

## ⇒ Research Article



# Effect of Face-to-face and Group Health Counseling on Attitude and Practice of Birth Method Selection in Primiparous Pregnant Women Referring to Health Centers in Dezful City, Khuzestan Province, Iran: a comparative, randomized controlled trial

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## Abstract

**Background:** Although childbirth is a natural process, the choice of birth method is one of the concerns of pregnant women. Proper counseling for pregnant women can ensure a safe and healthy delivery.

**Objective:** This study We aimed to compare the effects of group and face-to-face health counseling on the attitude of mode of delivery and reduction of Cesarean section in pregnant women.

**Methods:** This study was a comparative randomized controlled trial that was conducted in health centers of Dezful city, in the south west of Iran from April to October 2016. Participants in the study included 150 pregnant women who had no contraindications for normal vaginal delivery, but opted for a cesarean delivery. Initially, multi-stage sampling method was used based on the study objectives, and then the participants were randomly assigned into three groups: group counseling, face-to-face, and control. Demographic characteristics and attitude questionnaires were used for data collection. Data were analyzed through SPSS 22 using One-Sample Kolmogorov-Smirnov test, and Chi-square, ANOVA, McNemar, and t- tests. The  $P < 0.05$  was considered significant.

**Results:** All the participants (100%) in the face-to-face counseling group, 92% in the group counseling, and 12% in the control group changed their selected birth method to vaginal delivery after the consultation. In terms of attitude level, there was a significant difference in all three study groups before and after the intervention ( $P < 0.001$ ).

**Conclusion:** The face-to-face as well as the group health counseling sessions promoted the attitude of pregnant women to the normal vaginal delivery. Individual counseling for people who cannot coordinate with the group is better than group counseling. This way more pregnant women can be consulted.

**Keywords:** Counseling, Attitude, Birth method

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## Background

Childbirth has a profound effect on the mental and social health of pregnant women (1). This period is one of the most unique moments of women's lives, yet it is a period of great concern and anxiety (2). Natural childbirth can be a process without medical intervention (3).

In recent decades, advances have been made in the development of human science and technology such as surgery, and in cases where the mother or fetus is at risk of death, it can save them. Although cesarean delivery has been one of the great human triumphs and has saved countless mothers and babies so far, it has risen

alarmingly in recent decades (4). Although it is often not medically beneficial to have a cesarean section, it is common in many countries. Even worse, dangerous reasons for mothers and infants have been steadily increasing in almost all middle and high income countries (5). According to the World Health Organization, cesarean section should not exceed 15% of deliveries (6). Cesarean section (CS) statistics in a country indicate the performance of maternal health planning in the region (7). About 20 million CSs are performed worldwide each year, with the demand of pregnant mothers being one of the main reasons for this increase (5). Unfortunately,

according to the results of several studies, the number of CSs in Iran is more than acceptable, accounting for 26-60% of deliveries according to the reported statistics, and as high as 87% in some private institutions (8). The results of a systematic review and meta-analysis showed that the prevalence of CS in Iran is about 48%. University education, maternal employment, high pregnancy age, previous cesarean section, fear of labor pain were the most important reasons for CS in Iranian women (9).

There are several reasons for the increase in CS, such as fear of childbirth and lack of knowledge about the complications of CS (10). Psychological factors such as fear, depression, and anxiety also influence the choice of delivery mode (11).

Health counseling is a psychological-educational process and, as with health promotion and health education, it can include all three levels of prevention; the counselor can consult with clients individually and in groups to reduce their risk. The basis of health counseling is to help clients maintain health-promoting and disease-prevention behaviors (12). Face-to-face counseling is completely confidential and tailored to the learning and understanding clients. Individual or face-to-face counseling pursues three major goals of prevention, treatment, and growth (13). In group counseling, a certain number of clients are present in counseling session simultaneously, and it has its own therapeutic and preventive effects (14).

The results of studies have shown that pregnancy counseling has increased the rate of vaginal delivery (15). Moreover, 93% of women who were afraid of childbirth and had chosen cesarean section changed their minds after consultation and decided to have a normal childbirth (16).

