Compararing the Impact of Face-to-Face and Online Peer Education on Pregnant Women's Fear of Childbirth: A Randomized Clinical Trial

Roghieh Bayrami (PhD)[1], Fereshteh Rostami (BSc)[2,3*], Aziz Kamran (PhD)[4], Javad Rasouli (PhD)[5]

[1] Associate Professor, Department of Midwifery, School of Nursing and Midwifery, Urmia University of Medical Sciences, Urmia, Iran
[2] MSc Student of Counselling in Midwifery, Student Research Commitee, Urmia University of Medical Sciences, Urmia, Iran
[3] Department of Midwifery, School of Nursing and Midwifery, Urmia University of Medical Sciences, Urmia, Iran
[4] Professor, Department of Public Health, School of Health, Ardabil University of Medical Sciences, Ardabil, Iran
[5] Assistant Professor, Department of Epidemiology and Biostatics, School of Medicine, Urmia University of Medical Sciences, Urmia, Iran

A R T I C L E I N F O	A B S T R A C T
	Background & aim: Fear of childbirth (FOC) is a prevalent issue that affects the outcome of pregnancy. Effective education, is one of the most important factors that can help women to overcom their fear. This study aimed to compare two types of educational approaches including face-to-face and online peer education on pregnant women's fear of childbirth. **Methods**: This three-armed clinical trial was carried out on 60 low-risk primigravida pregnant women with a gestational age of 24-32 weeks referring to community health centers in Meshgin Shahr, Ardabil Province, Iran. The participants were selected through convenience sampling and then randomly assigned to face-to-face and online peer education as well as control groups using block randomization . Five 90-minute training sessions was held for the participants in the intervention groups for five weeks. Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ) was administered to the participants in the three groups to measure FOC before and one month after the intervention. Data were analyzed using analysis of variance and paired t-test with SPSS software (version 16). **Results:** There was a significant difference in FOC scores among the three groups (P = 0.001) after one month of intervention. A significant difference was also found between the face-to-face and online peer education groups (P = 0.000). **Conclusion:** The findings confirmed that both face-to-face and online peer education are effective in reducing the FOC and can be used in antenatal care of pregnant women.

Introduction

Pregnancy is a memorable experience and at the same time the most critical period in women's lives, and can also be one of the most stressful situations for them. Women's mental health during pregnancy is important for the well-being of the mother and child (1). Pregnant women express constant concerns about the health of the fetus, child care, lifestyle changes, and fear of labor pain (2). Fear of childbirth (FOC) is a prevalent condition that impacts the outcome of pregnancy (3). The prevalence of FOC

in Scandinavian countries, England, Australia, and Sweden is reported to be 22% (4), and in Iran, it is prevalent in 5-20% of pregnant women. In other words, every 1 out of 5 women is afraid of giving birth (5).

The Fear of labor pain and the mother's attitude of her inability to tolerate the labor and childbirth process are the reasons for increasing cesarean sections without indications (6). A lot of fear during pregnancy may be accompanied by decreased uterine contractions and prolonged

* *Corresponding author*: Fereshteh Rostami, MSc Student of Counselling in Midwifery, Student Research Commitee, Urmia University of Medical Sciences, Urmia, Iran. Tel: 009893536241444, Email: 00989141513538

and obstructed labor, irregular fetal heart rate patterns, low Apgar score, increased perinatal death, and low birth weight neonates (7,8). Moreover, blood flow to the pelvic muscles is restricted and oxygenation is reduced in response to an increase in catecholamines and serum cortisol due to fear that can lead to increased pain in the mother (9,10). FOC is associated with depression, anxiety, and nutritional disorders (8). Fear of labor pain, fear of death, fear of unknown problems, low childbirth self-efficacy, concerns about postpartum sexual health, newborn health concerns (11), and unawareness (12) are some of the factors that contribute to FOC.

Considering that primiparous women are more afraid of giving birth training these mothers can improve their mental health (13). Education can be applied by a group of peers who have experienced similar situations in life (14). A peer is a person who is similar to another person in terms of some characteristics such as age, gender, occupation, socio-economic status, or health status. Peer education is a process whereby well-trained and motivated young individuals engage in organized or informal education with their peers. Peer education causes to share knowledge and experience among people thus addressing their health needs. They take responsibility for their peers. This process aims to develop people's awareness, attitudes, beliefs, and skills and empower them to accept responsibility and protect their health (15). Peer support means the use of individual support with experiential knowledge used and managed in the best way to support people in a similar situation (16). Peer education can be provided in different ways, including group support, individual support, and offline communication such as telephone and the Internet. The World Health Organization has described mobile health (mHealth) as the use of mobile and wireless communication technologies in providing health services to improve healthcare delivery, outcomes, and research (17).

