

# A survey on the effects of husbands' education of pregnant women on knowledge, attitude, and reducing elective cesarean section

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## ABSTRACT

**Background:** Nowadays, cesarean section rate is increasing in Iran and throughout the world. Cesarean section is one of the major surgical procedures, which carry serious and rarely fetal risk for mother and child. This study was conducted to determine the effects of health education on husbands of pregnant women in reducing elective cesarean section.

**Materials and Methods:** This study was a trial study, in which 88 pregnant women between 28-32 weeks of pregnancy, who referred to the private clinics in Isfahan, were randomly assigned into case and control groups. The husbands of the women within case group were educated about cesarean and vaginal delivery. At the beginning of study and 4 weeks after an educational intervention, the knowledge and attitude of 3 groups (cases, controls, and husbands of case group) were determined. The type of delivery was determined by phone call.

**Findings:** Educational intervention on husbands caused a significant increase in the knowledge and a positive attitude in mothers within case group towards vaginal delivery. Elective cesarean section in case group was significantly lower than that of the control group (29.5% vs. 50%,  $P < 0.05$ ). **Conclusion:** The results of the present study showed that husbands' education can effectively increase the knowledge and improve the attitude of their wives, and reduce the rate of elective cesarean section.

**Key words:** Attitude, education, elective cesarean, knowledge, private section, vaginal delivery

## INTRODUCTION

The ultimate goal of guiding delivery team is to implement

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a safe delivery and birth of a healthy baby and keeping the health of mother and fetus.<sup>[1]</sup> Delivery is a natural issue, and it will be conducted without any complication, provided that it passes through its natural procedure. However, it is necessary to control and monitor the delivery's natural procedure, and if anything happens during any stages of delivery, it can be threatening for the life of mother or fetus, and necessary therapeutic actions should be done immediately. Natural vaginal delivery has many advantages compared with cesarean section; e.g. it is affordable, hospital duration is shorter after the delivery compared with cesarean section, it does not require anesthesia, and there is less possibility for infection and post-hemorrhage.<sup>[2]</sup> Therefore, an increased cesarean section not only can influence on mother and infant, but it can also cause excessive health services costs.<sup>[3]</sup>

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While the World Health Organization (WHO) announced the acceptable rate for cesarean between 10-15%,<sup>[4]</sup> this rate had a dramatic increase in past 3 decades in the world. For example, in 2002, the rate of cesarean in the U.S. reached to its highest extent, which already had been reported, i.e., 26.1%.<sup>[5]</sup> Official statistics of cesarean section in Iran reported it 35% in the whole country and 41.6% for Esfahan Province.<sup>[6]</sup> However, other sources in different provinces of Iran announced it between 58 to 65%.<sup>[7]</sup>

Evidences show that increased rate of cesarean in the past decade is not due to necessity of implementing it; but also it largely seems that decision-making for using cesarean is done with less contemplation.<sup>[8]</sup> Cesarean section is higher among women with good socio-economic status referring to private hospitals; so that 80% of deliveries in private hospitals are conducted through cesarean. Furthermore, women with lowest rate of risk have the highest percentage of cesarean section, which is mainly due to insist of mothers, themselves.<sup>[9]</sup>

Hence, one of the helpful solutions to reduce cesarean and to achieve the determined goals of the WHO is "health education." Developments have been conducted by professionals in the past decade about the definition of health promotion concept has established a new perspective in association with the role of health education as central and fundamental part of modern public health movements. Promoting knowledge level and individual skills through health education helps people to make correct decisions about their health as well as the family and society they live with.<sup>[10]</sup> One of the major decision is about delivery method, which should be taken into account with full awareness and knowledge. In fact, health education during pregnancy can increase the knowledge of pregnant women towards childbirth methods, so that they can choose an appropriate method with physician's discretion and do not select cesarean section without clinical reasons.<sup>[11]</sup>

Since married life is a common life, reproductivity necessarily requires full participation and collaboration of man and woman; and men are one of the major pillars of reproductive health services. The important role of men's participation has also been proved in family planning programs. Consequently, it seems that encouragement, involvement and training men for natural delivery stages, advantages and disadvantages of types of delivery (natural and cesarean) and briefing them to transfer the information to their wives are effective on knowledge, attitude, and performance of pregnant women. According to the information of the authors, no study has ever been done in this regard. The present study aimed to determine the effect of husbands' education of pregnant women on knowledge, attitude, and reduction of elective cesarean section in such women.

## MATERIALS AND METHODS

This was a trail study carried out in Isfahan, Iran. The study population consisted of pregnant women in 28<sup>th</sup> to 32<sup>nd</sup> weeks

of gestational age and their husbands. The sample size determined 88 people through its equation and considering confidence interval as 0.95.