On the other hand, negative attitudes towards natural childbirth, misconceptions about natural childbirth as well as advertisements for CS are important reasons why women choose CS (17). Thus, raising the attitude of women towards vaginal delivery, increasing the self-confidence and interest of pregnant women in normal childbirth, normal vaginal delivery can be promoted. One way to achieve this goal is to provide counseling and training for pregnant women.

To increase the effectiveness of counseling, pregnant mothers should attend many counseling sessions while some of them may not be able to coordinate with group sessions because of living and working conditions, thus losing a number of sessions. This will, in turn, reduce the effectiveness of counseling. Meanwhile, we intended to get more pregnant women involved in pregnancy counseling so they can make the right decision about their birth method. As most pregnancy and childbirth counseling and training are done in groups, and there have been few studies focusing on the effect of face-to-face counseling, the present study intended to compare the efficacy of

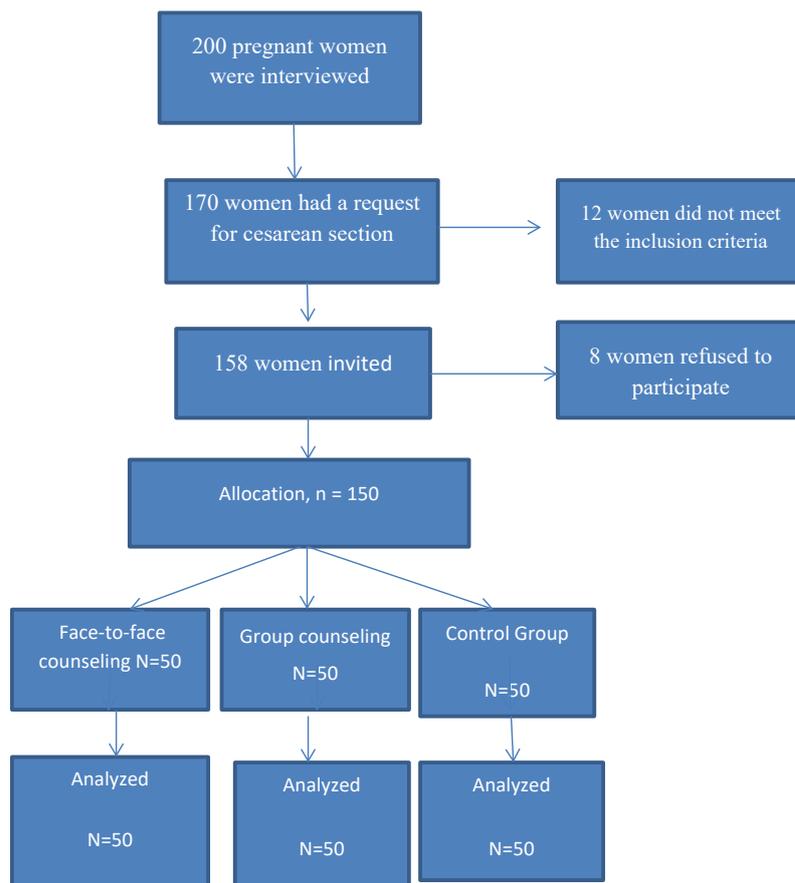
the face-to-face and group health counseling on attitude, selection of birth method, and reducing the rate of CS in pregnant women.

## Methods

This study was a randomized controlled trial performed on 150 pregnant women in 22-26 weeks of pregnancy from April to October 2016 in Dezful, southwest Iran. Using 90% power,  $B=0$  and  $A=0.05$  in a two-sided test, and according to a previous study in 2012 (18), the sample size was determined to be 45 for each group. Also, considering a dropout rate of less than 10%, 50 women were required in each group (50 women in the face-to-face counseling, 50 in the group counseling, and 50 in the control groups). The inclusion criteria were as follows: being primiparous, literacy of the mothers, singleton pregnancy, gestational age of 22-26 weeks, and request for undergoing CS. The exclusion criteria were high risk pregnancy (pre-eclampsia, overt diabetes, uncontrolled gestational diabetes, previous pre-term labor, previous intrauterine fetal death, etc.), contraindication for normal vaginal delivery, the woman or her husband refusing to continue attending counseling sessions. All participants were recruited from the nine medical centers of Dezful city. The sessions and counseling were conducted by the first researcher as a midwife, with previous certification. A multi-stage sampling method was used. Initially, the researcher interviewed the participants; If they had the tendency to perform cesarean delivery, they would enter the study. They were Then selected randomly based on the inclusion criteria. Randomization was done by another person using random methods and sealed envelopes, with the participants then randomly allocated to the three groups.

