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Effect of Couples Counseling Based on the Problem-Solving Approach on the Fear of Delivery, Self-Efficacy, and Choice of Delivery Mode in the Primigravid Women Requesting Elective Cesarean Section

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Abstract

Background: Fear is an important factor that causes pregnant women to opt for cesarean section. Women with the fear of childbirth consider labor pain to be beyond their power. Basically, these women request cesarean section only to avoid normal vaginal delivery, which indicates their low self-efficacy in normal vaginal delivery.

Objectives: The present study aimed to investigate the effects of couples counseling based on the problem-solving approach on the fear of delivery, self-efficacy, and choice of delivery mode in the primigravid women requesting elective cesarean section in Zanjan, Iran.

Methods: This quasi-experimental study was conducted on 76 pregnant women in the second trimester of pregnancy and their spouses. The women were eligible for elective cesarean section and met the inclusion criteria. The intervention was based on the problem-solving counseling approach with the couples, which was performed in three weekly sessions at the clinic of Shahid Beheshti Hospital in Zanjan, Iran. Data were collected using the questionnaires of knowledge and attitude, Wijma delivery expectancy/experience questionnaire, and Louis' self-efficacy scale at the baseline and after one month of the final session. Data analysis was performed using independent t-test, Chi-square, and one-way analysis of variance (ANOVA).

Results: Significant differences were observed in the mean scores of knowledge and attitude of women and men, and fear of delivery and self-efficacy of women between the intervention and control groups after counseling ($P<0.001$). The women in the intervention group were significantly more likely to do normal delivery compared to the control group ($P<0.001$).

Conclusion: According to the results, couples counseling based on the problem-solving approach could be effective in reducing the fear of delivery and increasing the self-efficacy of primigravid women. Furthermore, it could improve the knowledge and attitude of couples, thereby decreasing the rate of cesarean section and tendency toward this mode of delivery.

Keywords: cesarean section, counseling, self-efficacy, wijma delivery expectancy/experience questionnaire

Introduction

In order to prevent the occurrence of maternal and infantile complications under specific circumstances, normal delivery is replaced by cesarean section. However, there has been alarming rise in the rate of cesarean section, which is considered to be a global health concern [1]. According to the World Health Organization

(WHO) (2010), 41.9% of cesarean deliveries are reported in Iran, and our country holds the second rank in the world in this regard. According to statistics, the rate of cesarean section in developed countries such as the United Kingdom is estimated at 22%, while it is reported to be 30.3% in the United States [2]. In a study, ShakibaZadeh et al. (2014) reported the frequency of cesarean section in Zanjan city (Iran) to be 42.25%, 59.3% of which occurred in primigravid women [3]. Due to the complications of this surgery, the globally accepted cesarean section rate is 5-15% of all deliveries [4].

In Iran, more than 70% of pregnant women request cesarean section for invalid reasons, 92% of which is due to the fear of labor pain and complications of normal delivery (e.g., fear of pelvic floor injury and disruption of sexual relations). Among the other influential factors in this regard are the physician's advice, lack of pre-delivery training, and spouse's request [5].

Fear is an important factor that causes women to opt for cesarean section. Women with the fear of childbirth consider labor pain to be beyond their power. As a result, they request cesarean section only to avoid normal delivery, which also indicates their low self-efficacy in normal delivery [6]. In Iran, despite the availability of prenatal care for all women, there are no organized programs for the provision of delivery training in the prenatal care system. Despite the health instructions on the presence of women in prenatal training classes with their spouses, Iranian pregnant women only receive brief information during 5-10 minutes of normal prenatal care [7]. Although the number of the participants in delivery preparation classes has increased recently, the majority of the participants are the women who are already willing to undergo normal delivery [8]. After raising knowledge as the first effective step, Khorsandi et al. (2013) reported self-efficacy to be an inherent element in controlling the fear of delivery and the choice of delivery mode [9].

