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Original Article

A proposed mother-friendly childbirth model for Taiwanese women, the implementation and satisfaction survey

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ABSTRACT

Objectives: Pleasant and humane childbirth is every mother's wish. We established one practicable and tailored Taiwanese mother-friendly childbirth model, and the objective of this study was to investigate the implementation, pregnancy outcomes, and women's satisfaction.

Materials and methods: We used the Taiwanese mother-friendly childbirth model. Women from eight hospitals were divided into an experimental group and control group. The experimental group received prenatal care modified by the Taiwanese mother-friendly childbirth model and the control group received routine prenatal care according to their hospital. We performed a quasi-experimental study of women's satisfaction toward this mother-friendly childbirth model by questionnaires and surveyed the practicality and effectiveness of this model.

Results: Seven hundred and fifty-one women from eight hospitals, including three medical centers and five regional hospitals were included. There was significantly different practices between the two groups, such as: (1) intermittent fetal monitoring for low-risk pregnancy; (2) no routine enema; (3) no perineal shaving; (4) less routine parenteral fluid support; (5) using an upright position; and (6) restrictive episiotomy. The mean maternal height, body weight gain, gestational age, birth weight, and episiotomy wound infection rate were indifferent. The epidural anesthesia rate and induction medication use were significantly lower in the experimental group. The self-reported pain score was higher in the experimental group and the self-reported satisfactory score was also higher in the experimental group, without statistical significance.

Conclusion: Women receiving standardized prenatal care modified by the woman-friendly childbirth model of prenatal care had less epidural anesthesia, less induction medication, higher self-reported satisfaction score, and indifferent pregnancy outcomes such as gestational age, birth weight, and wound infection rate.

Introduction

A pleasant and humanized childbirth experience is every woman's wish as well as every obstetrician's goal. Evidence-based clinical practice obstetric care is valued by all countries worldwide [1–3]. Some practice such as routine perineal shaving, routine enema, and routine restriction of oral intake seemed to be inappropriate and without medical evidence [4–6]. The World Health Organization emphasizes the over-riding philosophy of respect, support, and care for the pregnant and birthing woman [7]. A positive birth experience is associated with an increased mother–child bond and maternal abilities, and contributes to her sense of accomplishment and self-esteem [8,9].

We established one tailored Taiwanese mother-friendly childbirth model by systemically reviewed the guidelines of several countries. One focus group composed of 13 experts, including six

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obstetricians, five head nurses, one social worker and one women's rights representative was set up, and several different guidelines were systematically reviewed to establish one tailored Taiwanese mother-friendly childbirth model [10].

A total of 10 suggestions were developed in the women-friendly childbirth model, including: (1) intermittent fetal monitoring for low-risk pregnancy; (2) no routine enema; (3) no routine perineal shaving; (4) no routine restricted oral intake; (5) no routine parenteral fluid support; (6) no routine elective amniotomy; (7) providing nonpharmacological pain management; (8) using an upright position; (9) delayed pushing; and (10) restrictive episiotomy.

We investigated the obstetricians' attitude toward the Taiwanese women-friendly childbirth model in a previous study [10]. Actual practice and women's feelings and satisfaction were important. Therefore, the aim of this study was to evaluate whether women's satisfaction improved after we modified the obstetrical care according to the suggestions of this model.

Materials and methods

In order to improve the obstetric service and increased maternal satisfaction in Taiwan, one focus group was set up, and several different guidelines were systematically reviewed to establish one tailored Taiwanese mother-friendly childbirth model. The mother-friendly childbirth model consisted of 10 suggestions based on the consistency, relevance and application. The 10 suggestions are summarized in Table 1.

Next, after establishing the mother-friendly childbirth model, women from eight hospitals, including three medical centers and five regional hospitals were included and were assigned into the experimental group and control group after giving informed consent.

The inclusion criteria of these participants were as follows: (1) informed consent; (2) term pregnancy; (3) available communication in Taiwanese or Chinese; (4) no maternal comorbidity or fetal anomaly; and (5) singleton pregnancy. The exclusion criteria were as follows: (1) patient disagreement; (2) scheduled cesarean section; (3) maternal high-risk pregnancy; (4) fetal anomaly noted prenatally; and (5) multiple gestational pregnancies.

