

Psychosocial Factors for Women Requesting Cesarean Section

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ABSTRACT

Background: Rates of caesarean section are progressively increasing in many parts of the world. As a result of psychosocial factors, there has been an increasing tendency for pregnant women without justifiable medical indications for caesarean section to ask for this procedure in China. The psychosocial factors for requesting caesarean section were analyzed in our study. **Methods:** A self-made questionnaire and the State-Trait Anxiety Inventory (STAI) and Self-rating Depression Scale (SDS) were administered to evaluate lying-in women's psychosocial state. **Results:** The proportion of lying-on women's age and education degree was different significantly between the two groups ($p < 0.01$). In the study groups, the proportion of lying-on women who were in lower economic degree and in her first para was markedly higher than control (88.62% vs. 63.24%; 13.32% vs. 3.42%, $p < 0.01$). In the study groups, the proportion of women who felt fearful, anxious, depressed and lacking confidence was higher than control. The ratio of women with university education in the CS group was higher than vaginal delivery group. The proportion of lying-on women without correct delivery knowledge was higher than control, but the difference was not significant ($p > 0.05$). By logistic regression, we found that for primipara, higher education degree, anxiety and lacking confidence were the dangerous factors for cesarean, while lower economic degree was a defendant factor. **Conclusion:** There were five main psychosocial factors such as education degree and economic state, parity, anxiety and confidence of lying-on women affecting the choice of the delivery way. The nulliparous women who feel anxious without confidence in nice economic state, with better education have higher risk to choose cesarean.

Keywords: Cesarean Section; Psychosocial Factor; Delivery Mode; Anxiety; Depression

1. Background

Caesarean section (CS) is needed to prevent or treat life-threatening maternal or foetal complications in an estimated 5 - 15 percent of pregnancies [1,2]. During the past few decades, CS rates are progressively increasing in many countries, particularly among developing countries such as China [3-5]. The World Health Organization (WHO) Global Survey on Maternal and Perinatal Health reported that in 2007-2008 the overall facility-based CS rate was estimated to be 27.3 percent in Asia with the highest estimate for China at 46.2 percent [6]. During the last 30 years, the cesarean rate in China has risen from 6% in to 30% in 2005 [7-11]. In many Chinese hospitals, the cesarean section rate was more than 40%, while in some cases, it was up to 80%, which was much higher

than the acceptable caesarean rate (5% - 15%) in WHO's guidelines [12].

In recent years, there has been an increasing tendency for pregnant women without obstetric indications for caesarean section to ask for this procedure because they perceive it to be safer and more convenient than vaginal delivery [4,6]. This situation has become a significant factor leading to the increased rate of caesarean section in China [13,14]. Caesarean section on maternal request (CSMR) has been added to this list of indications and considered an important contributing factor in the CS rising rate [15-17]. The latter occurs when a woman asks to schedule a purely planned caesarean section on a date mutually convenient for her and her doctor, before the onset of labour, without any medical rationale, and in the absence of any clinical indication.

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(fear of childbirth), the risk of out-of-hour delivery, the belief that caesareans are safest for the baby, or because vaginal delivery has become stigmatised as archaic and disfiguring [18]. Known reason for requesting CS is aged above 35, a history of CS, a previous negative birth experience or a complicated pregnancy, fear of giving birth, prenatal anxiety and depression. A relationship had also been found between women's personality and mode of delivery [19-23]. A growing number of women achieve their first pregnancy late in life [24-26]. In China the proportion of primiparous women being 35 years or older increased to 9.6%. Fertility decreases with age. Consequently, older women will make more use of assisted reproductive technologies (ART). Babies, conceived after ART, of older primiparous women may therefore be considered as "Precious Babies".

Preparation for motherhood has previously been studied intensely and the studies have focused on psychological factors. For many women, pregnancy is a complex experience, and becoming a mother for the first time is seen as a developmental milestone. A number of factors, including the woman's past experience, her present life situation, and the hospital setting may influence the first contact between the two.

The aim of this study was to compare psychosocial factors of women who demanded CS with those who had a vaginal delivery, and to find the main psychosocial factors contributing to the request.

