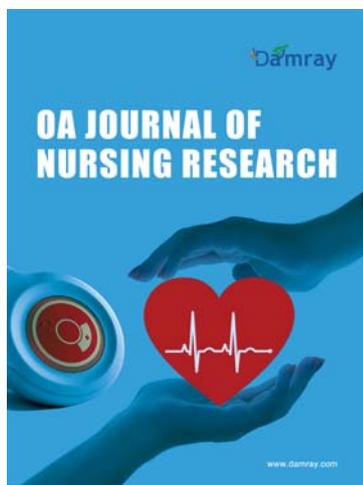# Effect of Nursing Intervention on Maternal and Infant Outcomes in Patients with Gestational Diabetes Mellitus

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Abstract

Objective: to analyze the effect of nursing intervention on maternal and infant outcomes in gestational diabetes mellitus. **Methods:** 108 cases of gestational diabetes mellitus in our hospital from January 2020 to December in -2021 were randomly divided into two groups. The experimental group and the control group had 54 cases. The control group received routine nursing intervention, while the experimental group adopted comprehensive nursing intervention to analyze the application effect. **Results:** the natural delivery rate of the experimental group was higher than that of the control group, and the improvement of blood glucose level and psychological state were better than those of the control group (P < 0.05). **Conclusion:** comprehensive nursing can maintain good blood glucose level in patients with gestational diabetes mellitus. Comprehensive and systematic nursing intervention can relieve the unhealthy mentality of patients and improve their compliance, thereby improving their health and reducing the incidence of adverse events.

Keywords

1. Introduction

Gestational diabetes mellitus is one of the more common complications of pregnancy in women. After pregnancy, the glucose metabolism of the patient's body becomes abnormal, resulting in a continuous increase in blood glucose, in which case the pregnant woman is very prone to miscarriage, preterm delivery, and other adverse phenomena [1-2]. It is important for patients with gestational diabetes to have regular maternal checkups during pregnancy to understand the development of their disease. At the same time, more comprehensive and systematic integrated nursing interventions can effectively help patients to alleviate their blood glucose levels and reduce the occurrence of risk events in order to ensure the life safety of mother and child [3]. The comprehensive nursing interventions were applied to patients with gestational diabetes admitted to our hospital, and the application effects were analyzed and reported as follows.

2. General information and methods

2.1. General data

The random number method was used to group 108 patients with gestational diabetes admitted to our hospital during January 2020 to December 2021, 54 cases each in the experimental group and control group, and the average age of the experimental group was (28.18±4.39) years; the average age of the experimental group was (28.26±4.53) years, and there was no significant difference in the comparison of general data, $P>0.05$.

2.2. Methods

2.2.1. Control group

Patients in the control group received conventional nursing interventions, gave patients routine verbal health guidance, understood the changes of patients' blood glucose levels, informed patients of the correct diet and exercise methods, and reminded patients to conduct regular maternity checkups.

2.2.2. Experimental group

The experimental group received comprehensive nursing interventions as follows: (1) To conduct a detailed nursing assessment of the patients according to the diagnosis results of the doctors, and to formulate a targeted comprehensive nursing intervention model for the patients according to the nursing assessment results, combining psychological care, health education, diet and exercise and maternity checkups. (2) To provide efficient psychological counseling for patients' adverse emotions, help them reduce their fear and anxiety, inform them that an adverse state of mind has a relatively obvious impact on the growth and development of the fetus, and instruct them to face their disease positively and correctly. Inform patients of the correct way to vent their bad emotions, obtain the cooperation of their families, provide efficient psychological guidance for them, instruct their families how to properly communicate with them, give them more care and attention, and make them feel the warmth of family. Understand the patient's daily preferences and try to use some activities that the patient likes more to help distract him/her and, at the same time, to relieve his/her psychological pressure. (3) Understand the patient's weight, body mass, gestational week, as well as comprehensive information on daily diet preferences and tastes, designate a targeted diet plan for the patient, ensure the variety and effectiveness of the diet plan, and instruct the patient and family members on how to correctly replace the relevant foods in the diet plan. Provide patients with a targeted exercise plan, and at the same time, instruct patients on the correct choice of exercise during pregnancy. Organize gestational diabetes patients to learn pregnancy yoga, and require nursing staff or family members to accompany patients throughout the learning and exercise process to protect the safety of pregnant women. During the exercise period, pay attention to observe the changes of the patients to ensure that the intensity of the exercise is appropriate and the patients should stop in time when abnormalities occur. (4) Instruct patients and their family members to properly perform self-monitoring of blood glucose and inform them to properly record the changes in blood glucose, to go to the hospital for examination in time if abnormalities occur, to follow up patients regularly, and to remind them to perform maternity checkups on time.

2.3. Observation indicators

(1) Comparison of pregnancy outcomes between the two groups. (2) Comparison of blood glucose levels. (3) Comparison of psychological status.

2.4. Statistical analysis

SPSS24.0 software was used for the statistics and collation of data, and the measurement data were expressed by (x±s), and the count data were tested by chi-square. $p<0.05$, the difference was statistically significant.