In the first stage, 200 pregnant women were interviewed for their preferred birth method, and requested to participate in the screening phase of the trial. 170 women applied for CS, of which eight women withdrew from the partnership and 12 women did not meet the study entry criteria. Finally, 150 women participated in the study, and were then divided randomly into three groups: face-to-face counseling, group counseling, and control (50 women in each group) using a random lottery method (Figure 1).

Initially, three groups were asked to complete a questionnaire about socio-demographic information. The participants also answered the attitude questionnaire about the birth method. The validity and reliability of the attitude questionnaire were approved by Akbari and colleagues with a Cronbach's alpha reliability of 0.83 (19). The attitude questionnaire had 40 items scored on a Likert scale (strongly agree, agree, neutral, disagree and strongly disagree), and assessed the attitude of the pregnant women about their birth method. The first researcher was responsible for counseling and following



**Figure 1.** Flow diagram of the entry and grouping of participants in the research

participants after they entered the study. All counseling sessions were performed in the health centers. The face-to-face counseling group received eight sessions for 45-60 minutes and the group counseling group received eight sessions for 90-120 minutes. After the end of the counseling sessions, both groups received a 30-minute relaxation exercise (10, 12, 13, 20) (Table 1). The control group received routine care during the study. Also, after the intervention, two group counseling sessions were performed for the control group in accordance with the rules of group counseling.

Each intervention group was consulted once a week. The content of the counseling sessions was designed in accordance with counseling skills and health counseling (12) using micro skills techniques of Ragerss counseling (20). According to the principles and nature of group and individual counseling (12, 21), the counseling sessions were managed by the first researcher as a midwifery counselor and certified midwife. Finally, 6-8 weeks after the last consultation session, the post-test was used to evaluate clients' attitude and the selected birth method in each three groups.

Eventually, the researcher checked the birth method by attending the hospital at the time of delivery, or by reviewing the hospital records. Data were analyzed using

SPSS software, version 22, using one-sample Kolmogorov-Smirnov test, and Chi-square, ANOVA, McNemar, and *t* tests.  $P < 0.05$  was considered significant. Ethical issues of the study were approved by the Research Ethics Committee of Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran (IR.AJUMS.REC.1394.92). Also, oral and written informed consent was obtained from all participants. This study was registered in the Iranian clinical trials registry (code: IRCT2015061422720N1).

## Results

In this study, 150 pregnant women preferring elective CS were randomly divided into three groups of face-to-face counseling, group counseling, and control group. There were no differences in socio-demographic characteristics between the randomized groups (Table 2).

All participants in the three groups had requested to give birth through CS. The decision of 46 (92%) women from the group counseling and all participants from the face-to-face counseling group plus six (12%) from the control group changed to normal vaginal delivery after attending counseling sessions. In terms of selecting the mode of delivery, there was no significant difference between the participants in group counseling and face-to-face counseling groups ( $P = 0.117$ ). However, there was

**Table 1.** Outline of the health counseling intervention (10, 12, 13, 20)

Sessions	Counselor	The content of the sessions	Relaxation
1		The client or clients were acquainted with the counselor and the members of the group. The objectives of the counseling sessions were then explained and the members were informed of the routine of the sessions.	
2	Midwife*	Information regarding the clients' needs, anxieties, and concerns were obtained. Also, the client attitude, feeling, and beliefs about the birth methods were identified.	Run for 30 minutes
3	midwife	The causes of women's fear and anxiety about normal childbirth were examined, and the necessary consultation was given in this regard.	
4	midwife	Changes in the body and genital tract during pregnancy were described. Also, the natural ability of women to give birth and how the body regenerates itself in the postpartum period were explained.	Run for 30 minutes Run for 30 minutes
5	midwife	Informing the disadvantages and benefits of each birth method.	Run for 30 minutes
6	midwife	The clients were informed of subjects such as hospital routine and the procedure of labor, pain relief techniques, feeling like a mother, postpartum care and bonding with the infant.	Run for 30 minutes
7	midwife	The clients were accompanied by their husbands, with the benefits and harms of birth methods and their impacts on the mother and neonate explained	Run for 30 minutes
8	midwife	The clients and their husbands attended the counseling session again. At this session, the procedure of becoming a family, changes in relationships, parenthood, neonate bonding, and also planning for delivery were discussed.	Run for 30 minutes

