

Effect of Spouse's Participation in Childbirth Preparation Classes in the Promotion of Social Support among Pregnant Women: A Field Trial

Abstract

Introduction: The purpose of this study was to investigate the effect of spouse's participation in childbirth preparation classes in the promotion of social support among pregnant women. **Methods:** The present study was a field trial comprising 150 pregnant women who participated in the childbirth preparation classes of health centers in Alvin and Mohammadieh in Qazvin (Iran). Pregnant women were selected using the convenience sampling and were randomly divided into two groups (i.e. intervention and control groups using block allocation). The intervention group participated in eight sessions of childbirth preparation classes with their spouses. The control group participated in eight sessions of childbirth preparation classes based on the protocol developed by the Iran Ministry of Health. The Social Support Survey (SSS) was completed before and after the intervention. Data were analyzed using the descriptive and analytical statistics tests such as Mann–Whitney and Friedman's through the SPSS software version 24. $P < 0.05$ was considered statistically significant. **Results:** The mean score on the SSS before sessions in the intervention and control group was 60.65 (standard deviation [SD] \pm 6.69) and 61.63 (SD \pm 4.97), respectively ($P < 0.05$). After sessions, the mean score of social support statistically significantly increased in the intervention group as compared to the control group (83.31 [SD \pm 8.91] vs. 60.65 [SD \pm 0.80]; $P < 0.001$). **Conclusion:** The results suggest that the presence of spouses in preparation classes for childbirth along with modified content of the sessions promotes social support among pregnant women. Based on these findings, participation in parental training for childbirth is recommended for couples.

Keywords: Childbirth classes, pregnancy, social support, spouse

Introduction

Despite the many physiological and psychological changes, pregnancy can be a beautiful and fulfilling experience for women. During pregnancy, women undergo many unintended changes that alter their physical and psychological needs. It can lead to increased worry, anxiety, and distress^[1] and requires special attention.^[2] During pregnancy, social support is essential for the mother and the unborn baby's health. Providing emotional, material, and informational supportive resources can alleviate pregnancy-related changes and encourage mothers to change their behaviors and select a healthy lifestyle.^[3]

At a basic level, social support comprises help offered to a person by their family and/or close relatives. Psychologically,

social support includes emotional support, material assistance, empathy, guidance, positive feedback, social participation, and intimate interaction is suitable for those people who experienced or confronted with stressful events.^[4] Family support and avoidance from feeling loneliness, as well as understanding their grief and life circumstances, make it easier for pregnant women to cope with these situations.^[5] The results of previous studies have shown a significant negative relationship between social support and psychological distress (i.e. anxiety, depression, and stress) during pregnancy and after childbirth. Furthermore, the type and levels of social support can result in pregnancy being either a pleasant or an unpleasant experience.^[6,7] Therefore, one of the most important factors in helping in dealing with psychological stressors during pregnancy is emotional support provided by the husband and the safety of the marital environment.^[8]

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Support and involvement by close family, and especially the husband, are of great importance to women's physical and mental health during pregnancy.^[9] The World Health Organization considers spouse's participation important in maternal programs which promote prenatal care and awareness about pregnancy and participation in birth planning.^[10] Studies have shown that the father's involvement in prenatal care and childbirth has positive effects, including weight gain in preterm infants, successful breastfeeding, increased language learning skills, and educational achievement.^[11] Other effects of the father's participation are happiness which leads to an effective attachment between the mother and baby,^[12] good mental health, creation of an effective relationship between the mother and father, and positive experience for women during pregnancy and childbirth.^[13,14]

Childbirth preparation classes are group and/or individual classes with the aim of teaching pregnant women and their spouses about childbirth, prenatal care, nutrition, exercise, proper breastfeeding, and postpartum care during pregnancy. Prenatal education classes are a major opportunity to correct myths and misconceptions about pregnancy, childbirth, and postpartum issues that can cause a lot of maternal anxiety and mistrust. These classes provide an opportunity for women to communicate with other mothers and can result in a reduction in anxiety and an increase in the mothers' self-esteem.^[15] Furthermore, studies have shown that the presence of the spouses in these classes can reduce the maternal anxiety, fear of childbirth, and help them choose the appropriate type of childbirth.^[12,15]

In Iran, childbirth preparation classes comprise eight sessions by the Ministry of Health. It is recommended that spouses should attend at least two sessions. These classes are free for women and their spouses. However, there is no compulsion to attend. Therefore, some mothers do not participate in these classes, and husbands are not forced to attend. The main goal of the classes is to reduce the number of cesarean sections and make natural childbirth enjoyable. According to previous studies, the level of social support in pregnant women is low to moderate,^[6,16,17] but the issue of social support is not addressed in these classes.

