

# The Influence of Supportive Interventions On Decision Self-Efficacy and Decision Conflict in Mothers with Previous Cesarean Section to Choose Mode of Delivery: A Randomized Clinical Trial

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ARTICLE INFO	ABSTRACT
<p><i>Article type:</i> Original article</p>	<p><b>Background &amp; aim:</b> Vaginal birth after cesarean section is a strategy which is recommended to reduce repeat cesarean section. Concerns about its complications can cause crisis in decision making. Therefore, this study was performed to investigate the effect of supportive interventions on decision self-efficacy and decision conflict in mothers with previous cesarean section to choose mode of delivery.</p> <p><b>Methods:</b> This randomized clinical trial was carried out on 60 pregnant women with a history of previous cesarean section and gestational age of 28-30 weeks, who referred to the health centers in Bojnourd, Iran in 2020. The participants were randomly divided to intervention and control groups. Supportive interventions in the intervention group included in-person supportive counseling approach via three 45-minutes sessions per week, telegram channel, educational pamphlet and telephone. Data was collected in both groups before and four weeks after intervention by valid and reliable decision self-efficacy and decision conflict questionnaires. The analysis of data was done by SPSS software (version 25) using independent t-test, paired t-test and Mann-Whitney.</p> <p><b>Results:</b> There was a statistically significant difference in mean scores of decision self-efficacy (<math>P=0.005</math>) and decision conflict (<math>P=0.010</math>) in the intervention group four weeks after supportive interventions. While, the difference in mean scores of these variables was not significant in the control group.</p> <p><b>Conclusion:</b> Supportive interventions could help to improve the decision self-efficacy and decrease decision conflicts in mothers with previous cesarean section to choose vaginal birth after cesarean section. It can be recommended as an effective strategy to promote natural birth.</p>
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## Introduction

Nowadays, excessively increasing rate of cesarean section (CS) has become one of the major problems in maternal health care(1). Previous C-section is the most common cause of high rate of caesarean sections in most parts of the world and Iran (2, 3). According to the

guidelines of the Ministry of Health and Medical Education in Iran, Vaginal Birth After Cesarean (VBAC), as a suitable alternative for Repeat Cesarean Section (RCS) (4), reduces maternal complications in current and subsequent pregnancies and reduces cesarean section rate

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at national level (5-7). VBAC can be performed following the mother's request and her choice and participation in decision-making process (7). Women's decisions about VBAC are affected by lack of awareness of vaginal birth after cesarean section (8), uncertainty about the outcome of childbirth, fear of unpleasant experiences, lack of access to a physician whose agree with this decision, the insistence of others for the mode of delivery (subjective norms) (9), lack of self-confidence, negative attitude to vaginal delivery, lack of self-efficacy in decision-making process (10). Decision-making process refers to choosing one of several solutions and weighing the pros and cons on a particular issue, that ambiguity and incompatibility in this process is called decisional conflict. Some of the most important factors of decisional conflict include the existence of benefits and risks that cause doubt in decision making and the variable factors that can make a difficult decision, including decreased awareness, uncertain personal values, unrealistic expectations, social pressures, lack of support and reduced self-confidence (11). Therefore, pregnant women should be encouraged to consider all choices about a particular topic and evaluate their performance, experiences and personal values (12); this needs self-efficacy (13). Self-efficacy is the most important prerequisite to predict behavior in stressful situations, and its promotion is an important strategy for active participation in behavior change (13, 14). Decision-making self-efficacy refers to a person's self-confidence in the ability to make decisions in a way leading to desired outcomes.

Concerns about the complications of VBAC in previous cesarean section mothers lead to experience crisis and conflict in decision-making; therefore they need help in making decisions (10, 14). Supportive counseling is considered as one of the appropriate interventions to help mothers in this field. A process that facilitates behavior change, strengthens coping and decision-making skills (3, 15). One of the main goals of supportive counseling is to help healthy people who are in a crisis or temporary state of turmoil to better adapt to stressful situations in all types of counseling methods available (8, 16). Supportive counseling is a client-centered

approach aimed to increase clients' self-esteem, performance, and adaptability skills.