From the perspective of human ethology, self-efficacy is the most important prerequisite for predicting behaviors in stressful situations. Self-efficacy involves assessing individuals in terms of their ability to cope with stress and performing critical behaviors, especially during labor and childbirth. Higher self-confidence in coping with labor during pregnancy has been shown to facilitate labor. Moreover, inspections have indicated that an association between the fear of delivery, self-efficacy, and choice of normal delivery [10].

Considering the dependence of pregnant women on their spouses during the third trimester of pregnancy [11], Moridi et al. (2015) claimed that couples training is more effective than individual training in protecting and enhancing the mental health of pregnant women [12]. As such, spouses play a pivotal role in increasing self-efficacy, reducing the fear of childbirth, and choice of delivery mode in women.

Among various counseling methods, Mynors-Wallis addressed problem-solving skills as a new approach for healthcare providers, including midwives. Problem-solving requires the individual to adapt to problematic interpersonal situations by identifying their effective skills. This training leads to active collaborations between the consultant and client, with the client playing the active role [13].

Given the importance of decreasing the rate of cesarean section, effects of simultaneous couples training on selecting the mode of delivery, high dependence of women on their spouses in the third trimester of pregnancy, and supportive role of spouses in this period [11,12] and considering the lack of similar studies in Iran, the present study aimed to assess the effects of couples counseling based on the problem-solving approach on the fear of delivery, self-efficacy, and the choice of delivery mode in the primigravid women requesting elective cesarean section.

Methods

This quasi-experimental study was conducted during October 2016-May 2017. Participants were selected via convenience sampling from the patients who were willing to be enrolled in the study and attending to the offices of four gynecologists in Zanjan. The participants were divided into two groups of intervention (couples counseling) and control based on their inclinations.

Out of 1,142 investigated cases, 531 pregnant women met the inclusion criteria of the study. These subjects were all contacted, and 437 cases were excluded due to dissatisfaction with the study. After the necessary arrangements regarding the time and place of the first counseling session, they participated in the first session upon providing written informed consent. Based on the study by Sharifi Rad, the sample size in each group was estimated at 35 couples (α=0.01, β=0.05). Based on the Cochran's formula and considering 10% sample loss, 38 subjects were assigned to each group [14].

Inclusion criteria of the study were as follows:

1) singleton pregnancies;
2) primigravid women;
3) gestational age of 28-32 weeks based on the first day of the mother's last menstruation or ultrasonography of less than 12 weeks [14];
4) no obstetric complications during pregnancy;
5) no simultaneous participation in childbirth preparation classes;
6) lack of indications for cesarean section;
7) no history of physical or mental disorders and
8) infertility of the couples.

Exclusion criteria were as follows:

1) abnormal complications before the onset of labor, preventing normal delivery;
2) change of residence and unavailability;
3) absence in one of the counseling sessions and
4) unwillingness to continue the study.

Correspondingly, one of the participants in the intervention group was excluded from the study due to preterm labor, another participant was excluded due to preeclampsia, and three subjects in the control group were excluded due to preterm labor. The sampling process was fully shown in Diagram 1.

