

## The Application of Prenatal Education Optimization Model in Improving the Efficiency of Childbirth and the Outcome of Delivery

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**Abstract.** Objective, to optimize the prenatal education for the first-time mothers and discuss the effects of delivery performance and delivery outcomes. Methods 92 cases of expectant mothers in our hospital were selected as the subject of this study. Randomly assigned to 2 groups, 46 cases in each group were control group and treatment group. The treatment group implemented prenatal education optimization methods before delivery and after treatment. The outcomes of childbirth outcomes and delivery outcomes were compared between the two groups of women. Results, compared with the control group, the maternal knowledge of the delivery group, delivery attitude, childbirth control sensation, and coping strategies were better than those in the control group. There was a significant difference between the two groups ( $P < 0.05$ ); The incidence of birth was significantly lower than that of the control group, with statistical significance between the groups ( $P < 0.05$ ). Conclusion, the delivery of the maternity woman to the prenatal education optimization model can significantly improve the maternal birth process progress, and the outcome of childbirth is effectively improved.

Maternal delivery methods currently include cesarean section and natural delivery. At present, the delivery rate of cesarean section for first-time mothers is increasing substantially. During the cesarean section, the body itself can increase the basal metabolic rate, aggravate maternal heart burden, and the patient's nervousness is aggravated, causing the patient's psychological reaction to be fearful. Due to the severe hypoxemia, fetal distress in the fetus can be caused, and the body temperature of the neonate drops, which makes the patient feel obvious discomfort and poses a serious threat to maternal and child safety. After cesarean section, there is a risk of complications for both mother and child, so the gradual increase in cesarean section rate has become the focus of attention<sup>[1-2]</sup>. Although pregnancy delivery is a normal and natural physiological event for women of childbearing age, it still causes a series of complex physical and mental health problems for the first-time mothers. The childbirth is less effective, such as lack of childbirth knowledge, unproductive attitudes, lack of childbirth experience, etc. The existence of emotions such as psychology, nervousness, and anxiety has forced some mothers to give up their natural births, resulting in non-medical indications of increased cesarean section rates. Because cesarean section may cause a variety of maternal and child harm problems, active exploration of an effective prenatal education model will help increase maternal natural childbirth intentions, improve childbearing efficacy indicators, effectively reduce the incidence of non-medical indications of cesarean section, and successfully Maternal delivery<sup>[3]</sup>. Health education has become an important part of the nursing process. It runs through the entire nursing process. It is an intervention method for nursing, effectively improving maternal knowledge of health care, strengthening health concepts, adopting behaviors and lifestyles that are conducive to health, and improving maternal and child health. Therefore, this article studies the effects of maternal delivery outcomes and delivery efficacy on the use of prenatal education optimization models for the first-time mothers.

### Reference Materials and Methods

#### General information

According to clinical data identified as the first pregnant women, 92 cases were included in the screening, were randomly assigned to the control group and treatment group, 46 cases in each group,

the control group aged 22-37 years old, average (29.5 ± 3.2) Years of age; treatment group maternal age 24-36 years old, average (27.8 ± 2.9) years of age; all of the maternity women are in line with the diagnostic criteria of the disease and approved by the hospital ethics committee. Between the two groups through comparison in age, gestational age and other aspects, without statistical significance, the P value is greater than 0.05, so it is comparable.