3. Results

3.1. Comparison of pregnancy outcomes between the two groups

In this study, there were 54 patients in the experimental group and 54 patients in the control group, and the pregnancy outcome data of the two groups were statistically analyzed as follows.

47/54 (87.04%) spontaneous deliveries, 2/54 (3.70%) preterm deliveries and 5/54 (9.26%) cesarean deliveries in the experimental group.

In the control group, there were 38/54 (70.37%) spontaneous deliveries, 5/54 (9.26%) preterm deliveries, and 11/54 (20.37%) cesarean deliveries.

The incidence of spontaneous delivery in the two groups was as follows: X2=4.4747, P=0.0344, the experimental group was higher than the control group, P<0.05.

3.2. Comparison of blood glucose level

In this study, there were 54 patients in the experimental group and 54 patients in the control group, and the maternal blood glucose levels of the two groups were statistically analyzed as follows.

Fasting glucose (7.12±0.85) mmol/L, 2h postprandial glucose (8.04±0.58) mmol/L, glycosylated hemoglobin (8.47±1.03) % in the experimental group before care; fasting glucose (7.00±0.74) mmol/L, 2h postprandial glucose (8.13±0.64) mmol/L, glycosylated hemoglobin (8.30±1.11)%, there was no significant difference in the comparison results between groups, fasting blood glucose (t=0.7825, p=0.4357), 2h postprandial blood glucose (t=0.7657, p=0.4455), glycosylated hemoglobin (t=0.8250, p=0.4112), p>0.05.

After care, fasting blood glucose (5.04±0.47) mmol/L, 2h postprandial blood glucose (6.74±0.52) mmol/L, glycated hemoglobin (6.40±0.87) % in the experimental group; fasting blood glucose (5.96±0.39) mmol/L, 2h postprandial blood glucose (7.28±0.45) mmol/L, glycated hemoglobin ((7.37±0.80)%, the patients in the experimental group improved their blood glucose better than the control group, fasting blood glucose (t=11.0696, p=0.0000), 2h postprandial blood glucose (t=5.7704, p=0.0000), glycosylated hemoglobin (t=6.0310, p=0.0000), p<0.05.

3.3. Comparison of mental status

There were 54 patients in the experimental group and 54 patients in the control group in this study, and the maternal psychological states of the two groups were statistically analyzed as follows.

SAS (54.86±4.07) and SDS (56.79±4.87) scores in the experimental group before care; SAS (54.43±4.28) and SDS (57.00±4.62) scores in the control group.

The results of the comparison between groups of pre-care psychological status were SAS (t=0.5350, p=0.5938) and SDS (t=0.2299, p=0.8186), which were not significant, p>0.05.

The experimental group had SAS (42.03±3.86) and SDS (43.17±4.05) scores after care; the control group had SAS (45.39±3.82) and SDS (46.08±4.19) scores.

The results of the comparison between groups of nursing thick mental state were SAS (t=4.5466, p=0.0000) and SDS (t=3.6696, p=0.0004), and the experimental group was better than the control group, p<0.05.

4. Discussion

Gestational diabetes mellitus has a high incidence among pregnant women at this stage, and the appearance of this disease brings many adverse effects on the health status of pregnant women themselves as well as the fetus, therefore, efficient regulation and treatment during pregnancy is needed to ensure the safety of mother and child. Comprehensive nursing interventions for pregnant women during pregnancy can more comprehensively and systematically help them to recognize the importance of the disease, as well as to give themselves adequate attention, so that the compliance of the pregnant women increases, which in turn serves to maintain good blood glucose levels [4]. Pay attention to the changes in the psychological state of pregnant women, who are affected by the disease will have certain worries about themselves and the condition of the fetus, which will lead to tension, anxiety and even depression, and the nursing staff will provide efficient psychological guidance for the poor state of mind of pregnant women and help them relieve their psychological pressure by combining more comprehensive information analysis of pregnant women. Obtaining the support of family members makes patients feel the care and concern of their families and helps pregnant women to establish confidence in treatment [5]. Targeted diet and health guidance according to the different conditions of pregnant women can appropriately regulate their dietary status and blood glucose levels, and a diversified diet plan can avoid the irritable resistance of pregnant women who are affected by a single diet during the regulation of blood glucose. Combined with the correct pregnancy exercise can effectively reduce the patient's blood glucose level and maintain a stable state, which also has a very important role in promoting natural delivery [6-7]. Good exercise protection for pregnant women can prevent their injuries and maintain proper exercise regularly every day to improve their health status. Learning the correct method of self-monitoring of blood glucose can detect abnormal changes in blood glucose in a more timely manner and make adjustments, record the changes in blood glucose, conduct regular maternity examinations, and nursing staff help patients adjust their diet and exercise plans according to their blood glucose changes [8]. The natural delivery rate of the experimental group was higher than that of the control group, and the improvement of blood glucose level as well as psychological state was better than that of the control group, P < 0.05.

In conclusion, psychological care can help patients maintain a good state of mind, reduce the probability of negative emotions, relieve patients' anxiety, cooperate with treatment in a good state of mind, improve compliance, and accelerate the relief of patients' symptoms and disease recovery.

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