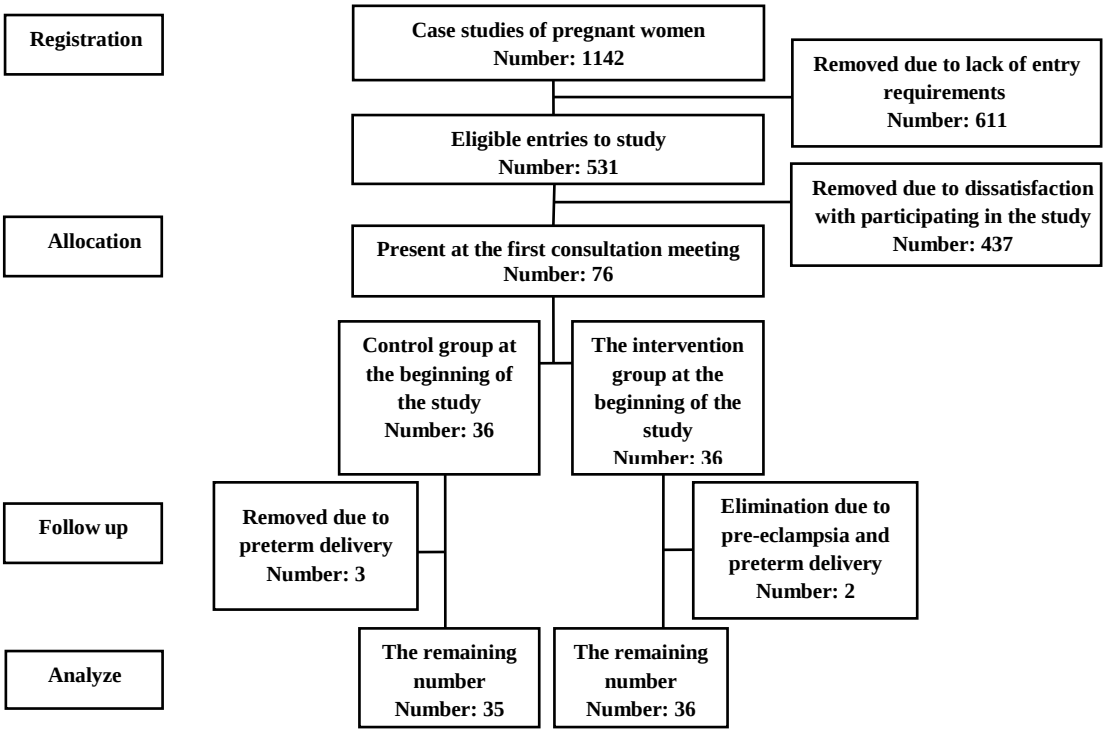

Diagram 1: Participants chart in the study

The intervention was performed in the form of three weekly counseling sessions based on the problem-solving approach by an expert in midwifery counseling (the same counselor implemented the sessions). The educational contents of the sessions were planned based on

the necessary training, knowledge of social support sources, acquisition of emotional support, and positive interpretation of the problem. In the first counseling session, the researcher was introduced to foster proper communication with the couples, and the research objectives, procedures, and methodology (number and duration of the sessions) were explained. In addition, the participants were informed on the stages of normal delivery and cesarean section, as well as the role of women in maternal adaptation with the physiological and psychological changes during pregnancy. As the assignment, the couples were asked to note the causes of the problem (i.e., cesarean section) or sources causing the problem (e.g., negative thoughts and self-talks) about normal delivery until the second counseling session.

The second session involved reviewing the contents of the first session, causes of the problem, methods to avoid negative self-talk, and benefits and disadvantages of normal delivery and cesarean section using videos, training pamphlets, and a researcher-made Telegram Robot.

Moreover, social support was provided in the family and community. As the assignment, the participants were asked to prepare a list of solutions through brainstorming (e.g., methods to overcome childbirth fears) for the third session. The third session involved reviewing the contents of the previous sessions, respiratory techniques, and some methods to overcome stress. Additionally, the provided solutions by the couples for coping with the problem were reviewed; the most effective solutions were selected by the couples to evaluate their merits. Finally, it was recommended that the selected solutions be applied to overcome the problems arising during pregnancy. It is notable that the control group only received routine care.

Data were collected using a demographic questionnaire (nine items), the questionnaire of the choice of delivery mode consisting of three sections of knowledge (10 multiple-choice items), attitude (30 items scored based on a five-point scale, with the inverse scoring of item 29), and the choice of delivery mode (one item), and Wijma delivery expectancy/experience questionnaire (32 items scored based on a five-point, with the inverse scoring of items 3, 6-8, 11, 12, 15, 19, 20, 24, 25, 27, and 31). The minimum and maximum scores of the mentioned questionnaire were zero and 165, respectively.

Another research instrument was the self-efficacy scale by Lui, which consisted of 18 items scored based on a 10-point scale. The minimum and maximum scores were considered to be zero and 180, respectively. This questionnaire was completed in the first counseling session and one month after the final session by the pregnant women. Only the questionnaire of knowledge and attitude was completed by the spouses.

