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# Effect, for the Preferred Mode of Delivery, on Pregnant Women and Their Husbands of a Preparing Program on the Advantages of Vaginal Delivery

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## Abstract

**Background:** Despite evidence indicating the effective role of husbands in family planning programs, their role in decision making about the mode of delivery has been ignored.
**Objectives:** The aim of this study is to investigate the effects of implementing a preparing program for pregnant women who prefer cesarean section and their husbands, on their preferred mode of delivery.
**Methods:** In this before-after clinical trial, 101 pregnant women and their husbands, referred to Sabzevar health clinics affiliated to Sabzevar University of Medical Sciences, were selected. The inclusion criteria were having a singleton pregnancy and women's preference to giving birth by cesarean section. Women who had to give birth by caesarean due to having a previous caesarean or whose husbands were reluctant to participate in the study, were excluded. In a visit to the health clinics, a midwife discussed benefits of vaginal delivery for mother and baby, risks of caesarean, and cases in which caesareans are lifesaving. Outcomes were husband's opinion about the mode of delivery and woman's decision about the mode of delivery, both after the intervention and one month later. Data analyses were performed using SPSS version 18. Wilcoxon matched-pairs signed rank test was used to compare husbands' opinions about the mode of delivery before and after the intervention.
**Results:** About 60% of women were primiparas. Just after the intervention and one month later, 66.3% and 72.3% of women preferred vaginal delivery, respectively. About 58% and 72% of husbands preferred vaginal delivery before and after the intervention, respectively. Wilcoxon test showed that there was no significant difference in choice of vaginal delivery by husbands before and after the intervention (P = 0.147).
**Conclusions:** A preparing program for couples can influence women's preferred mode of delivery. Future research should compare such a program for couples and for pregnant women alone.

*Keywords:* Caesarean, Vaginal Delivery, Pregnant Women, Patient Participation, Spouses

## 1. Background

Caesarean, which is defined as the termination of pregnancy by a surgical method, is a lifesaving procedure when a mother or her baby is at risk. In western countries, the rate of caesarean increased in 80th and 90th. The rate of caesarean in 1970 was 4.5% and reached 32% in 2007 (1). Thereafter, programs for decreasing the rate of cesareans were implemented. In Iran, the rate of cesareans during the past two decades has increased consistently. According to the world health organization (WHO) report in 2010, the rate of caesarean in Iran was 42% and Iran was the second country in the world after Brazil in which caesarean was most prevalent (2). Results of the across-the-world WHO survey in 2005 showed that the increased rate of caesarean was accompanied by the increased rate of maternal and neonatal mortality and morbidity as well as increased infant hospitalization in neonatal intensive care units (NICU) (3). Therefore, the WHO introduced a justified caesarean rate as 10% -15% (4). Recent opinions about women's rights for choosing the mode of delivery caused an increased rate of cesareans in the world on maternal request (5). The rate of caesarean on maternal request in the US has increased by 50% since 2000. In 2003, 2.5% of births were performed on maternal request in the US (1). In Iran, the rate of cae-

sarean on maternal request and without medical indication has been increasing. In a study in Tehran in 2003, 72% of caesarean cases were elective and among them 22% were on maternal request (6), whereas the corresponding illustrations in Australia (7) and Sweden (8) were 6.4% and 8.2%, respectively.

Decreasing the number of caesareans is a priority in health programs in the world as well as in Iran. Although recent national health policies such as introducing free vaginal delivery could decrease the rate of caesarean in Iran, attempts to increase women and their husbands' knowledge about advantages of vaginal delivery and disadvantages of caesarean may help them to accept vaginal delivery more voluntarily and decrease their negative attitudes toward vaginal delivery. In addition, preparing couples for vaginal delivery can promote their relationships and help them to make decisions together.

Male involvement in maternal health programs in recent decades has been encouraged by international reproductive health organizations. They have recommended that women's partners be involved as agents of changes in reproductive health issues (9). Results of a study indicated that paternal involvement was positively associated with a first prenatal visit before 12 weeks gestation, number of antenatal visits, attendance at antenatal classes, and breastfeeding (10). Two studies in the US also showed that husbands could influence on adopting and continuing health behaviors in pregnancy (11, 12). In addition, men have their own fears, such as harm to the mother or newborn, pain, and fear of high-risk intervention, which were not identified and need to be, discussed (13).