### **Prenatal education methods**

Being nervous and excited and having no experience in gestation become helpless. Pregnancy health education guides mothers and mothers to carry out proper health care measures to help the healthy growth of the fetus. It is necessary to teach mothers and pregnant women about health education through maternity classes, pre-operative education, health education prescription distribution, etc., and promote the patient's gradual muscle relaxation by publicizing relevant knowledge, explaining pregnancy health knowledge and special changes and health guidance consultation. Exercise, regular practice, so that pregnant women have a preliminary grasp of the entire physiological changes during pregnancy, psychological changes, is conducive to the successful completion of childbirth; usually every day regularly play beautiful music to music prenatal education<sup>[4-5]</sup>. Early education of the fetus can also be conducted through dialogue, strokes, and appropriate exercise methods. In addition, the thinking activities of pregnant women and the neurotransmitters produced by associations can also be transmitted into the brain of the fetus. Create a comfortable, relaxed environment and atmosphere. Therefore, it is important to pay attention to guiding pregnant women to maintain their good mood, and to face the things around them with a stable and calm attitude; before giving birth, they should have multiple kind and kind health instructions with the maternal to ensure smooth communication and increase the patient's trust in the medical staff. Build their own confidence<sup>[6]</sup>. When communicating, mothers should also have a comprehensive understanding of the situation so that they can actively cooperate with the treatment and nursing work to promote recovery. Caregivers use the gentle language to encourage, trust, comfort and considerate the mothers with a correct and friendly attitude and point of view. This gives them a sense of trust and security. Detailed and patiently express the safety of the delivery process. When maternity women and relatives ask relevant questions, patiently explain the answers, and explain in detail the emergent phenomena that may be encountered and their correct coping styles and practices, which can enhance the mother's confidence and reduce Anxiety, reducing maternal psychological burden<sup>[7]</sup>. Introduce the operation of doctors on the day of childbirth, establish doctor's prestige, and increase the safety factor. According to the specific conditions of the mothers, various positions such as lying, walking, standing, sitting, and squatting can be used during childbirth. In order to avoid the occurrence of complications such as insufficient blood oxygen supply in the uterus, free and comfortable postures to be created can create a good atmosphere, relieve maternal anxiety, fear and other discomfort mental states, and play a positive role in maternal mood stability and improve Its compliance reduces the phenomenon of secondary uterine contractions, affective dystocia, and reduces uterine contractions and discomforts. It not only reduces maternal stress, but also reduces neonatal birth rate<sup>[8-9]</sup>; increases breastfeeding scientific knowledge. And operating skills patiently guide feeding skills and nursing breast knowledge, nurture interest in nursing and assist nursing newborns, timely praise and encourage positive behaviors for mothers, increase their self-confidence, increase pain threshold, and minimize or avoid the series of pain caused by a series of Mental discomfort symptoms; dietary and parenting guidance, avoiding all negative mental stimulation, creating safety for mothers A warm, harmonious and comfortable family environment promotes maternal adaptation to the role of mothers and helps enhance maternal and child emotions.

### **Evaluation methods**

Evaluation of the efficacy of labor before and after the intervention of the two groups of maternity women was performed. The evaluation indexes of labor performance included four aspects: the knowledge of childbirth, the attitude of childbirth, the control of childbirth, and the response to the time of birth. The scores of evaluation scores were positively correlated with the degree of mastery of childbirth knowledge, positivity of spontaneous childbirth, degree of childbirth

control, and effectiveness of coping behavior at birth. The outcomes of childbirth and nursing satisfaction were compared between the two groups of patients. According to the "care service quality standards for the satisfaction of the nursing model is divided into three levels, respectively, satisfaction, care, and not satisfied with the three levels. Satisfaction (%) is the sum of satisfaction rate and general satisfaction rate.

**Statistical analysis**

The statistical data obtained after different sets of measurements were compared using SPSS 14.0 statistical analysis software. When the t-test is used, the measurement data is expressed as ( $\bar{x}\pm s$ ); the count data is expressed as a rate (%), and the  $\chi^2$  test is used.  $P<0.05$  showed significant difference between the groups.

**Results**

**Two groups childbirth performance**

From the results, compared with the control group, the delivery group had better knowledge of childbirth, childbirth attitude, control of childbirth, and control of delivery at the time of birth. There was a significant difference between the groups ( $P<0.05$ ), indicating prenatal education optimization model can significantly improve the delivery process.