The overall goal of supportive counseling is to maximize the adaptive capacity of client (8). Rostampoor et al. in their study concluded that supportive counseling helps to promote self-care behavior in patients with gestational diabetes and can be used as an effective method to reduce the adverse consequences of gestational diabetes (17). Glavin et al. reported that supportive counseling reduced maternal depression during the postpartum period (18). Shepherd et al. concluded that face-to-face supportive counseling reduced decision-making conflict and increased treatment self-efficacy in patients with colorectal cancer (19).

Based on the results of a qualitative study, decision making barriers have been reported as one of the individual barriers to vaginal birth after cesarean section and its low rate in Iran (20). So, this study was designed to promote VBAC as a suitable alternative to repeat C-section, to evaluate the importance of decision self-efficacy and reducing decision conflict in choice behavior. Due to the lack of access to a study with a supportive counseling approach in previous cesarean section mothers, this study was performed to investigate the effect of supportive interventions on decision self-efficacy and decision conflict in mothers with previous cesarean section to choose mode of delivery.

## Materials and Methods

This randomized clinical trial (IRCT20200614047768N1) was performed using a Pre-test/Post-test control group design, after approval by the ethics committee of Mashhad University of Medical Sciences, Mashhad, Iran, under code of IRNURSE.REC.1399.018 in 2020.

Inclusion criteria included history of one previous cesarean section, gestational age of 28-30 weeks, ability to read and write, more than 6 months' interval between prior cesarean and first day of the last menstrual period in the current pregnancy, childbirth fear score less than 85 from Vijima questionnaire version A, body mass index (BMI) of 18.5-29.9 kg/m<sup>2</sup>, pregnancy without infertility treatment, no mental or medical illness, no indication for cesarean section in the current pregnancy. The

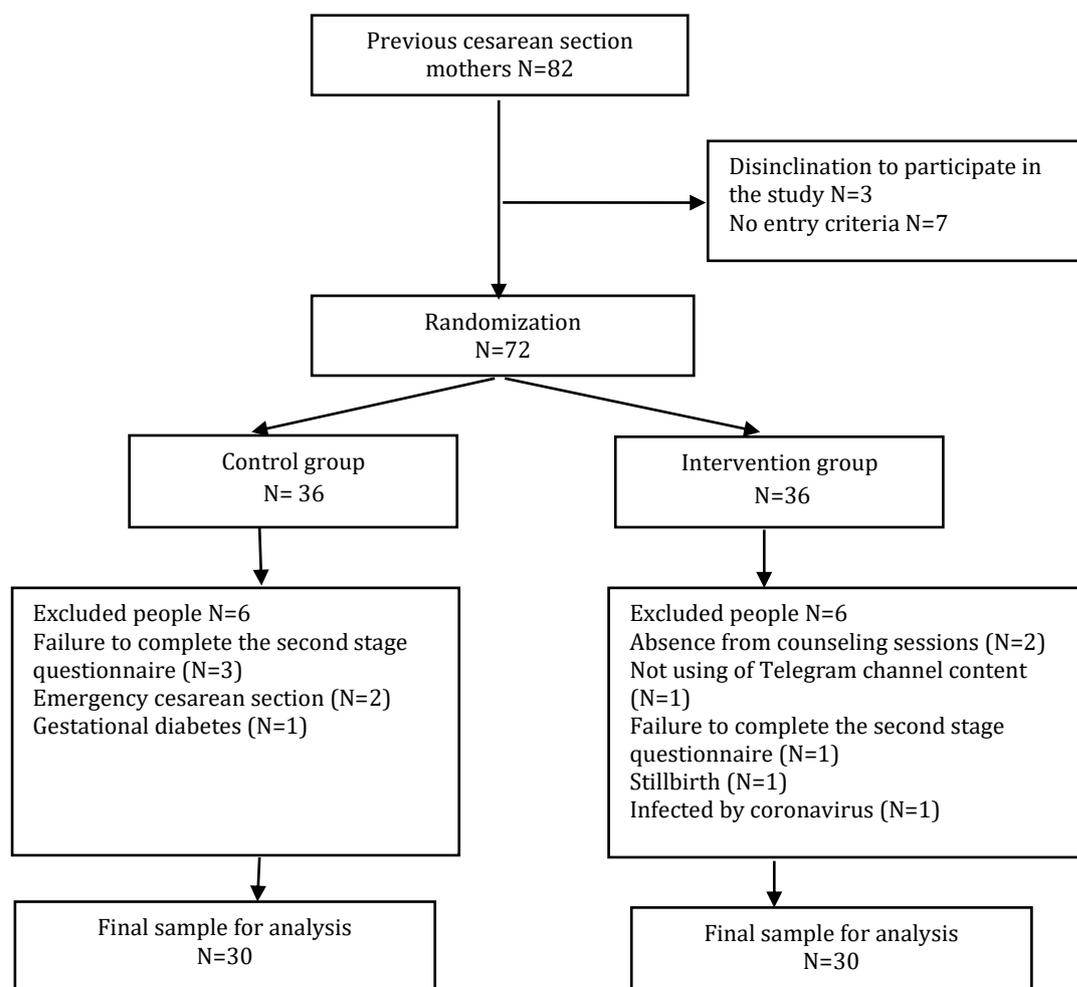
subjects were excluded from the study if they did not attend at least one of the counseling sessions, did not participate in the post-test measurements, had pregnancy termination before the end of research period, and failed to receive telegram channel content and pamphlets during study period.