Achieving higher scores in the questionnaires indicated higher knowledge, attitude, fear of childbirth, and self-efficacy of the participants. Furthermore, the mode of delivery of women was asked via phone call at the postpartum stage. The reliability and validity of the attitude and knowledge questionnaire were confirmed at the Spearman's coefficient of 0.6 and Cronbach's alpha coefficient of 0.84 [15]. The reliability and validity of Wijma's fear of delivery scale were confirmed at the Cronbach's alpha of 94% [16], and the Cronbach's alpha was estimated at 84-91% for the self-efficacy questionnaire for the Iranian population [17].

Data analysis was performed in SPSS version 16, and the normal distribution of the quantitative variables was assessed using the Kolmogorov-Smirnov test. In addition, Chi-square was used to compare the frequency of the qualitative demographic variables between the two groups, including the occupational and socioeconomic status of the couples. Independent t-test was also used to compare the quantitative demographic variables of age and educational level between the intervention and control groups.

Significant differences were observed between the two groups in terms of knowledge, attitude, and fear of delivery at the baseline stage. After assuring the presumptions of the covariance analysis (normality and homogeneity of the variances) using Levene's test, covariance analysis was used to compare two groups adjusted for the baseline differences ($P<0.05$). In order to eliminate the problem of the reluctance of the participants to express their income status, the economic class was used instead of raw income.

Additionally, paired t-test was used to compare the differences in variables at the follow-up stage versus baseline in each group (Table 3). The magnitude of the effect indicated the extent to which the independent variable affected the dependent variable [18], which was calculated using Cohen's formula [19].

The study protocol was approved by the Research Council of Zanjan University of Medical Sciences in terms of ethical considerations. Without conflicts of interest, the research objectives and procedures were explained to the participants prior to the study, and the couples were assured of confidentiality terms regarding their information. In addition, written informed consent was obtained from all the participants**.**

Results

In the present study, the women had no maternal complications or threatening symptoms leading to emergency cesarean section. Mean ± standard deviation age of the women in the intervention and control groups was 25.87±3.62 and 25.58±3.63 years, respectively. Mean age of the spouses in the intervention and control groups was 30.89±3.60 and 31.42±3.21 years, respectively. Most of the spouses in the intervention (47.4%) and control groups (52.6%) were self-employed, and most of the women in the study groups were employees (50%). The fifth economic class in the intervention (52.6%) and control groups (50%) and the third socioeconomic class in the intervention (52.6%) and control groups (42.1%) had the highest frequency among the participants (Table 1).

Table 1: Comparison of Demographic Characteristics of Women and Their Spouses in Intervention and Control Groups

Variable		Intervention	Control	P value
Age Mean±SD	Women	25.87(3.62)	25.58(3.63)	0.729
	Spouses	30.89(3.6)	31.42(3.21)	0.504
Education (year) Mean±SD	Women	13.97(2.83)	14.24(2.54)	0.446
	Spouses	13.94(2.83)	14.0(2.64)	0.351
Economic Class N(%)	Second	1(2.6)	7(18.4)	0.135
	Third	7(18.4)	4(10.5)	
	Fourth	10(26.3)	8(21.0)	
	Fifth	20(52.6)	19(50.0)	
	Total	38(100)	38(100)	
Socioeconomic Class N(%)	First	0(0)	1(2.6)	
	Second	16(42.1)	13(34.2)	
	Third	20(52.6)	16(42.1)	0.148
	Fourth	2(5.2)	8(21.0)	

According to the findings, the mean variables in the intervention group were slightly higher than the control group. The ANCOVA test showed that there were significant differences between the two groups in terms of all the variables adjusted for the baseline differences at the follow up stage (Table 2).