After determining the sample size, we referred to private obstetrics and gynecology clinics located in Amedegah St. in Isfahan. Thereafter, we provided the phone numbers of eligible women by necessary collaboration with their physicians. Then, the main samples were determined after we phone called them and assessed their willingness to use cesarean section as well as their tendency to participate in the study. It also should be noted that we provided the overall information for physicians and also full and accurate information about the study objective for the participants.

The inclusion criteria were the following items:

1. Primiparous pregnant women in 28-32<sup>nd</sup> pregnancy weeks who referred to private clinics and were willing to use cesarean section.
2. Lack of obvious barriers and medical diagnosis for vaginal delivery during sampling such as detectable medical causes.
3. Full consent and collaboration of pregnant women and their husbands in order to participate in the intervention.

Selection of the target group was done due to following reasons:

1. Because this group experienced their first pregnancy and were not under the influence of factors such as previous cesarean or various experiences from previous deliveries.
2. Considering that this group experienced their last trimester pregnancy period, the rate of impressibility about knowledge, attitude, and other factors in selecting the type of delivery was higher.
3. Given to statistics and figures obtained from several studies, the incidence rate of cesarean section is higher among this group than other groups.

Data collection tool in this study was a 4-part questionnaire designed as follows:

1. Demographic data of pregnant mother and her husband.
2. Knowledge questions including 10 four-choice questions
3. Attitude questions including 10 three-choice questions (Agree, Disagree, and No idea).
4. Type of delivery.

It is worth mentioning that scores of attitude and knowledge scaled from 100, and content validity and test re-test methods were used to determine the validity and reliability of the questionnaire, respectively.

For starting the intervention, the study samples randomly were divided into case and control groups (each group composed of 44 pregnant women). Knowledge and attitude questionnaires were completed before the educational intervention and one month after it by pregnant women in both groups (case and control) and also by husbands of the case group. In order to review the performance of the study subjects, follow-up of

the pregnant women (case and control) continued until the delivery time, and the type of their delivery was recorded.

In the intervention group, only the husbands of the case groups were divided into three 13- to 15-member groups; and each group participated in an educational session for 90 minutes. Educational content was about mechanism of natural vaginal and cesarean deliveries as well as their advantages and disadvantages. The training was done by an MSc expert in Health Education. Various educational method (lecture with picture slides, question, and answer) and educational tools (overhead, pamphlet, and white board) were used in order for further impact of education. It also should be noted that no educational session was hold for pregnant women of both group; because the aim of the study was to measure the effect of education on husbands of pregnant women in order to reduce elective cesarean section rate.

The collected data were analyzed by Software SPSS version 14 and through statistical tests such as paired t-test, independent t-test, Chi-square, and ANOVA.

## RESULTS

Generally, mean age of pregnant women was 25.4 years. 56.8% of them were high school graduates, and 43.2% had university degree, and 85.2% of them were housekeepers. Mean and SD of the age in pregnant mothers in the case and control group were  $25.5 \pm 3.6$  and  $25.3 \pm 4.1$  years, respectively, and statistically there was no significant difference between the two groups. Twenty-two mothers (50.0%) in the case group and 28 mothers (63.6%) in the control group were high-school graduates. Chi-square test showed that there was no significant difference between the two groups in terms of educational level.

In addition, 38 mothers in the case group (86.4%) and 38 mothers in the control group (86.4%) stated that they had intended pregnancy.

Mean score of knowledge in pregnant mothers of the case group and their husbands showed a dramatic increase after the intervention than before, which statistically showed a significant difference ( $P < 0.001$ ). Moreover, mean score of knowledge in pregnant mothers of the control group showed a significant increase after the intervention than before ( $P < 0.001$ ); however, this increase was not as much as the observed amount was in two previous groups [Table 1].

Mean score of attitude in pregnant mothers of the case group and their husbands showed a dramatic increase after the intervention than before, which statistically showed a significant difference ( $P < 0.001$ ). Mean score of attitude in pregnant mothers of the control group showed a very little increase after the intervention than before, which was not significant statistically [Table 2].

The cesarean section rate in the case and control groups was 29.5% and 50%, respectively, which statistically showed a significant difference ( $P < 0.05$ ).