Furthermore, the outcome of these sessions may be inadequate for some attendees. These shortcomings led to the present study to investigate the effect of increased sessions, the presence of husbands, and modifying the content of these sessions based on the social support of pregnant mothers. Therefore, the present study was designed to investigate the effect of the spouse's participation in childbirth preparation classes on the promotion of social support among pregnant women to promote good family health.

Methods

Study design and participants

This study was a randomized control field trial. The populations were pregnant women referred to prenatal health-care centers, and childbirth preparation classes in Alvand and Mohammadieh in Qazvin, Iran, from April to November 2019. The inclusion criteria for women were pregnant women at 20–30 weeks of gestation who were low risk and single pregnancy, participated in delivery preparation classes, literate and able to read and write, and could be followed up, social support scores were <69. The inclusion criteria for women's husbands included being literate and having the ability to call and follow-up. The exclusion criteria for women and their husbands were having any type of chronic illness such as chronic hypertension, diabetes mellitus, cardiovascular disease, pulmonary disease, renal disease, etc., mental illness or drug use (according to participant self-reported), and history of infertility or *in vitro* fertilization.

Sampling method

The sample size was estimated to be 75 participants in each group based on previous study,^[18] using PASS software (<http://www.ibmh.msk.su/PASS/>) (effect size of 0.5, $\alpha = 0.05$ and 90% study power).

Randomization

Sampling was done in two stages. At the first stage, the participants were selected from childbirth preparation classes using the convenience sampling. Then, a random allocation of the participants into two groups of intervention and control was carried out by the simple random blocking method with four blocks. For the purpose of block randomization, the assignment sequence was generated using online random sequence generator before the beginning of the study. Given that the two groups were studied, four blocks were used, and a letter was assigned to one group (A: intervention group and B: control group). Thirty-seven random blocks were selected for randomization.

Measures

Two tools were used. The first one was the demographic and pregnancy history checklist. The second one was the Social Support Survey (SSS) developed in 1991 by Sherbourne and Stewart.^[18] It assesses the social support perceived by the participants and consists of 19 items divided into five subscales, including emotional support (positive affect and empathy: four questions: 1, 4, 6, 8), information support (informing and giving feedback: four questions: 2, 3, 5, 7), material support (physical and behavioral support: four questions: 9–12), affective social support (expressing love: three questions: 13–15), and social interaction (engaging in recreational activities; four questions: 16–19). Scoring is based on a five-point Likert scale. The lower and higher

scores in the SSS range from 19 to 95. The final score is divided into three levels of low social support (score between 19 and 44), medium social support (score between 45 and 69), and high social support (score between 70 and 95).^[19] Cronbach alphas of 0.91, 0.97, and 0.94 have been reported for emotional support, information support, and material support subscales, respectively, in Iran.^[20,21]

Intervention

The control group received standard prenatal care including all pregnancy care provided by health-care providers in health centers. They participated in childbirth preparation classes based on the protocol and the content is approved by the Ministry of Health with the goals of reducing the fear of labor pain and reducing the number of cesarean sections. Training was held in eight sessions lasting 90 min each with a maximum of ten women between 9 a.m. and 11 a.m. Board and markers, slide projectors, and posters of health departments were used for the educational purposes.

The intervention group participated in childbirth preparation classes with their husbands and received the standard prenatal care as the control group. In addition, the husband's participation content was designed based on the dimensions of the SSS. Topics included: accompanying wife to take care, going to ultrasound and laboratory centers, paying attention to diet, helping in household chores, creating a calm and stress-free environment, giving supportive awareness, learning how to love, as well as focusing on the leisure and entertainment of a pregnant woman, and consulting with a spouse to choose the type

and place of delivery during the third trimester. Due to the spouses' jobs, intervention group classes were held in the evenings. In the first and last sessions, the SSS was completed by the two groups.