2. Methods

This study was an case-control study, comparing women who had CSMR (as study group, $n = 413$) with a comparable low risk group of women who had vaginal delivery (as control group, $n = 321$). In this subjects 569 Primipara, 165 plurigravidas. It involved pregnant women without obstetric indications or with relative medical indications for caesarean section, in other words low risk pregnant women. Women with absolute medical indications for caesarean section were excluded ($n = 430$).

2.1. Patient Selection

This study was undertaken in Taihe Hospital in Shiyuan. This study was a was carried out between December 2004 and December 2005.

The inclusion criteria were: 1) geststional week 37 - 40; 2) no history of induced abortion (including medical abortion and surgical abortion); 3) no history of heart, liver, lung, kidney, endocrine or psychiatric diseases resulting in hospitalization; 4) planning to have the delivery at Taihe hospital and planning to live in Shiyuan after delivery.

The exclusion criteria were: 1) unmarried, divorced or widowed; 2) a history of spontaneous abortion; 3) multi-

ple foetus; 4) more than 42 weeks gestation at delivery; 5) low birth weight (less than 2500 g); 6) the presence of absolute indications for caesarean section.

The research team took no part in the clinical care of the women and did not participate in the decision to have a caesarean section.

The women in the caesarean section group were matched with those who delivered vaginally.

2.2. Data Collection

1) *Assessment Tools*. a) Self-made questionnaire was used to survey the general social conditions of the maternal, including: age, educational level, economic status, prenatal preparation, family and social support, knowledge of the delivery of medical services, such as the level of satisfaction; b) Anxiety Characteristics Questionnaire: State-Trait Anxiety Inventory (STAI) and Depression Scale: Self-rating Depression Scale (SDS) (11) was used to assess maternal mental state.

2) *Evaluation Methods*. The pregnant women filled the questionnaires, individually without interference, before they delivery. For the few illiteracy, whose statement were asked by the medical staff and completed the questionnaires.

3) *Evaluation criteria*. Subjects in a normal adult norm median of 95% over the value of standards that abnormalities (total score of 55 properties, State-57), total crude by SDS-exceed the norm for the sector worth 41 abnormal.

Seven hundred and sixty-one questionnaires had been send out to the expectant women, seven thirty-four were completed, Response rate was 96.45%. Twelve Of these did not fill the questionnaires due to lack of time before birth, fifteen were abandoned for incomplete.

2.3. Statistical Methods

U-test and logistic regression were used for multivariate analysis.

3. Results

A significant difference in age was found between the study group and the control group (mean age 27.36 versus 25.14 years, $p < 0.05$). Thirty-point-one percent of the study group was older than 35 years as compared to 23.7% in the vaginal group (**Table 1**). Significantly more women in the CS group fear to give birth (31.96% versus 8.2%, $p < 0.005$) and anxiety (24.46% versus 6.54%, $p < 0.005$) and depression (36.80% versus 18.07%, $p < 0.005$). Significantly more women in the CS group in poor economic conditions (13.32% versus 3.42%, $p < 0.005$). The ratio of women with university education in the CS group was higher than control group (41.20% versus 18.40%, $p < 0.005$), significantly. The ratio of

Table 1. Maternal psychosocial factors compared between the two groups.

Related Factors	study group (413)		control group (321)		χ^2	P-value
	n	%	n	%		
University education	170	41.20	59	18.40	33.86	<0.005
Age > 35	23	5.60	40	5.60	8.48	<0.005
Primiparae	366	88.62	203	63.24	51.76	<0.005
Fear of giving birth	132	31.96	68	21.18	8.20	<0.005
Poor economic conditions	55	13.32	11	3.42	16.74	<0.005
Erroneous understanding of childbirth	224	54.24	156	48.60	1.78	>0.10
Lack of confidence	136	32.93	24	7.48	53.21	<0.005
Depression	152	36.8	58	18.07	24.06	<0.005
Anxiety	101	24.46	21	6.54	32.42	<0.005

primiparae in the study group was significantly more than the control (88.62% versus 63.24, $p < 0.005$). The women with erroneous understanding of childbirth in the study group was more than the vaginal group (54.24% versus than 48.60% $p > 0.1$), but not significant.

