

Effect of Structured Teaching Programme on Knowledge Regarding Gestational Diabetes Mellitus among Antenatal Mothers Admitted in Selected Hospitals of Jalandhar (Punjab)

Pawanpreet Josan¹, Harbans Kaur²

Abstract

In this pre-experimental design study a sample consisting of 60 antenatal mothers was selected by non-probability purposive sampling techniques. Self-structured questionnaire tool was used for assessing the knowledge of antenatal mothers. On day 3, post-test was conducted using the same structured questionnaire for assessing the effectiveness of structured teaching programme. Mean percentage of the knowledge score of post-test (16.83) was higher than pre-test (9). The 't' value for total pre-test and post-test was 14.2193. The data was analysed in terms of descriptive and inferential statistics.

Pregnancy is indisputably the most exciting time in a woman's life. And just as with any exciting event, there's also the thrill of uncertainty. Pregnancy and childbirth are special events in women's lives and indeed in the lives of their families. According to WHO the Gestational Diabetes is defined as carbohydrate intolerance resulting in hyperglycaemia of variable severity with its onset of first recognition during pregnancy. The WHO estimates the prevalence of diabetes mellitus which include gestational diabetes mellitus (GDM) in India to be around 40.9 million in 2006 which is expected to rise to 69.9 million by 2025. Under World Diabetes Foundation Project, prevalence of GDM was 17.8 percent in urban, 13.8 percent in semi-urban and 9.9 percent in rural areas while it was 10 percent in Punjab (Saunders, 2008).

Objectives

The aim of the study was:

1. To assess the pre-test knowledge regarding GDM among antenatal mothers.
2. To develop and administer the structured teaching programme regarding GDM among antenatal mothers.
3. To assess the post-test knowledge regarding gestational diabetes mellitus among antenatal mothers.
4. To compare the pre-test and post-test knowl-

edge regarding GDM among antenatal mothers.

5. To determine the association between post-test knowledge regarding GDM with selected socio demographic variables of antenatal mothers.

Review of literature

Literature related to incidence and prevalence of gestational diabetes mellitus

In a cohort study on increasing prevalence of GDM, Dana Dabelea (2005) examined trends in GDM prevalence among women with diverse ethnic backgrounds. The study showed that the prevalence of GDM was increasing in a universally screened multiethnic population which suggested the vicious cycle of diabetes in pregnancy. Though initially described among Pima Indians, this trend may also be occurring among other US ethnic groups.

Literature related to knowledge regarding gestational diabetes mellitus

Rolim de Holanda, et al (2012) revealed that pregnant women had superficial knowledge about the gestational diabetes and reported difficulties in the diet therapy, follow-up and practice of physical activity, which would influence the promotion of self-care, treatment and control of the disease.

Methodology

An Experimental research approach was used to assess the knowledge regarding GDM. A pre-experimental research design was considered appropriate for the study to assess the effectiveness of structured teaching programme (STP) regarding GDM. One group pre-test post-test design was used. The

The authors are: 1. MSc Nursing student, 2. Professor-cum-Vice Principal, Dept of Obstetrics & Gynaecological Nursing, MHR, DAV Institute of Nursing, Jalandhar (Punjab).

Table 1: Frequency and percentage distribution of Pre- test knowledge regarding gestational diabetes mellitus among antenatal mothers (n=60)

Level of knowledge	Score	Level of percentage	Frequency (n)	Percentage
Below average	0-10	34%	42	70
Average	11-20	35-66%	17	28.33
Above average	21-30	67-100%	1	1.67

Maximum score – 30, minimum score – 0

Table 2: Frequency and percentage distribution of post-test knowledge regarding gestational diabetes mellitus among antenatal mothers (n=60)

Level of knowledge	Score	Level of percentage	Frequency (n)	Percentage
Below average	0-10	34%	1	1.66
Average	11-20	35-66%	52	86.67
Above average	21-30	67-100%	7	11.67

Maximum score – 30, minimum score – 0

sample consisted of 60 antenatal mothers who fulfilled the criteria for sample selection and who were available at the selected hospitals of Jalandhar at the time of data collection.

Inclusive and exclusive criteria: Inclusion criteria was antenatal mothers who were willing to participate in the study and who were able to read and write Punjabi or English. Antenatal mothers attending OPDs were excluded.

Tool & data collection: Data on socio-demographic variables like age, gravida, education, occupation, religion, type of family, parity, residence, length of stay in the hospital etc. were collected. The self-structured questionnaire related to GDM consisted of 30 questions including definition, risk factors, effects of diabetes on mother, diagnosis, management, diet chart and complication of GDM.

Validity of tool: In order to measure the content validity of the tool, the questionnaire schedule was given to the 10 experts from the field of Obstetrics & Gynaecological nursing. The experts were chosen on the basis of their clinical expertise, experience, qualification and interest in the problem area. The validity of tool was confirmed by experts' opinion regarding the relevance of items. Modification was done on the basis of experts' opinion.

Reliability: Reliability of the tool was estimated by split half method which included computing the

Table 3: Comparison of pre-test & post- test knowledge regarding GDM among antenatal mothers (n=60)

	n	Mean score	SD	df	t value
Pre-test	60	9.0	3.31	118	14.2193*
Post-test	60	16.83	2.69		

* Significant at (p<0.05) level;

Maximum score – 30, minimum score - 0

Pearson's coefficient of correlation and thereafter by applying Spearman Brown prophecy formula, which was found to be 0.78.