The experimental group included two medical centers and two regional hospitals, such as National Taiwan University Hospital, Tri-Service General Hospital, Loving Care Maternity and Children's Health Center, and National Taiwan University Hospital Hsin-Chu Branch. The control group included one medical center and three regional hospitals, such as Mackay Memorial Hospital, Lotung Poh-Ai Hospital, Yong-Xin Maternity and Children's Hospital, and Neo-Gene Obstetric and Pediatric Clinic.

Special nurses provided the mother-friendly childbirth model manual and introduced this model to every mother-to-be about the benefits and risks in the experimental group hospitals. Women in the experimental group were admitted to the delivery room and the specialist nurses assisted the mother-to-be to prepare for delivery, without enema, perineal shaving, or restricted oral intake unless the women requested it. The women could decide upon bed rest or ambulation, eating or fasting. If fetal distress was noted or other indications for cesarean section, the women underwent cesarean section and were excluded from this study, as shown in Figure 1. The experimental group received standardized prenatal care modified by the woman-friendly childbirth model, summarized in Figure 2. The control group received routine prenatal care as provided by their obstetricians.

Table 1
Taiwan mother-friendly childbirth model.

(1)	Intermittent fetal monitoring for low-risk pregnancy
(2)	No routine enema
(3)	No routine perineal shaving
(4)	No routine restricted oral intake
(5)	No routine parenteral fluid support
(6)	No routine elective amniotomy
(7)	Providing nonpharmacological pain management
(8)	Using an upright position
(9)	Delayed pushing
(10)	Restrictive episiotomy

The actual practices of the two groups were collected. We asked every mother: "How do you feel about this delivery experience, ranking form 1 to 10; score 1 was the most dissatisfied and 10 was the most satisfied." The self-reported satisfactory score was used to survey women's satisfaction toward this women-friendly childbirth model.

Data including maternal background information and pregnancy outcomes were collected. Maternal background information was as follows: hospital level, age, parity, height (cm), prepregnancy weight (kg), predelivery weight (kg), education, employment, occupation, family incomes, marriage status, planed pregnancy, and attending maternal class. The pregnancy outcomes included gestational age (weeks), birth bodyweight (g), Apgar score at 1 minute and 5 minutes, epidural anesthesia, induction medication, vacuum delivery, laceration wound infection, laceration wound pain score, and self-reported satisfaction score.

The statistical significance of the difference between these two groups was determined by two tailed unpaired Student's t test. A value of $p < 0.05$ was considered statistically significant.

Results

Eight hundred women were enrolled in this study. Twenty-eight women were excluded due to emergency cesarean sections and 21 because they did not completely fill in the questionnaires. A final total of 751 women from eight hospitals, including three medical centers and five regional hospitals, were included and the questionnaire completion rate was 93.88% (Figure 1). The experimental group and control group included 396 women and 355 women, respectively.

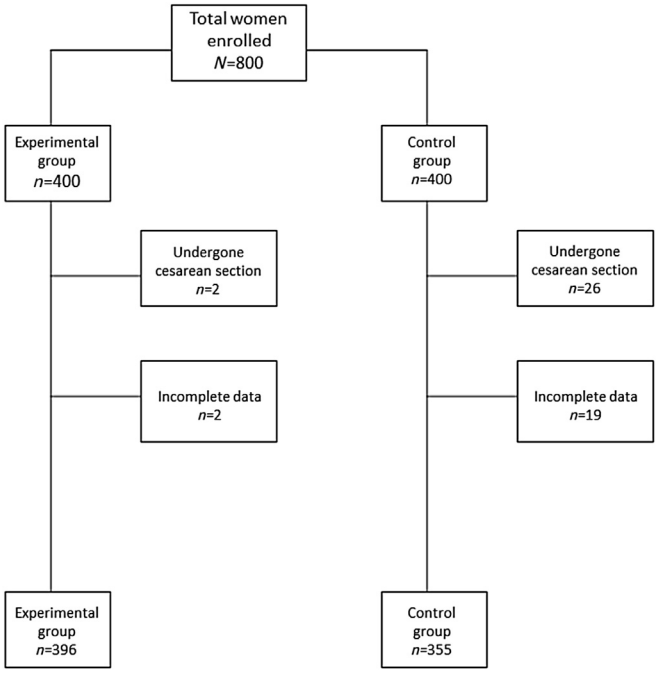

Figure 1. Inclusion and exclusion data in this study.