Ethical considerations

This study was approved by the Ethics Committee of Qazvin University of Medical Sciences (ethics code of IR.QUMS.REC.1397.215). Before the study, the purpose of the study was explained to all participants, informed consent was obtained, and they were assured that their information would be kept confidential, and they could withdraw at any time.

Statistical analysis

Data analysis was carried out using the SPSS software version 24 (SPSS Inc., Chicago, Illinois). Descriptive analysis was used to calculate the mean and standard deviation for continuous variables, and proportions for the categorical variables. The Shapiro-Wilk test was used to examine the normality of the variables. Since the data were not normally distributed, nonparametric tests were used. The SSS subscale scores in the groups were compared using the Mann-Whitney and Friedman's test. Significance level was set at $P \leq 0.05$.

Results

A total of 150 women who were referred to the childbirth preparation classes enrolled in the study. Due to the loss of samples during the study, the final dataset comprised 141 individuals (70 in the intervention group and 71 in the control group) [Figure 1]. There was no significant

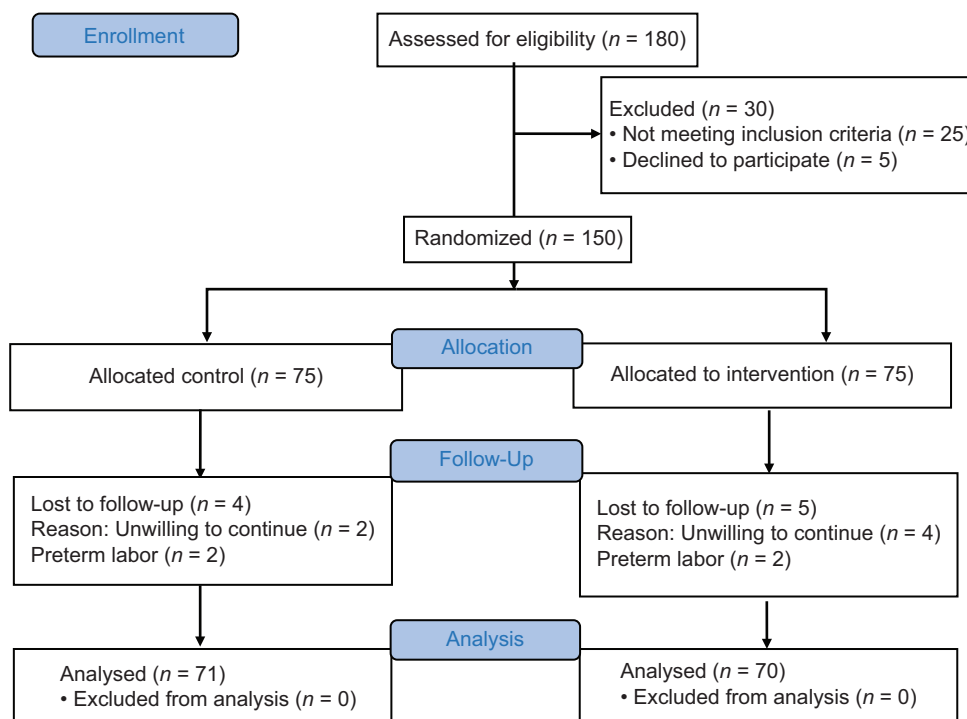


Figure 1: CONSORT diagram of participant selection

difference between the two groups in terms of age, mother and father's education, mother and father's occupation, income, number of pregnancy, gestational age, desire for pregnancy, and sexual satisfaction (all $P > 0.05$). [Table 1].

Due to the lack of normality of data, Mann-Whitney and Friedman tests were used. The mean scores of the total social support and its subscales were not statistically significant between the two groups before the intervention based on the results of Mann-Whitney test ($P < 0.05$). However, after the intervention, the mean score of social support in the intervention group was statistically significantly higher than the control group (83.31 ± 8.91 vs. 60.70 ± 4.87) ($P < 0.001$). Furthermore, the results of Friedman test showed a statistically significant increase in mean score of social support in the intervention group before and after the sessions ($P < 0.001$). However, in the control group, no statistically significant difference was observed ($P < 0.05$) [Figure 2]. The results of the Friedman test showed a significant increase in mean score of social

support subscales before and after the sessions among women in the intervention group ($P < 0.001$). However, there were no significant differences in the mean score of social support subscales before and after the sessions in women in the control group (all $P > 0.05$) [Table 2].