Data analysis

Data was entered in master sheet for tabulation and statistical processing, tabulated, analysed and interpreted by using descriptive and inferential statistics. The data is being represented under following headings:

Section I: Socio-Demographic variables were analysed by using frequency and percentage.

Section II: Assessment of pre-test and post-test knowledge of antenatal mothers by using frequency, mean, and standard deviation.

Section III: Comparison of pre-test and post- test knowledge score by using paired 't' test.

Section IV: Association between socio-demographic variables of post-test knowledge by using paired 't' test and ANOVA test.

Results & Discussion

The analysis depicted that majority of antenatal mothers i.e. 34 (56.67%) belonged to age group of 21-25 years followed by 18 (30%) to 26-30 years and least number of antenatal mothers 4 (6.66%) to below 20 years of age. Most of antenatal mothers (n=56, 93.33%) had less than 1 week stay in the hospital and only 4 (6.67%) antenatal mothers had more than 1 week stay in the hospital. The mean knowledge score in pre-test was 9 and had increased to 16.83 in post-test after structured teaching programme.

Table 1 reveals that majority of antenatal mothers 42 (70%) had below average knowledge of GDM, followed by 17 (28.33%) had average and only 1 (1.67%) had above average knowledge before the test. Table 2 shows that majority of antenatal mothers i.e. 52 (86.67%) had average knowledge, followed by 7 (11.67%) had above average and least 1 (1.66%) in below average knowledge after the test. Table 3 shows that the mean knowledge of post-test (16.83) was higher than pre-test (9). The 't' value of both pre-test and post-test was 14.2193. There was difference between Pre-test knowledge and Post-test knowledge. Thereafter structured teaching programme was effective.

Hence H_0 is rejected as $t_{cal}=14.2193$ at 0.05 level of significance. This indicates that difference be-

tween the pre-test and post-test mean was true difference and not occurred by chance. Hence H_1 accepted and it was inferred that structured teaching programme is effective.

Implications for Nursing

Nursing Education: Nursing curriculum should focus on imparting knowledge on GDM to antenatal mothers and emphasise its importance to nursing students in maternity units. Learning opportunities should be given to them to enable assessment of knowledge regarding GDM. The study findings reveal that structured teaching programme was beneficial in improving knowledge.

Nursing Service: Nursing personnel should be capable to provide health education related to GDM and encourage the women to take help of genetic counsellor in case women suffer from any genetic illness.

Nursing Administration: In the context of technological changes and knowledge explosion, nurse administrator should anticipate the need and to take responsibility to motivate the patients to learn and provide health education screening of high risk and appropriate information to antenatal mothers regarding gestational diabetes mellitus. Nurse administrator support should be provided for the development of programme for Information Education and Communication activities related to gestational diabetes mellitus.

Nursing research: The nurse researcher should conduct research on the different aspects of the better quality of nursing care for the patient satisfaction.

Recommendations

A similar study (a) can be replicated on large sample and thereby can be generalised by a large popula-

tion; (b) may be conducted at the community area; (c) can be conducted to assess the staff nurses knowledge regarding GDM.

A comparative study can be conducted to assess knowledge of gestational diabetes mellitus among primigravida and multigravida mothers.

Conclusion

The basis of pre-test level of knowledge score in the study revealed that majority of antenatal women had below average knowledge regarding gestational diabetes mellitus., while after administering the test, majority of women had average knowledge regarding gestational diabetes mellitus.

Comparison between pre-test (9) and post-test (16.83) knowledge showed increase in pointing out significant of improvement after structured teaching programme. There was also significant association between antenatal mothers regarding gestational diabetes mellitus and with the demographic variables i.e. stay in hospital.

References

1. Helen V Warney. Text book of Midwifery. 4th edn 2005, New Delhi: All India Publishers and Distributors
2. Holand VR, DeSouza MA. Knowledge of pregnant women about gestational diabetes mellitus. *Journal of Nursing* 2012; 24(1): 17-27 (www.rguhs.ac.in/cdc/onlinecdc)
3. Dutta DC. Text Book of Obstetrics. 6th edn, New Central Book Agency, 1994
4. Women in India with GDM Strategy (WINGS), 2013, Women and Diabetes (www.idf.org)
5. JN Oats, Eischar NAB. Gestational Diabetes, John Studd (Ed): Progress in Obstetrics and Gynecology 1987; 6: 101-07
6. Saunders LD. Evaluate prevalence, risk factors, and maternal and infant outcomes of women with gestational diabetes mellitus. *International Journal of Gynaecology & Obstetrics* 2008; 75: 221-28

Call for News from Nursing Institutions

Schools and Colleges of Nursing are welcome to submit for publication in monthly *TNAI Bulletin*, the news items and write ups about observances of Graduation Ceremony, Annual Day, Seminars, Conferences, important workshops, etc. The charges are Rs 1000 per item including one photograph. The Demand Draft should be in favour of **The Trained Nurses' Association of India (TNAI)**, New Delhi. Neatly spaced out hand-written matter, preferably typed in double space on one side of paper with photographs may be sent, along with requisite charges, to the Editor, TNAI Bulletin.

Attention Advertisers !

Advertisers of the Admission Notices in The *Nursing Journal of India* (NJI) for the academic year 2015-2016 for Schools/ Colleges of Nursing are required to submit the copy of Indian Nursing Council (INC) recognition certificate along with the advertisement matter and payment, otherwise the advertisement shall be summarily rejected.

- Chief Editor