\* A person who has midwifery counseling certificate.

a significant difference between the intervention groups and the control group ( $P < 0.001$ ). In terms of opting for a delivery method, in the group counseling, 70% had a successful vaginal delivery. In the face-to-face counseling group, 78% had a successful vaginal delivery. In the control group, 10% had a successful vaginal delivery. However, there was no statistically significant difference between the two intervention groups, but there was a statistically significant difference between the intervention and control groups (Table 3).

In evaluating the attitude level of the participants on birth methods in the group counseling group, before counseling, 14% of the participants had a positive and 86% had a moderate attitude, while it changed to 94% positive and 6% moderate attitude at the end of the counseling sessions. Also, in the face-to-face counseling group, before the intervention, 14% had positive and 86% had a moderate attitude, while after intervention, 100% of the participants changed their attitude to positive. Also, in the control group, before the study, 12% had positive and 88% had a moderate attitude, while after the end of the study, 100% of the participants changed their attitude to negative (Table 4).

## Discussion

The results showed that health counseling in the face-to-face group as well as the group counseling method could change the birth method selection. Also, health counseling in both interventional groups group had a significant role in choosing the delivery method and reducing the rate of cesarean delivery compared with the control. Our results were in line with the findings of Yamasmith and colleagues regarding women's preference and attitude towards the type of delivery. They found a positive relationship between good attitude to normal delivery and natural delivery choice (22). Likewise, the findings of this study are consistent with another study on the effect of group training during pregnancy on attitude and choosing the type of delivery in primiparous women in terms of increasing the rate of positive attitude to normal delivery (23). On the other hand, our results were not consistent with the findings of Ghadimi and co-workers regarding attitude to birth method, with the most positive attitude belonging to cesarean delivery. This discrepancy may be attributed to the research samples. In the mentioned study, most participants had a history of previous childbirth, while our participants were all primigravida (24). Also, another study comparing the

**Table 2.** Socio-demographic characteristics of participants in the study

Variables	Group Counseling N=50	Face-to-face counseling N=50	Control group N=50	P value
Age, Mean±SD (years)	26.4 ± 3.12	25.84 ± 3.29	25.06 ± 2.91	0.254
Husband Age, Mean±SD (years)	30.38 ± 5.17	30.58 ± 4.01	30.10 ± 2.83	0.843
<b>Ethnicity, n (%)</b>				
Persian	42 (84)	39 (78)	37(74)	
Lor	8 (16)	9 (18)	11(22)	0.667
Other	0 (0)	2 (4)	1(2)	
<b>Education, n (%)</b>				
Diploma and under the diploma	16 (32%)	15 (30%)	20 (40%)	
University Education	34 (68%)	35 (70%)	30 (60%)	0.489
<b>Husband Education, n (%)</b>				
Diploma and under diploma	22 (44%)	19 (38%)	11 (22%)	0.106
University Education	28 (56%)	31 (62%)	39 (78%)	
<b>Job, n (%)</b>				
Housewife	49 (98)	45 (90)	43(86)	
Employee	1 (2)	5 (10)	7(14)	0.206
<b>Family Income level, n (%)</b>				
Very good	4 (8)	0 (0)	2 (4)	
Good	17 (34)	18 (36)	20(40)	0.324
Moderate	25 (50)	31 (62)	26(52)	
Weak	4 (8)	1 (2)	2(4)	
<b>Housing situation, n (%)</b>				
Personal	19 (38)	25 (50)	16(32)	
Rental	15 (30)	13 (26)	20 (40)	0.508
Living with family	16 (32)	12 (24)	14 (28)	
<b>Insurance, n (%)</b>				
Yes	47 (94)	48 (96)	48 (96)	
No	3 (6)	2 (4)	2 (4)	0.861

statistical method = ANOVA , Chi-square

**Table 3.** The frequency of birth methods chosen, before and after the intervention in the groups as well as birth method

