

National Consortium for Ph.D in Nursing

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Title:

Effectiveness of a comprehensive nursing intervention package on perinatal outcome of women with gestational diabetes mellitus

Introduction:

Gestational diabetes mellitus (GDM) is the glucose intolerance of varying severity with onset or first recognition during pregnancy associated with many maternal and foetal complications.

Objectives:

The purpose of the study is to develop and evaluate the effectiveness of a comprehensive nursing intervention package on the perinatal outcome of women with GDM. Ability of the women for self-care, measured in terms of self-care agency (SCA) and self-care practice (SCP), and glycemic control were the primary outcome. Selected maternal and neonatal variables were the secondary outcome.

Methods:

The study used a pretest-posttest control group design. Eighty women with GDM, at 24-32 weeks of gestation, attending the OPD of a tertiary hospital in Kochi were randomized to experimental and control group (40 each). After obtaining informed consent, background informations of both groups and SCA of the experimental group were assessed. Experimental group received care as per package along with routine care and control group received routine care only.

SCA of both groups are assessed after 36 weeks of gestation. SCP was assessed following delivery. Data on perinatal outcome was collected using a structured proforma.

Results:

The post-test self-care agency score of the experimental group was significantly higher than their pre-test score (107.88+/-6.3 vs. 79.05+/- 9.8, $t(39) = 19.36$; $p < 0.001$) and the self-care agency score of the control group (107.88+/-6.3 vs. 90.4+/-12.2, $t(78) = 8.05$; $p < 0.001$). The mean self-care practice score of the experimental group was significantly higher than the control group (85.33+/-5.2 vs. 70.47+/-7.1, $t(78) = 10.67$; $p < 0.001$). The PPBS level and insulin dose of the experimental group were significantly lower than the control group ($p < 0.001$) in the week prior to delivery. The mean gain in insulin dose from pretest to posttest 2 was significantly lower in the experimental group than the control group (4.25+/-5.3 vs. 13.6+/-7, $t(78) = 6.7$; $p < 0.001$). The frequency of hypoglycemia during pregnancy [2 (5%) vs. 9 (22.5%); $p < 0.05$] and lactation problems [6 (15%) vs. 16 (40%); $p < 0.05$] were significantly lower in the experimental group than the control group. The differences in other perinatal outcomes were not different significantly. A positive correlation was observed between self-care agency and self-care practice ($r = 0.596$; $p < 0.001$). Gain in insulin dose was found to have a negative correlation with self-care agency ($r = -0.504$; $p < 0.001$) and self-care practice ($r = -0.619$; $p < 0.001$).

Conclusion:

The findings of the study are suggestive of the effectiveness of CNIP in improving the self-care agency, self-care practice and glycemic control of women with GDM. Reducing the need for insulin CNIP provides a cost effective option for the management of the women with GDM. The inverse

relation between self-care and gain in insulin dose indicate that the intervention could bring change in the glycemic control by improving the self-care ability. The results of the study strongly suggest that nursing interventions focusing on enhancing self-care abilities related diet and exercise are beneficial in GDM.