The sample size for each group was estimated 36 peoples based on pilot study with 10 people at each group in the same population, considering 5% error and 80% power with drop-out rate of 20%. Sampling was done by multi-stage method among the comprehensive health centers in Bojnourd.

At first, two comprehensive health centers were randomly selected from all of health

centers of Bojnourd and then, from each center, two affiliated centers were selected according to the total number of clients and the physical space available for counseling. Each center was randomly allocated to a group to prevent interaction and dissemination of information between two groups. Since the enough samples were not obtained from these places, the nearest center to each of those was selected and sampling continued. Convenience sampling was done inside each center. After obtaining written consent and ensuring the confidentiality of information, demographic, decision self-efficacy and decisional conflict questionnaires were completed.

**Figure 1.** CONSORT Flowchart



The Decision Making Self-Efficacy Questionnaire includes 11 short phrases about a person's confidence in making informed decisions. All questions of this questionnaire were answered based on 5-6 version of Decision Making Self-Efficacy Questionnaire was performed based on the Brisselsen model using back translation method for validity, and then the validity of the modified final version was approved by faculty members of nursing and midwifery school and experts in content validity. Also, its reliability was confirmed using intraclass correlation coefficient (ICC) ( $I_c = 0.84$ ). The decisional conflict scale (DCS) was used to measure uncertainty in choosing the type of delivery among pregnant women. The scale includes 16 questions with a 5-point Likert scale that each phrase is scored from one to five. Total average of this scale, above 2.5, is the highest level of conflict in decision making and the average of two or less is considered as non-conflict in decision making and implementation of decisions. The validity and reliability of decisional conflict scale (DCS) has been confirmed by Tohil (2014) with Cronbach's alpha coefficient (0.78) (8). In the present study, its validity was determined by content validity method by faculty members and its reliability was determined by intra-cluster correlation coefficient, it was 0.86.

For the experimental group, supportive interventions were performed by the researcher in three 45-minute sessions of In-Person counseling weekly through supportive counseling approach based on these steps: explanation, guidance, reassurance, encouragement and emotion discharge (9).

The first session was held to discuss the mother's experience of previous cesarean section and its indication, then counseling was conducted based on supportive counseling steps including: explanation (right to choose mode of delivery, mechanism of vaginal delivery, complications of repeated cesarean section. Then, pamphlet was delivered and message channel link was presented at the end of session. Supportive counseling can be performed based on the needs of individuals with an integrated approach, so during the intervention, the focus was on the mother's need to support the choice of birth mode. The second session was held

based on reassurance (benefits of vaginal birth for mother and baby, comparison of advantages and disadvantages of VBAC, success rate of VBAC and guidance methods of labor analgesia, relaxation techniques in labor, different positions in labor and birth, accompanying support, helping to remove barriers to choose from their point of view). In third session, counseling was performed based on emotion discharge and encouragement and guidance of the mother with a focus on increasing the self-efficacy of the mother for choosing in a conscious manner, including encouragement (experience of mothers with a history of VBAC, presentation of statistics, success rate of VBAC) and leave for emotional discharge (listening to clients talk about feelings, beliefs, experiences, expectations about childbirth). At the end of third session, phone number was provided to the research unit to resolve any questions or ambiguities if needed by calling or sending text messages. Also, based on mother request or the discretion of the researcher, refer to gynecologist who's agreed with vaginal birth after cesarean was predicted.