## DISCUSSION

Childbirth is one of the stressful events of every woman and in order to be adaptable with this stress, she should be supported from different emotional and physical aspects to experience a pleasant delivery.<sup>[12]</sup> Evidences show that fear of mothers from incorrect performance and lack of skill during natural vaginal delivery along with good economic status and high educational level of mothers are the factors effective on increased obstetric interventions in delivery, such as request

**Table 1: Mean score of knowledge before and after the educational intervention in the three groups**

Groups	Pregnant women (control)		Pregnant women (case)		Husbands group (case)		ANOVA
	Mean	SD	Mean	SD	Mean	SD	
Pre-intervention	48.1	20.8	48.4	21.8	38.4	18	F=3.47 P=0.034*
Post-intervention	60.4	17.7	82.2	13.6	80.4	11.8	F=30.18 P<0.001*
Paired t	t=5.6 P<0.001*		t=10.2 P<0.001*		t=18.4 P<0.001*		

\*Statistical significant difference

**Table 2: Mean score of attitude before and after the educational intervention in the three groups**

Groups	Pregnant women (control)		Pregnant women (case)		Husbands group (case)		ANOVA
	Mean	SD	Mean	SD	Mean	SD	
Pre-intervention	61.02	19.1	67.5	15.1	53.6	16.9	F=7.2 P=0.001*
Post-intervention	65.2	18.6	86.2	10.7	84.4	9.7	F=32 P<0.001*
Paired t	t=1.5 P<0.13		t=8.6 P<0.001*		t=11.8 P<0.001*		

\*Statistical significant difference

for cesarean section.<sup>[13]</sup> Accordingly, the results of the present study showed that providing codified educational programs for husbands of pregnant women can cause a positive attitude in pregnant women through transferring knowledge and social support of husbands, which consequently reduces the rate of elective cesarean section.

As it was mentioned in the introduction, no study has ever been done in this regard. Evidences show that existed studies are more on pregnant women than on their husbands. For example, conducted studies on pregnant women showed that score of attitude and knowledge of pregnant women increased in the case group towards natural vaginal delivery and cesarean after the educational intervention.<sup>[14]</sup> Moreover, another study showed that education and public participation increased the knowledge score of pregnant women towards natural vaginal delivery and cesarean section.<sup>[7]</sup> These findings were also found in other studies, which indirectly were in accordance with the results of the present study.<sup>[15]</sup> In other words, the present study can be considered as the first study on this subject, which with its results showed that educating husbands of pregnant women in the case group promoted the attitude and knowledge rate of men and their wives. Therefore, after the educational intervention, mean score of knowledge and attitude was significantly higher in the case group than in the control group. The change in knowledge and attitude of men and women in the case group eventually caused a significant reduction in elective cesarean section in this group.

Furthermore, in the present study, since knowledge rate of mother about cesarean and natural delivery was 48 out of 100 before the intervention, it can be said that mothers' knowledge was in an average level. In other studies also, knowledge of society's people, particularly knowledge of pregnant mothers, was in an average level. For example, results of a study in Rasht on 280 pregnant women showed that pregnant women had an average knowledge of advantages and disadvantages of cesarean and most of the knowledge that had obtained was mostly from relatives and friends.<sup>[15]</sup> In another study, 30.1% of pregnant women and 50% of health staff had a positive attitude towards natural vaginal delivery,<sup>[1]</sup> which to some extent was also in accordance with the results of the present study.

According to the results of the present study, an education could increase the rate of natural vaginal delivery to 20%, compared with the control group. In line with this, in the study of Fathian *et al.*, 54.3% of deliveries in the case group conducted through natural delivery method after the intervention, and this was 31.4% in the control group.<sup>[13]</sup> Furthermore, another filed study on 171 pregnant women in Shahr-e-Kord showed that after an educational intervention and participation of other organizations, the cesarean rate reduced from 63% to 52% after the intervention and that intervention could decrease 11% of the cesarean section rate.<sup>[7]</sup> In the study of Lashgari *et al.*, the elective cesarean section rate was significantly decreased in the case group;<sup>[14]</sup>

and the results of the mentioned study were also in accordance with the results of the present study.

Therefore, according to the results of the present study, it can be concluded that educating other family members, particularly spouses, has been helpful in increasing the attitude and knowledge rate to reduce cesarean section. Totally, one of the programs for reducing cesarean sections is based on educational efforts during pregnancy.<sup>[16]</sup> In fact, health education, with three major objectives i.e., providing awareness and attitude to people and finally establishing correct health behavior, can be helpful strategies in macro-level policymaking to reduce cesarean section delivery.

Ultimately, and according to the results of the present study, conducting further studies in this regard is recommended. Accordingly, for further studies, it is also suggested to review knowledge and attitude of husbands in the control group at the beginning of the study in order to compare two groups in this regard. Moreover, other confounding factors may probably play role in elective cesarean section such as social and economic class, family income level, or hearing unpleasant experiences from natural vaginal delivery and so on, which should also be reviewed and compared.

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