Table 1. The survey of labor efficiency in two groups

Group	Cases	Delivery knowledge	Delivery attitude	Delivery control	Intrapartum response
Treatment group	46	18.88±2.14	47.55±3.83	176.44±12.73	32.40±3.10
Control group	46	12.45±1.75	31.50±3.50	125.62±14.10	27.60±2.99

**Delivery outcomes of two groups of maternal women**

Maternal uterine yields and non-medical cesarean section rates in the control group were higher than those in the treatment group and non-medical cesarean section rates, and the difference in cesarean section rate and cesarean section rate between the two groups was different. Statistically significant ( $P<0.05$ ). According to the data, it can be seen that the rate of cesarean section in the treatment group and the rate of non-medical cesarean section decrease significantly, as shown in Table 2.

Table 2. Maternal birth outcomes in two groups

Group	n	The medical evidence cesarean delivery rate (%)	Cesarean delivery rate (%)
Treatment group	46	2 (4.35)	10 (21.74)
Control group	46	11 (23.91)	18 (39.13)

**Asphyxia in two groups**

After giving birth to the two groups of mothers, the results showed that neonatal asphyxia occurred in both groups. The neonatal asphyxia rate in the control group reached 28.26%, and the neonatal asphyxia rate in the treatment group was 8.70%, which was 19.6 percent lower than that in the control group. There was a significant difference between groups ( $P<0.05$ ). However, neonatal deaths did not occur in either group. See Table 3.

Table 3 Asphyxia in two groups

Group	Scores			Neonatal asphyxia rate (%)
	0-3marks (n)	4-7marks (n)	8-10marks (n)	
Control group	5	8	33	28.26
Treatment group	1	3	44	8.70

## Discussions

Mothers before the cesarean section are prone to fear and resistance, leading to autonomic dysfunction, loss of appetite, insomnia, etc., maternal fatigue, affecting the quality of surgery. During the operation, maternal tension and anxiety can promote the secretion of catechol in the body and make the contractions incoherent, which poses a serious threat to maternal and child safety. If the prognosis is poor, multiple complications may also occur, such as coagulation dysfunction, incision infection, postoperative bleeding, delayed healing, and reduced immune function, which will have a serious impact on maternal health<sup>[10-11]</sup>. The current lack of effective treatment methods, cesarean section is not very clear about the condition of the disease, the existence of surgical stress and concerns about the treatment effect, have a certain impact on the ability to live, some patients do not actively cooperate in clinical treatment and nursing work and after treatment, the patient's physiological and psychological impact. And if the pelvic abscess after cesarean section is complicated, the disease is complicated and the pathological location is special, the cure rate is low. At present, doctors give doctors natural maternal advice on giving birth so that maternal and neonatal lives are preserved. However, due to maternal own reasons (maternal physical, psychological, pain, and family life), or the patient is ashamed to speak up, it may produce Exclusion, easy to produce a negative series of emotions (fear, anxiety, depression, etc.), reduce the willingness to spontaneous delivery, making the current rate of delivery of cesarean section increased significantly in our country, is not conducive to the rehabilitation of patients, seriously affect its efficacy and prognosis<sup>[12]</sup>. The optimization of prenatal health education can help make the delivery go smoothly.

The results of this experiment show that compared with the control group, the maternal index in the treatment group is better, showing that the optimal mode of prenatal education delivery can effectively improve the delivery process; maternal uterine yield and non-medical cesarean section rate in the control group are both The rate of cesarean section was higher than that of the treatment group and the rate of cesarean section was non-medical. There were significant differences between the two groups in terms of cesarean section rate and non-medical cesarean section rate ( $P < 0.05$ ). Asphyxiation occurred in children. The neonatal asphyxia rate in the control group reached 28.26%, and the neonatal asphyxia rate in the treatment group was 8.70%. There was a significant difference between groups ( $P < 0.05$ ). This shows that the optimized model for prenatal education can help women with childbirth to have a successful delivery, effectively improve the outcome of childbirth, and quickly achieve therapeutic goals.

In summary, expectant mothers to prenatal education to optimize this intervention has its advantages, improve the natural delivery rate, reduce complications, more conducive to maternal childbirth process, in the clinical guidance of a certain value, worthy of clinical Reference.

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