The control group received integrated maternal health care according to the booklet. Decision self-efficacy questionnaire and Decisional Conflict Scale (DCS) were completed by the research units in two groups before and one month after the intervention. Data were analyzed by SPSS software (version 25) and Kolmogorov-Smirnov test, independent t-test, paired t-test, chi-square and Fisher precision. In all tests,  $P < 0.05$  was considered statistically significant.

## Results

At the beginning of the study, 72 women entered the study and 12 subjects excluded during the study (flowchart). Data was gathered from 60 women at the end of study. The homogeneity of the study variables was investigated accordingly (Tables 1-a and 1-b).

According to the results of independent t-test, before the intervention, there was a significant difference in the mean scores of decision self-efficacy between the intervention ( $48.5 \pm 17.7$ ) and control ( $61.89 \pm 9.1$ ) groups ( $p = 0.009$ ). Therefore, the changes have been reported in both groups (Tables 2).

There was no significant difference in the mean score of decision conflict between the two groups before the intervention ( $P = 0.762$ ), but after the intervention, the mean score of

**Table 1-a.** Demographic characteristics of the participants

Quantitative variable	Supportive counseling	Control	P-value
	N= 30	N = 30	
	Mean±SD	Mean±SD	
Age (year)	29.53±3.79	28.93±5.45	*P=0.825
Gestational age (week)	28.03±1.13	28.60±1.45	*P=0.124
Body mass index (kg/m <sup>2</sup> )	24.87±2.69	25.93±3.00	*P=0.124
Number of gravidity	2.37±0.72	2.47±1.11	*P=0.861
Birth weight (gr)	3024±478.9	3225±448.3	**P=0.861
Number of children	1.07±0.37	1.17±0.53	P=0.313
Number of abortions	0.3±0.53	0.33±1.06	*P=0.26

\* Mann-Whitney test \*\* Independent t-test

**Table 1-b.** Characteristics of the participants

Qualitative variable	Supportive counseling	Control	P-value
	N= 30	N= 30	
	N (%)	N (%)	
<b>Occupation</b>			
Housewife	27(90)	26(86.7)	*p>0.999
Working	3(10)	4(13.3)	
<b>Educational level</b>			
Reading and writing literacy	0(0)	3(10)	
Primary education	5(16.7)	4(13.3)	
Middle education	3(10)	1(3.3)	*P=0.474
Secondary education	10(33.3)	9(30)	
University degree	12(40)	13(43.3)	
<b>Type of pregnancy</b>			
Planned	21(70)	11(36.7)	**P=0.010
Unplanned	9(30)	19(63.3)	
<b>History of infertility</b>			
Yes	1(3.3)	2(6.7)	*p>0.999
No	29(96.7)	28(93.3)	
<b>History of vaginal birth</b>			
Yes	1(3.3)	3(10)	*P=0.612
No	29(96.7)	27(90)	
<b>Satisfaction with the previous C-section</b>			
Yes	27(90)	24(80)	*P=0.472
No	3(10)	6(20)	
<b>Partner advice</b>			
Normal delivery	0(0)	5(16.6)	
Repeated cesarean section	22(73.3)	25(83.3)	*P=0.475
Vaginal birth after cesarean section	6(20)	5(19.7)	
No comments	2(6.7)	0(0)	
<b>Participation in childbirth preparation classes</b>			**P=0.176
Yes	13(43.3)	8(26.7)	
No	17(56.7)	22(73.3)	
<b>Family income</b>			**P=0.771
Below sufficient	9(30)	7(23.3)	
Sufficient	21(70)	23(76.7)	

\* Fischer's exact test \*\*Chi-Square

**Table 2.** The mean scores of decision self-efficacy in the two groups one-month post-intervention

Variables	Supportive counseling N= 30 Mean±SD	Control N = 30 Mean±SD	P-value
Decision self-efficacy			
Pre-intervention	48.5±17.7	61.89±9.1	<b>**P=0.009</b>
One month post-intervention	75.47±9.7	60.7±19.9	<b>*P=0.005</b>
Mean changes	26.8±20.6	-1.14±4.5	<b>***P&lt;0.001</b>
P-value	*P<0.001	*P=0.206	

\*\*\*Mann-Whitny test \*\*Independent t-test \*Willcoxon test

decision self-efficacy and decision conflict between the two groups was significant ( $P = 0.005$ ) and ( $P = 0.010$ ), respectively.