Table 2: Comparison of Mean Scores Changes in Knowledge, Attitude, and Fear of Delivery in Couples in Intervention and Control Groups after Counseling

Dependent Variable after Intervention	Independent Variable	Mean Squares	Covariance Analysis	P value	Intervention	control	Effect Size d
Women's Knowledge	Base Effect	16.014	18.946	<0.001	9/2500	5/5143	3/64
	Group Effect	157.612	186.463	<0.001			
Women's Attitude	Base Effect	6839.849	143.018	<0.001	131.21	84.4857	0.156
	Group Effect	24484.610	511.962	<0.001			
Women's Fear of Delivery	Base Effect	4879.685	43.787	<0.001	63.1290	97.0286	-2.53
	Group Effect	9115.152	8.794	<0.001			
Men's Knowledge	Base Effect	12.121	14.171	<0.001	9.1429	5.2857	4.84
	Group Effect	200.940	234.924	<0.001			
Men's Attitude	Base Effect	2178.551	36.236	<0.001	129.33	81.5143	1.32
	Group Effect	26824.927	446.186	<0.001			
Women's Self-efficacy	-	-	t-test=16.054	<0.001	135.53	76.6286	6.15

The mean score of the women's knowledge was higher at the end of the study in the intervention group (9.25) compared to the control group (5.51). Moreover, the mean score of the spouses' knowledge was higher in the intervention group (9.14) compared to the control group (5.28).

The mean score of the women's attitude was higher at the end of the study in the intervention group (100.35) compared to the control group (98.77). Additionally, the mean score of the spouses' attitude was higher in the intervention group (100.29) compared to the control group (81.50). Significant differences were observed in the knowledge and attitude of the participants after couples counseling in the intervention group, so that they have improved attitudes toward normal delivery after the intervention (P<0.001) (Table 3).

Table 3: Comparison of Study Outcome Variables in Intervention and Control Groups before and after Counseling

Variable	Group	Before Intervention		After Intervention		P value
		Standard Deviation	Mean	Standard Deviation	Mean	
Women's Knowledge	Intervention	1.72	5.86	0.930	9.25	0.0001
	Control	1.12	4.48	1.12	5.51	0.0001
Women's Attitude	Intervention	20.9	88.79	10.82	100.35	0.0001
	Control	14.42	76.97	9.35	98.77	0.0001
Women's Fear of Delivery	Intervention	14.98	87.58	17.08	63.12	0.0001
	Control	17.08	63.12	9.63	97.02	0.095
Women's Self-efficacy	Intervention	6.88	79.50	3.83	135.53	0.0001
	Control	16.11	71.97	15.76	76.62	0.0001
Men's Knowledge	Intervention	2.04	5.20	0.802	9.14	0.0001
	Control	1.09	4.11	0.79	5.28	0.0001
Men's Attitude	Intervention	9.26	87.88	14.19	100.29	0.0001
	Control	11.21	77.60	14.25	81.50	0.0001

The mean score of women's fear of delivery was lower at the end of the study in the intervention group (63.12) compared to the control group (97.02), and the difference was considered statistically significant (P<0.001) (Table 3). Furthermore, the mean score of women's self-

efficacy was higher after the counseling in the intervention group (135.53) compared to the control group (76.62). The results of independent t-test indicated a significant difference between the intervention and control groups in terms of the mean scores of women's self-efficacy after counseling (P<0.001) (Table 3).

None of the women in the control group selected normal delivery for their pregnancy termination, while 97.7% of the women in the intervention group who had opted for cesarean section were willing to undergo normal delivery, 63.1% of whom received normal delivery. On the other hand, 5.2% of the women in the control group underwent normal delivery. The results of Chi-square demonstrated a significant difference between the choice of delivery mode and the mode of delivery they have done between the intervention and control groups (P<0.001) (Table 4).

Table 4: Comparison of Selected and Received Delivery Mode between Intervention and Control Groups

	Variable	Intervention	Control	Chi-square	P value
Selected Delivery Mode N(%)	Caesarean Section	1(2.8)	35(97.2)	67.110	<0.001
	Normal Delivery	35(100)	0(0)		
Received Delivery Mode N(%)	Caesarean Section	14(28.0)	36(72.0)	28.295	<0.001
	Normal Delivery	24(92.3)	2(7.7)		

In the present study, the effect size of the intervention using the Cohen's formula for the variables of the couples' knowledge, women's fear of childbirth, and women's self-efficacy was estimated to be more than 81%, and the lowest effect belonged to the women's attitudes (7.7%) (Table 2).