Despite men's desire to have a positive role in maternal health, lack of knowledge about maternal health issues is an important barrier to their involvement in decision making and supportive behaviors in pregnancy (14). We hypothesized that inviting pregnant women's husbands together with their wives to health clinics and providing a preparing program to increase their knowledge about the advantages of vaginal delivery and the disadvantages of caesarean, may involve men in decision making about the method of giving birth and change pregnant women's preference for mode of delivery. Although husbands' attendance in two prenatal visits was programed in new national health polices, this has not been implemented owing to several reasons (15). In addition, there has not been emphasis in these programs on choosing the mode of delivery, indicating that men's role in this decision has not yet been considered important. Considering the priority of decreasing the rate of caesarean and health organizations' approaches toward male involvement in maternal health programs, we aimed to examine the effect of implementing a preparing program about advantages of vaginal delivery for pregnant women and their husbands for their preferred mode of delivery.

## 2. Methods

### 2.1. Study Design and Sample

This before-after clinical trial was conducted on 101 pregnant women and their husbands registered in two health clinics affiliated to Sabzevar University of Medical Sciences in 2014.

### 2.2. Inclusion and Exclusion

All pregnant women who consented to participate in the study and their husbands, who agreed to attend in the clinic for one visit, were included in the study. Other inclusion criteria were primiparity or having a history of vaginal delivery, gestational age 13 - 26 weeks, requesting caesarean, ability to read and write, and having no medical or obstetrical indication for cesarean. The exclusion criterion was husband's non-attendance in the clinic.

### 2.3. Intervention

We recruited women from two health centers, one from the central part of the city and the other from the north of the city. After selecting women who decided to give birth vaginally and after obtaining their consent to participate in the study, they were asked to attend the next visit with their husbands. In the visit with couples, advantages of vaginal delivery for pregnant women, risks of caesarean, and cases in which caesareans are lifesaving and necessary, were discussed by two trained midwifes. All discussed material was given to couples in the form of pamphlets. Before and after a visit, men's opinions about the mode of delivery were assessed. Women's and their husbands' decisions about the mode of delivery were assessed after the intervention and after one month. Midwives were responsible for collecting opinions of women and their husbands about the mode of delivery. We also assessed women's decisions about the mode of delivery in the month after the intervention to ensure that couples had enough time to discuss their preferred mode of delivery. We used a question with a 3-point Likert scale (I do not want my wife to give birth by caesarean at all = 1; I don't know = 2; I prefer my wife to give birth by caesarean if it is necessary = 3), to assess if a correct attitude toward caesarean was formed.

### 2.4. Sample Size

Sample size was calculated considering the expectation of 6% change in women's preference of caesarean after intervention, study power of 80%, results precision of 0.05%, and 5% loss to follow up.

### 2.5. Ethics

The study proposal was approved by ethics committee of Sabzevar University of Medical Sciences (Medsab.Rec.93.37). All participants consented to participate in the study and signed a written informed consent form.

### 2.6. Statistical Analysis

Data analyses were performed by SPSS version 18. Wilcoxon matched-pairs signed rank test was used to compare husbands' opinions about the mode of delivery and formation of a correct attitude toward caesarean before and after the intervention.

## 3. Results

This study was conducted on 101 pregnant mothers and their husbands. Two participants were excluded because their husbands did not attend at the clinics. Of women, 59.4% were primiparas. The mean age and standard deviation of women and their husbands were 25.5 $\pm$ 6.3 and 29.8 $\pm$ 6.6 years, respectively. The mean years of education of women and their husbands were 10.5 $\pm$ 4.1 and 9.1 $\pm$ 3.6, respectively. About 5% of men were employed, 67.3% of them were self-employed, 18.8% were workers, and 6% were jobless. Ninety per cent of couples had a monthly income lower than 10 million rials.

In Table 1, husbands' opinions about vaginal delivery and caesarean before and after the intervention are presented. After the intervention, 72% of husbands preferred that their wives gave birth through vaginal delivery. The corresponding illustration before the intervention was 58%. Before the intervention, 26 husbands declared that they were not sure about the best mode of delivery, whereas after the intervention 11 husbands were not sure about it. Before the intervention, 17 husbands declared that they preferred caesarean for their wives. After the intervention, the corresponding illustration was 18. Wilcoxon test showed that there was no significant difference between the husbands' preferences before and after the intervention ($P = 0.147$). Results indicated that 7% and 3% of husbands had negative attitudes toward cesarean when it is necessary. Wilcoxon test showed that there was a significant difference between the husbands' proper attitudes toward cesarean before and after the intervention ($P < 0.001$). After the intervention, 66.3% of women preferred vaginal delivery and one month after the intervention, 72.3% of women still preferred vaginal delivery (Table 2).