The heavy burden of responsibility for care, lack of human resources in healthcare centers, limited financial resources to support the healthcare infrastructure and the development of education, and the rapid growth of mobile phone penetration among nations, and low-income countries are the reasons for turning to the use of mobile phones in the field of health (18). Several studies have addressed peer support using mobile phones to reduce depression (19), breast cancer problems (20), and diabetes (21). In addition, studies have confirmed the positive effect of peer education on reducing FOC (22) and increasing the intention to have a natural birth (23).

In Iran, the rate of cesarean section is high due to FOC (6), yet there is an urgent need for low-cost, and simple training interventions to reduce FOC in women. To this end, this study aimed to compare two types of educational approaches including face-to-face and online peer education in reducing FOC in pregnant women referring to comprehensive health centers in Meshgin Shahr, Ardabil Province, Iran.

Materials and Methods

This three-armed clinical trial was conducted from June 2020 to December 2020 on 66 pregnant women referring to community health centers in Meshgin Shahr, Ardabil Province, Iran. The study was registered in Iranian Registry of Clinical Trials (IRCT) under code of IRCT20200404046943N1.

Following the rsults of the study by Ghazaie et al. (24), the population size was calculated as 66 people (22 people in each group) using the following formula, considering a 30% dropout probability. The mean and standard deviation for two intervention (S1=7.12 and X1=85.64) and control group (S2=10.21 and X2=97.41) were calculated at a 99% confidence interval and a 95% test power.

$$n = \frac{\left(Z_{1-\frac{\alpha}{2}} + Z_{1-\beta}\right)\left(\delta_1^2 + \delta_2^2\right)}{(\mu_1 - \mu_2)^2}$$

The inclusion criteria consisted of living in Meshgin Shahr, being primigravida, age range of 18-35 years, having a low-risk pregnancy, the gestational age of 24-32 weeks, obtaining an FOC score of less than 85 before entering the study, having a smart cell phone, having the possibility of installing the WhatsApp messenger and the ability to use it (for the participants in the intervention group), having the willingness for participation in the study, having Persian reading and writing skills, absence of physical and mental

illness, and not having indicators for a cesarean section as indicated in the mothers' electronic medical records. The exclusion criteria were the absence or irregular attendance in the training classes, the detection of any pregnancy complications (e.g., preeclampsia, bleeding, diabetes, intrauterine fetal death, and preterm delivery), and a history of physical trauma. Moreover, at every stage, mothers who did not want to continue participating in the study were free to leave the study.

The participants in this study were selected through multi-stage sampling. To do so, Meshgin Shahr was divided into three districts in terms of social, economic, and cultural conditions. Then, two comprehensive health centers were randomly selected from each cluster. In the next step, 66 pregnant women who met the inclusion criteria were selected from the selected healthcare centers through convenience sampling. The selected women were assigned to the three groups using permuted blocks with all possible combinations of AABBCC blocks. Moreover, a code was assigned to each candidate, and then 11 codes were randomly selected. The codes were blinded to ensure no bias. It should be noted that all the mothers in the three groups received routine prenatal training, such as getting ready for labor, birth, breastfeeding, and

caring for the newborn. Six people were excluded from the study for various reasons (Figure 1).

The Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ) is a 33-item self-reported scale, widely known for measuring childbirth fear, and was developed by Wijma et al. (1998). Items are scored on a six-point Likert scale (from 'never' =0 to 'very often' =5). Total scores vary from 0 to 165, with higher scores suggesting a greater level of FoC. Items 2, 3, 6, 7, 8, 11, 12, 15, 19, 20, 24, 25, 27, and 31 are scored in reverse. The reliability of this questionnaire in a study done by Wijma and colleagues with a Cronbach's alpha of 0.93(25). In study by Mortazavi`, the reliability of W-DEQ (A) was confirmed with a Cronbach's alpha of 0.91 for nulliparous and multiparous women (26).

The objectives of the study and the research protocols were explained to the selected participants, and written informed consent was then obtained from them. Moreover, the questionnaires were completed for them through the self-report method. The participants in the face-to-face peer education group attended five training sessions once a week in groups of 5 to 6 people. The training content (Table 1) was developed based on the recommendations of the World Health Organization to reduce the rate of cesarean delivery (27).