Discussion

According to the findings of the current research, couples counseling based on the problem-solving approach resulted in statistically significant differences in the knowledge, attitude, fear of delivery, self-efficacy, choice of delivery mode, and received delivery mode of the primigravid women requesting elective cesarean section. Furthermore, the knowledge and attitude of the couples in the intervention group significantly increased compared to the control group. These findings are consistent with the results of the previous studies in this regard, which reported the enhanced knowledge and attitude of pregnant women after training programs based on various counseling methods, such as the behavioral intention model [12,20].

In the present study, the coefficient of the effect of fear of delivery was estimated at 2.53 (81%). In the study by Ghazai (2016), the coefficient of its effect was reported to be 1.9 (79%). Therefore, it could be inferred that couples counseling based on the problem-solving approach is more effective in reducing the fear of delivery [21] compared to distance learning.

In the current research, the coefficient of the effect of the intervention on the women's self-efficacy was estimated at 2.57, which is equivalent to more than 81%. Compared to the study by Kanani et al. (2015), who reported this coefficient to be 0.70, it could be concluded that counseling based on the problem-solving approach may be more effective in increasing women's self-efficacy [22]. In line with the results of the present study, Ghazai et al. also denoted that ethology-based counseling is effective in increasing the self-efficacy of women [21]. On the other hand, the findings of Rastegary et al. study indicated that preparation classes for delivery had no statistically significant effect on women's self-efficacy, which could be due to the willingness of the participants in both study groups to undergo normal delivery [8].

In the present study, the tendency of the women toward normal delivery was 57.9% higher in the intervention group compared to the control group. Therefore, it could be inferred that couples counseling was effective in selecting the mode of delivery. In the study by Khorsandi et al. the reduced tendency toward cesarean section was estimated at 29.7%, while it was reported to be 68% in the research by Ghazai et al.[21,23].

In the current research, the women in the intervention group received normal delivery 57% more frequently compared to the control group. Consistent with our findings in this regard, Sharifi Rad et al. (2013) also claimed that the participation of the spouses of pregnant women in training sessions significantly decreased the tendency toward caesarean section (21.5%). These findings confirm the pivotal role of spouses in the selection of proper pregnancy termination methods [14]. It seems that couples counseling based on the problem-solving approach is more effective in increasing the ability of women to select normal delivery compared to the other interventions in this regard.

Considering that midwives are at the first level of care for pregnant women, they could provide midwifery consultation without high-level of psychological skills (e.g., based on the theory of planned behavior or the cognitive behavioral approach), which requires specialized training. Therefore, effective measures should be taken in order to diminish childbirth fears, which is the most common cause of elective cesarean section. Furthermore, the effects of couples counseling in the present study confirmed the key role of spouses in the process of selecting the mode of delivery by pregnant women.

The main strengths of our research were midwifery-based and couple-based counseling. One of the limitations of the present study was the lack of cooperation of a large number of gynecologists who expressed their concerns to be faced with legal penalties for malpractice and unanticipated complications and consequences of normal delivery. In addition, the lack of random allocation due to low participation was another limitation, which eventually made the researcher utilize non-random methods. However, covariance analysis was used to control the imbalance between the two groups in terms of the outcomes of the study at the outset.

According to the results, implementing midwifery-based counseling sessions for couples based on the problem-solving approach, along with the routine preparations for childbirth, could enhance the attitude and knowledge of couples, reduce the fear of childbirth, and increase the self-efficacy of pregnant women. This is an effective step toward decreasing the rate of cesarean section and improving the health of pregnant women at childbirth. Meanwhile, it is recommended that the effectiveness of other counseling methods on the reduction of cesarean section be compared in further investigations.

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Conflict of interest:

The authors declare that they have no conflict of interests.

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