Table 3 showed the results of the mean scores of decision self-efficacy before and after the intervention. Table 4 showed the results on decision conflict scores before and after the intervention (Tables 3).

**Table 3.** The mean scores of conflict self-efficacy in the two groups one-month post-intervention

Variables	Supportive counseling N= 30 Mean±SD	Control N = 30 Mean±SD	P-value
Conflict self-efficacy			
pre-intervention	2.54±0.65	2.05±0.66	<b>**P=0.726</b>
One month post-intervention	1.96±0.39	2.006±0.66	<b>**P=0.010</b>
P-value	*P<0.001	*P=0.163	

Paired t test \*\*Independent t-test

## Discussion

Despite the recommendation of Iran's ministry of health to propose VBAC to qualified candidates as well as evidence based on high success rate of VBAC (72-75%) (10), but its rate in Iran is very low (0.8%); it seems that the health care system has not accepted this necessity (23), as a result, previous cesarean section mothers have not gain the necessary self-efficacy in choosing the mode of delivery after cesarean and in this situation, decision conflict becomes more pronounced. According to the results of the current study, four weeks after the intervention, decision self-efficacy to choose vaginal childbirth in women with previous cesarean section increased in the intervention group and decision conflict significantly reduced compared to the control group. Moghaddam Tabrizi et al. (2016) in their study aimed to determine the effect of natural childbirth preparation classes on self-efficacy in adapting to delivery of pregnant mothers (24) concluded that natural childbirth preparation classes have a significant effect on promoting

self-efficacy and adaptation to labor in pregnant women. Improving self-efficacy in performing the desired behavior is considered as the similarity of the present study with the study of Tabrizi.

Miller et al. (2017) who examined the interaction between the informing role of health care providers and the position of women in decision-making in delivery preferences and choosing mode of delivery after cesarean, concluded that women who were exposed to incomplete and biased information in favor of repeat cesarean section and risk assessment of VBAC are less likely to prefer vaginal birth after cesarean compared to people who receive complete and non-recipient information and definitive risk assessment. In the present study, counseling was performed by the researcher based on positive communication, empathetic support and neutrality and its effect on the decision self-efficacy in choosing VBAC was evaluated, which is consistent with the results of Miller's study (25).

Also, according to the study of Hamidzadeh et al. (2012) aimed to determine the effect of

computer training on the self-efficacy of pregnant women in adaptation to childbirth, a significant increase in the level of self-efficacy was observed in pregnant women after the computer training program (26). One of the dimensions of support in the present study was the use of Telegram channel. The results of the present study showed that the use of technology is an effective tool to increase women's self-efficacy. According to the results of other studies, there is a significant relationship between decision self-efficacy and choose of VBAC (27), also, self-efficacy is a key element in women's desire for natural childbirth and her choice as the preferred method of childbirth (28). Hadizadeh et al. (2021) assessed the effect of shared decision making on the mode of delivery and decisional conflict and regret in pregnant women with previous cesarean section. They demonstrated that shared decision making counseling sessions increase awareness, value clarity, as well as decision support. Therefore, it can reduce decisional conflict and regret, as well as increase the rate of VBAC (29). Since they had similar approach in counseling, their findings were consistent with the findings of the present study. Reduction of conflict in decision making and similarity of the content presented in the intervention group has been one of the similar aspects of these interventions.

Horey et al. (2013) in their study concluded the interventions such as: computer based information and educational booklet about the benefits of planned vaginal birth after cesarean, providing an educational program by an experienced nurse and providing decision support by health professionals responsible for a woman's care, had a significant effect on reducing decision conflict. Due to the similar interventions in the present study, similar results with Horey's research and Ghoreyshi et al. (2022) can be justified (30, 31).

One of the strengths of this study was using various strategies to support mothers in birth mode counseling by midwives especially during prenatal care during coronavirus crises. This crisis could have a significant effect on the willingness of mothers to perform cesarean delivery due to short length of labor. This concurrence was one of the limitations of this

study which influence the decision conflict and self-efficacy of mothers.

## Conclusion

Mothers with previous cesarean section need help to improve their decision self-efficacy and decrease decision conflicts in choosing vaginal birth after cesarean section; supportive interventions can be recommended as an effective strategy for this necessity. The health care system in each country must design and implement these interventions.

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## Conflicts of interest

Authors declared no conflicts of interest.

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