## 4. Discussion

The results of the study showed that a simple preparing program could influence the preferences of women toward vaginal delivery by 66.3% and 72.3% just after the intervention and one month later, respectively, without increasing a negative sentiment about caesarean, which is a lifesaving surgery. Since the percentage of women who preferred vaginal delivery one month after the intervention was more than the percentage of women who preferred vaginal delivery just after the intervention, it is probable that husbands participated in decision making during the month after the intervention. Our results indicated that a simple preparing program was not enough to convince husbands who had positive attitudes towards cesarean. However, it could affect 14% of husbands who were not sure about vaginal delivery to make up their minds about their wives' mode of delivery.

Our results were in chime in with Sharifirad's study which compared knowledge and positive attitude towards vaginal delivery in women who were instructed alone and in women who were taught with their husbands. She concluded that a preparing program for couples could change women's knowledge of and positive attitude toward vaginal delivery more than the control group. Furthermore, there was a lower rate of caesarean in the experimental group (29.5%) than in the control group (50%) (16). Our results were also in agreement with the results of previous studies which examined the effects of women's preparing about vaginal delivery, based on the theory of reasoned action and planned behavior, on their attitudes and intention toward vaginal delivery (16-20).

The results of our previous study showed that husband attendance in prenatal care during pregnancy could increase his involvement in postnatal care of the newborn and his support of breastfeeding mothers in the postpartum (21). We recommend that further clinical trials be designed with control group and bigger sample size to compare the effect of a multi-visit preparing program for couples and for women alone, on couples' choices of vaginal delivery.

### 4.1. Conclusion

A preparing program for couples could influence women's preferred mode of delivery and help undecided husbands to reach a proper decision. It is probable that husbands' participation in decision making during the month after the intervention could influence women's decisions. Future research should compare such a program for couples and for pregnant women alone.

**Table 1.** Frequency of Husbands' Opinions About Preferred Mode of Delivery Before and After the Intervention

| | | | After Intervention (Frequency) | | | P |
|---|---|---|---|---|---|---|
| **Before Intervention** | | Preferred mode of delivery | **1** | **2** | **3** | |
| | **1** | I preferred a planned caesarean | 6 (6) | 0 (0) | 11 (11) | 0.147 |
| | **2** | For me the two methods are equal | 7 (7) | 7 (7) | 12 (12) | |
| | **3** | I preferred a vaginal delivery | 5 (5) | 4 (4) | 49 (48.5) | |
| | | Proper attitude toward cesarean | | | | |
| | **1** | I do not like my wife giving birth by caesarean at all. | 2 (2) | 0 (0) | 5 (5) | < 0.001 |
| | **2** | I am not sure | 1 (1) | 2 (2) | 18 (18) | |
| | **3** | I like my wife giving birth by caesarean if it is necessary. | 0 (0) | 3 (3) | 67 (66) | |

**Table 2.** Frequency of Women's Preferred Mode of Delivery After Intervention and One Month Later

| Women's Preferred Mode of Delivery After Intervention | No. (%) |
|---|---|
| **I preferred a vaginal delivery** | 67 (66.3) |
| **For me the two methods are equal** | 11 (10.3) |
| **I preferred a planned caesarean** | 23 (22.8) |
| **Proper attitude toward cesarean** | |
| I like to give birth by caesarean if it is necessary | 82 (81.2) |
| I am not sure | 16 (15.8) |
| I don't like to give birth by caesarean | 3 (3) |
| **Type of delivery preferred one month later** | |
| Vaginal delivery | 73 (72.3) |
| Not sure | 15 (14.9) |
| Caesarean | 13 (12.9) |

### *4.2. Limitations and Strengths*

This study has some limitations. First, the study method was a before-and-after and lacked a control group. Since the study was conducted almost simultaneously with the national health reform in which free vaginal delivery was provided for women, it is probable that our results were affected by the reform. Third, we recruited women from two health centers, one from the central part of the city and the other from the north of the city, where husbands are more educated and responsible and believe more in joint decision making than husbands in underprivileged parts of the city. Since selecting women from deprived parts of the city might lead to difficulties in husbands attending in the clinics, we limited our sample to the north and central parts of the city.

The strong point of the study is that we prepared couples for vaginal delivery without bringing in negative sentiments toward cesarean.

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## Footnotes

**Authors' Contribution:** Forough Mortazavi contributed to the study design and wrote the proposal and the manuscript; Tahereh Towfighian collected the data; Yaser Tabarraie analyzed the data and interpreted the findings; Vahideh Moghaddam Hosseini revised the manuscript.

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**Conflicts of Interest:** The authors declare no conflicts of interest.

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