Variables	Face-to-face counseling N=50 n (%)	Group counseling N=50 n (%)	Control group N=50 n (%)	P value
<b>Pre-intervention</b>				
Cesarean section	50 (100)	50 (100)	50 (100)	
Normal vaginal delivery	0 (0)	0 (0)	0 (0)	
<b>Post intervention</b>				
Cesarean section	0 (0)	4 (8)	44 (88)	
Normal vaginal delivery	50 (100)	46 (92)	6 (12)	0.001
P value (pre and post)	0.001	0.001	0.31	
<b>Birth methods performance</b>				
Elective cesarean section	0 (0)	4 (8)	42 (84)	
Vaginal delivery	39 (78)	35 (70)	5 (10)	0.001
Emergency cesarean section	7 (14)	6 (12)	3 (6)	
Advised cesarean section by physician	4 (8)	5 (10)	0 (0)	

statistical method= Pearson Chi-square, McNemar

**Table 4:** The levels of attitude regarding birth methods, before and after the intervention in the groups

Variables		Group Counseling N=50 n, Percent	Face-to-face counseling N=50 n, Percent	Control group N=50 n, Percent	P Value	
Levels of attitude	Pre-intervention	Negative	----	----	----	
		Moderate	43 (86%)	43 (86%)	44 (88%)	0.264
		Positive	7 (14%)	7 (14%)	6 (12%)	
	Post-intervention	Negative	----	----	50 (100%)	
		Moderate	3 (6.0%)	----	----	0.001
		Positive	47 (94.0%)	50 (100%)	----	
P value (pre and post)		0.001	0.001	0.001		

statistical method= One-sample Kolmogorov-Smirnov test

effectiveness of two intervention methods of preparation for natural vaginal delivery (respiratory and relaxation techniques and psychological counseling) and standard antenatal training (routine training related to maternity and parenthood) were in line with the results of childbirth in our study. In the mentioned study, after intervention, the major choice of delivery method and type of delivery performed in both intervention methods was normal delivery (25). The results of this research on choosing the method of childbirth are also another related study (10). The results of the present study showed that the choice of natural childbirth in both groups increased after the intervention. Saisto and Halmesmaki reported that most pregnant women who feared childbirth had a normal vaginal delivery after psychological counseling and relaxation (26).

Despite the limitations such as the influence of the opinions of family and friends, as well as the researcher's lack of control on the conditions of the maternity hospital and decisions of the gynecologist and maternity care staff about the delivery method of the participants, the present study offered insight regarding the choice of birth method and its changes after the intervention. The participants in this study all selected CS first and did not want to undergo vaginal delivery method; however, after attending the counseling sessions, they became interested in normal vaginal delivery.

### Conclusion

The results indicated that in both intervention groups, health counseling method was found to be an effective method to enhance the positive attitude of vaginal birth in nulliparous pregnant women. It could also help women make an informed decision, increase the rate of normal vaginal delivery, decrease the rate of CS and costs for health care. Since this method of counseling has been highly effective, we recommend to assess its effects with a broader geographical distribution in future studies.

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### Disclosure of interests

The authors declare that there is no conflict of interests regarding the publication of this paper.

### Contribution to authorship

In this study data collection process, analysis and interpretation of data, as well as counseling and training sessions were undertaken by M.N. as a Master of Midwifery Counseling. The first supervisor, K.H. contributed to the development of the study and analysis and interpretation of the data. Analysis, interpretation, and reporting data were supervised by Z.A. as the second supervisor. A.K. monitored statistical methods and analyzed statistical data. This manuscript is approved by all authors and is not under consideration for publication elsewhere. They were also in agreement with the final version submitted to the journal.

### Ethical Consideration

Ethical issues of the study were approved by the Research Ethics Committee of Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran (IR.AJUMS.REC.1394.92). In addition, informed consent (oral and written) was obtained from all participants.

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### Clinical trial registration code

This study was registered with the registration code IRCT2015061422720N1 in the clinical trial website.

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