5)and it has increased good knowledge (34.3) in post test results.

Matching p - value was 0.000 which is lesser < 0.05 . The workshop has upgraded the awareness on diabetes care among the nursing students.

Training module on diabetes care for nurses was showed to be suggestively effective in refining the knowledge of nurses concerning to diabetes care⁹

Similar findings were seen in Kaur Sukhpals ¹⁰ study where the mean knowledge score of the nurses before starting the workshop was 21.9 ± 3.37 and it improved to 35.5 ± 3.78 at the end of the workshop

The other similar study in Mandelson, ¹¹ in this study researchers have checked the maternal health, control of blood glucose levels, and neonatal outcome after administering educational interventions. In the post test results showed that the educational programme was significantly effective in controlling the blood glues levels.

Conclusion

The educational intervention has showed that the present awareness programme helped in refining the knowledge of staff nurses regarding gestational diabetes. This study also suggests that periodical educational interventions need to be conducted for staff nurses to strengthen their knowledge and skills in taking care of the patients with GDM.

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Conflict of Interest: None

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