Psychosocial factors for unnecessary cesarean The single factor analysis had shown some psychosocial factors including: maternal age, education level, family economic status, lack of confidence in childbirth, depression and anxiety, was associated with delivery mode.

Logistic regression analysis on psychosocial factors for cesarean section Took the mode of delivery as the dependent variable, with maternal age, education level, parity, economic status, fear, anxiety, depression, lack of self-confidence as independent variables. Logistic-regression analysis was performed; the variables entered the equation shown in **Table 2**.

4. Discussion

Some studies had shown that the rate of selective cesarean section without medical indications were growing, psycho-social factors have become the main reason for it [6,7]. In our study some psycho-social factors such as women's economic status, education level, parity, the lack of confidence in childbirth, anxiety had associated with cesarean section.

A maternal demographic factors The single factor analysis showed that CS had a correlation with the maternal', education level, economic status, and parity. The women with higher education level more likely request CS. The ratio of women who had university education was higher in the study group than that of the control, while who had primary school education was less than that of the control, significantly. Logistic regression analysis suggested that high qualifications were a risk factors for unnecessary CS. Other study discovered that the younger women with a stable income and higher education level, prefer to give birth with CS; The older

with relatively low income and low education prefer to give birth with vaginal delivery [14]. This is consistent with our study results. The reason for this phenomenon was that women with higher education feared to give birth, because the older primiparae age, on the contrary, the women with lower education are often regarded raising children as perfectly justified.

The proportion of low economic status women in the CS group was significantly lower than the control group (52.8% vs 83.33%), Logistic regression analysis of combined results suggest that low economic status was a protective factors from CS. Worrying about the high cost of CS, the parturient at lower economic status preferred to natural childbirth, in addition, the success rate of trial of labor in this group was higher, because of their physical activity and better tolerance. Primiparous age above 35 years was a known reason for requesting CS [7]. Because women aged between 25 - 35 in this study accounted for the majority part, it couldn't shown statistical significance correlation between women's age between cesarean section.

Maternal psychological factors As one of the four main factors affect the delivery, the impact of maternal psychological factors on childbirth can not be ignored, it affects not only the labor progress but also the choice of delivery mode [14-16]. Severe anxiety of childbirth has been demonstrated in 5% - 10% of pregnancy woman [17]. Maternity is a major physical and psychological stress, the majority of women have varying degrees of mental pressure, severe anxiety and depression occurred, which led to bad feelings increased obstetric complications and cesarean section rates are rising [16,17]. The results had shown that fear of childbirth, lack of confidence in childbirth, feelings of depression and anxiety had associated with CS. Logistic regression analysis showed that maternal anxiety and lack of confidence in childbirth must be the main risk factors for CS. Other studies found that maternal erroneous understanding for delivery mode was correlated with increasing rate of CS

Table 2. The variables entered the equation and the estimated value of parameters.

Variables	Regression coefficient	Standard error	Wald	P	OR
education level	0.386	0.186	4.308	0.038	1.471
Parity	1.892	0.637	8.830	0.003	6.631
Poor economic conditions	-1.210	0.471	6.599	0.010	0.298
Fear of giving birth	1.955	0.495	15.586	0.000	0.142
Lack of confidence	2.306	0.641	12.930	0.000	10.038
anxiety	3.551	1.113	10.179	0.001	34.832
Constant	-1.367	0.714	3.667	0.055	0.255

[14]. Our study did not support that view. Nevertheless, the investigation did find that some of maternal request CS without any medical indication because the wrong knowledge for delivery, such as, the child delivered by CS are more smart, fear the quality of sexual life decline for relaxation of vaginal after delivery. A small group of people asked optional CS, because they believed that born chrono decided fate. Moreover, for the tense doctor-patient relationship, some doctors accommodate these patients in order to avoid risks, it might be another risk for unnecessary CS rate increased. This factor has not been incorporated into the analysis, due to low response rate.

5. Limitation

In this study, data concerning women's health are based on self-report and not clinically confirmed. We did not get enough information about personality, family relationship and the physician-patient relationship.

6. Conclusion

Women requesting a CS without a specific medical indication were anxious, lack of confidence, fear of giving birth, primiparity, in higher education level and better economic condition. This finding suggested psychological counseling and support for women requesting CS, as it may reduce the unnecessary CS.

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