Discussion

In the present study, the mean scores of total social support and its subscales were estimated to be moderate before sessions among all participating women. These findings are consistent with the findings of previous studies^[6,16,17] in this field that also reported a moderate level of social support among pregnant women. Previous studies also highlighted the need of interventions to improve social support status among pregnant women. According to the findings of previous studies, the factors such as anxiety, depression, stress, and fear of childbirth that increased the complications and outcomes of pregnancy and childbirth were related to women level of social support.^[6,16,17]

Table 1: Demographics information of women in the intervention and control group

Variable	Intervention, n (%)	Control, n (%)	χ^2 (df)	P
Women's education level				
Guidance school	6 (8.6)	11 (15.5)	3.352 (3)	0.340
High school	33 (47.1)	30 (42.3)		
Academic	31 (44.3)	12 (42.3)		
Spouse's education level				
Guidance school	10 (14.3)	14 (19.8)	2.633 (4)	0.621
High school	28 (40.0)	25 (35.2)		
Academic	32 (45.7)	32 (45.1)		
Spouse's job				
Manual worker	30 (42.3)	34 (48.5)	0.078 (1)	0.780
Employee	14 (19.7)	13 (18.6)		
Freelance job	27 (38.0)	23 (32.9)		
Women's job				
Unemployed	60 (85.7)	62 (87.3)	1.950 (4)	0.745
Employee	10 (14.3)	9 (12.7)		
Income				
Average	49 (70.0)	44 (62.0)	2.006 (3)	0.571
Good	20 (28.6)	26 (36.6)		
Excellent	1 (1.4)	1 (1.4)		
Gravida				
1	53 (75.7)	47 (66.2)	3.786 (3)	0.285
2	17 (24.3)	24 (33.7)		
Planned pregnancy				
Yes	60 (85.7)	56 (78.9)	1.131 (1)	0.208
No	10 (14.3)	15 (21.1)		
Sexual satisfaction				
Yes	59 (84.3)	61 (85.9)	0.074 (1)	0.786
No	11 (15.7)	10 (14.1)		
Variable	Intervention, mean (SD)	Control, mean (SD)	t (df)	P
Women's age (years)	26.56±4.91	27.46±5.03	1.080 (139)	0.281
Spouse's age (years)	29.8±4.02	30.0±4.25	1.950 (139)	0.870
Gestational age (week)	26.21±3.18	25.5±2.90	1.270 (139)	0.204

SD: Standard deviation

Table 2: Comparison of social support scale in two groups before and after the intervention

Variable	Mean±SD		Mann-Whitney U-test, <i>P</i>	Cohen's effect size
	Intervention (<i>n</i> =70)	Control (<i>n</i> =71)		
Social support scale				
Before intervention	60.65±6.69	61.63±4.97	0.549	0.844
After intervention	83.31±8.91	60.70±4.87	<0.001	
Friedman's tests (<i>P</i>)	<0.001	0.619		
Emotional support				
Before intervention	13.11±2.41	13.28±2.38	0.845	0.725
After intervention	17.61±2.41	13.32±2.43	<0.001	
Friedman's tests (<i>P</i>)	<0.001	0.585		
Information support				
Before intervention	12.55±2.11	13.05±1.62	0.267	0.718
After intervention	17.25±2.17	13.18±1.75	<0.001	
Friedman's tests (<i>P</i>)	<0.001	0.884		
Social interaction				
Before intervention	13.16±1.81	13.28±1.84	0.905	0.774
After intervention	17.90±2.07	13.14±1.81	<0.001	
Friedman's tests (<i>P</i>)	<0.001	0.884		
Material support				
Before intervention	11.48±2.05	12.07±1.76	0.206	0.756
After intervention	16.90±2.16	12.36±1.75	<0.001	
Friedman's tests (<i>P</i>)	<0.001	0.680		
Affective social support				
Before intervention	10.09±1.97	9.94±1.77	0.150	0.649
After intervention	13.64±1.88	10.35±1.97	<0.001	
Friedman's tests (<i>P</i>)	<0.001	1.00		