Table 1. The content of face-to-face and online peer education

Sessions	Content
1	Becoming familiar with other peers, stating the aims and objectives, and providing training about the female reproductive system and the names and functions of some organs involved in the birth process.
2	Deliberating The importance of prenatal care, common complaints during pregnancy and how to deal with them, and the mechanism and stages of labor through questions and answers, and showing the birth videos.
3	Discussing common mental errors in childbirth, group discussion on pregnancy-induced anxiety and stress, and how to cope with it, including relaxation methods and breathing techniques.
4	A brief review of the content covered in the previous session, self-control of emotions, childbirth, pain reduction methods, and getting support from a spouse or a relative.
5	Introducing hospital routines, using behavioral techniques of distraction, deep breathing, and muscle relaxation, sharing peer experiences about the stages of labor and delivery, summarizing, assigning tasks, and getting feedback.

Each session lasted 90 minutes. The same training content was provided to the participants in the online peer education group via WhatsApp messenger in 4 groups of 5-6 people through group chats, audio files, and educational videos (from various websites), questions and answers with group members, and discussing the training

provided by peers. The researcher was the admin and supervisor in the online training sessions. Each group consisted of 5-6 members and one peer. The group members could raise any questions and opinions in the group until the next session, and the peers would answer their questions under the supervision of the

researcher. Before and 4 weeks after the last sessions, the items in Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ) were completed for all participants in the three groups. Educational content was presented to the members of the control group in the form of pamphlets and CDs after completing the study. Inclusion criteria for peers included: consent to participate in the study, Iranians and residents of Meshgin Shahr, having at least a high school diploma, a history of vaginal birth, and participation in preparation courses for physiological childbirth. The exclusion criteria for the peer volunteers were the absence of more than one training session and the refusal to continue participating in the study. The researcher held a 15-hour training workshop (5 sessions of 3 hours) for candidates separately in each center. Before and after the workshop, the pre-test and post-test were conducted for all volunteers. In the end, 16 candidates who completed the training course and obtained 75% of the post-test scores were selected as peers. The data in the present study were collected using a demographic questionnaire and the Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ) – Version A (25). The demographic survey includes questions on age, education, occupation, and household income. In the present study, the validity of the questionnaires was determined using the content and face validity methods.

Collected data were analyzed using SPSS version 16.0. First, the Kolmogorov–Smirnov test was used to determine the normal distribution of the data. Analysis of variance (ANOVA) was employed to determine the differences between the three groups in terms of FOC mean score. The paired-Samples t-test was used to assess the mean differences between pre-and post-test scores. The significance level was set at $P<0.05$.

Results

Kolmogorov–Smirnov test, and finally, demographic data were matched in three groups (Table 2). The mean age of pregnant women was 24.03 ± 3.6 years and the mean of gestational age was 26.05 ± 1.43 weeks.

Table 2. Characteristics of the study participants (n = 60)

Variable	Study groups			P-value
	Control group(n=21)	Online education group(n=20)	Face to face education group(n=19)	
	N(%)	N(%)	N(%)	
Economic status				
Not at all sufficient	4(19)	2(10)	4(21.1)	0.563
Relatively sufficient	14(66.70)	12(60)	9(47.4)	
Completely sufficient	3(14.30)	6(30)	6(31.60)	
Insurance				
No	2(9.5)	1(5)	3(15.80)	0.53
Yes	19(90.5)	19(95)	16(84.20)	
Awareness of birth methods				
Low	10(47.6)	6(30)	4(21.1)	0.158
Moderate	8(38.10)	13(65)	10(52.60)	
High	3(14.30)	1(5)	5(23.30)	
Education				
Middle	1(1.66)	0(0)	0(0)	
High school	9(15)	6(10)	6(10)	0.29
Diploma	10(61.9)	11(18.33)	9(15)	
Academic	3(5)	2(3.33)	3(5)	
Job				
House wife	9(42.9)	13(65)	13(68.4)	0.115
Employee	10(47.1)	3(15)	3(15.8)	
Other	2(9.5)	4(20)	3(15.8)	