SD: Standard deviation

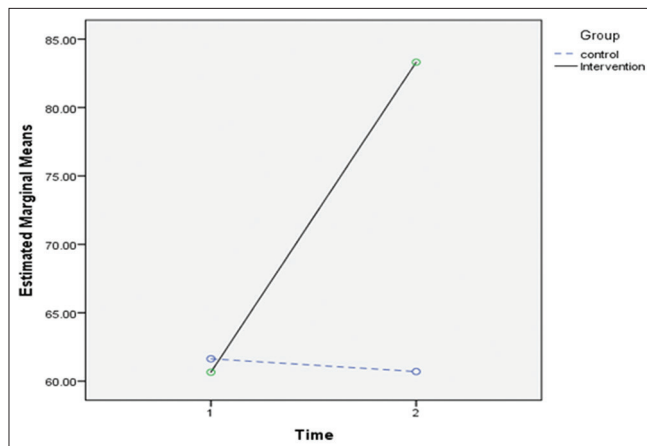


Figure 2: Trend of social support scale in two groups before and after the intervention

Similarly, Simbar *et al.*^[22] reported that among most pregnant women, counseling services were necessary for spouses, and the majority of couples suggested that it was effective if two to three counseling and training sessions were provided for husbands during their wives' pregnancy. Cheng *et al.*^[23] also reported that women who received less social support from their husbands had higher levels of anxiety, depression, and cigarette smoking. They concluded that spouse support improved pregnancy outcomes. The results of these studies are in

line with the present study highlighting the importance of the role of husbands in promoting good maternal health during pregnancy.

In the present study, the mean score on the SSS in the intervention group was significantly increased after the intervention (eight sessions of childbirth preparation class with the presence of the husbands with emphasis on the components and importance of social support). There was also a significant increase in the level of social support on different subscales of the SSS in the intervention group. Social support scores increased to a high level in all areas and all subscale scores were significantly higher than the control group (attending eight sessions in preparation classes for delivery according to the national protocol). In the control group, the mean score of social support and all its subscales did not show significant differences compared to the intervention group after the intervention.

Sioma-Markowska *et al.*^[24] reported that the presence of spouses in childbirth preparation classes increased social support, and it was a caring role, especially in childbirth. Sioma-Markowska *et al.* noted that childbirth preparation classes were important in informing spouses about pregnancy and childbirth. Given the differences in the variables studied in the present study and Sioma-Markowska *et al.*'s study, both studies' results are somewhat consistent.

Jamali *et al.*^[18] reported that husbands attending childbirth preparation classes were effective in reducing the maternal fear of childbirth, increasing the rate of normal childbirth choice, and improving maternal health. In another study, counseling with couples based on supportive processes reduced the anxiety of pregnant women.^[25] Kodzi *et al.*^[26] reported that individuals with high social support had higher physical and mental health levels. Furthermore, in another study, social support was effective in the cognitive assessment of pregnant women and their beliefs about the world and led to an acceptance and coping with different situations.^[27] Alhusen's *et al.*^[12] found that spousal support during pregnancy made pregnancy more enjoyable and ultimately, it increased maternal and fetal attachment and increased mental health among pregnant women. Previous studies have shown that the presence of husbands in prenatal care has an important role in pregnancy safety, ensuring access to health services, positive emotional well-being, and adequate financial support.^[28,29]

As studies have shown, social support during pregnancy is significantly associated with a variety of outcomes such as the improvement of health behaviors,^[30] quality of life,^[31] quality of relationships and happiness,^[32] behavioral and emotional functioning.^[33] The amount of social support received by women is also related to several factors, including ethnicity, socioeconomic status, marriage, education level, and place of residence.^[34]

All participants in the present study graduated from high school with average income. As results of the present study indicated, the level of social support in this group was moderate. It appears that women with low education and economic status, as well as being minorities and immigrant are more likely to need social support from their husbands.^[35]

Limitations

Due to time constraints in the present study, the lack of follow-up to the end of pregnancy and evaluation of the impact of participation of spouses on pregnancy outcomes and delivery were the most major limitations of the current study. Another limitation of the study was the use of self-reported questionnaires which could have biased the findings. Furthermore, considering that most of the participants in the study had good education and average income, it is not possible to generalize the study to all groups in the Iranian society.

Conclusion

Spouses' participation in childbirth preparation classed for delivery and paying attention to supportive issues in educational content during pregnancy increased social support. Such support can reduce stress, anxiety, depression, and increase quality of life during pregnancy. Participation by spouses in prenatal care programs is recommended, and that the educational content designed by of Ministry

of health is modified to incorporate a social supportive approach.

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Conflicts of interest

There are no conflicts of interest.

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