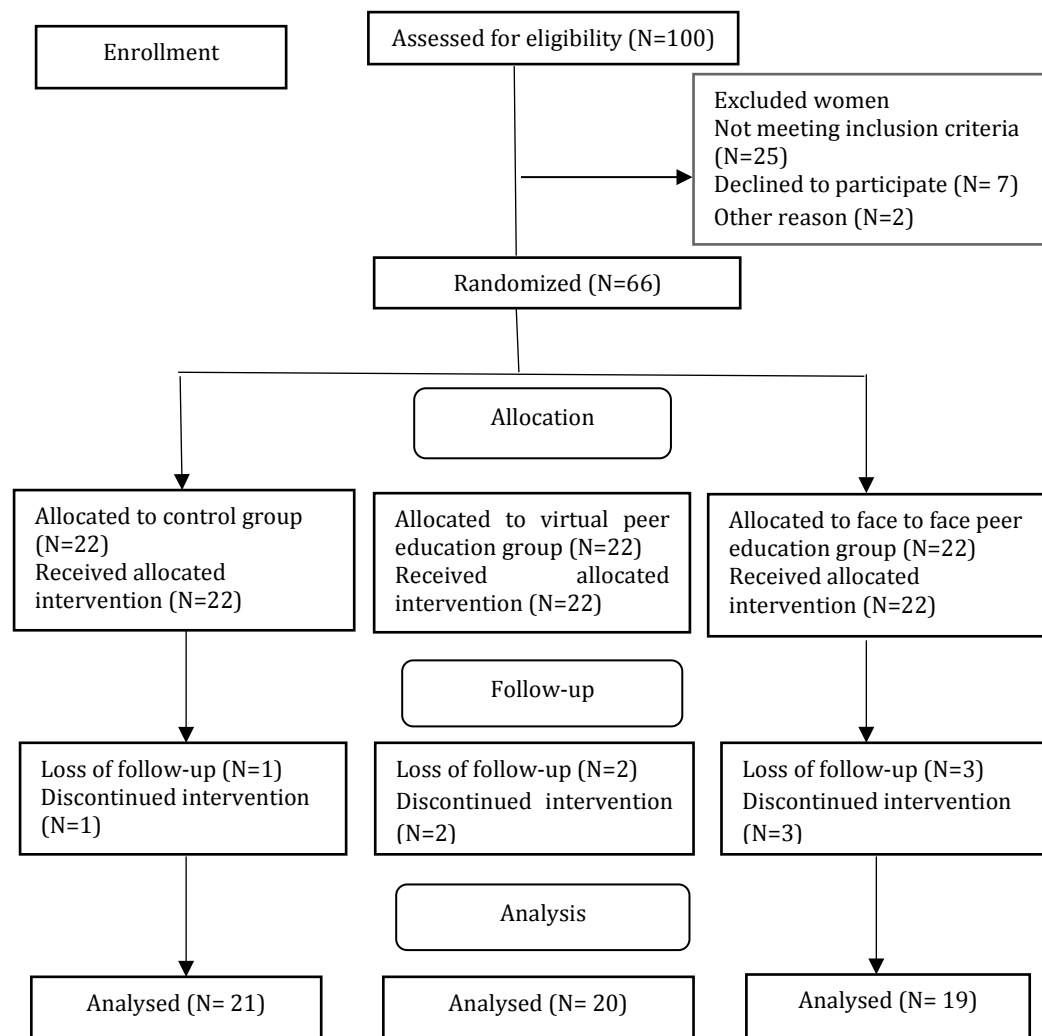Note. P < 0.05 was considered significant

Figure 1. CONSORT Flowchart of the study

There was no significant difference between the FOC scores in the three groups at baseline measurement (P = 0.101), but a significant difference was observed in FOC scores among the three groups (P = 0.001) after one month of intervention (Table 3).

Further, the Post Hoc test showed a significant difference between the group receiving face-to-face peer education and the control group (P < 0.001) as well as, the online peer education with the control group (P < 0.001). A significant difference was found between the face-to-face peer education and online peer education groups (P = 0.000) (Table 4).

Table 3. Comparison of mean scores of fear of childbirth in face to face peer education, online peer education and control groups

Fear of child birth	Control group	Oneline peer education group	Face to face peer education group	P-Value
Before intervention	117± 8.72	109.63 ±15.29	118.6 ±15.63	0.104 F=2.35
One month after intervention	118.38 ± 9.81	93.89± 11.59	102.85±15.82	0.000 F= 19.32
P-Value**	0.108 t=-1.68	0.000 t=8.38	0.000 t=9.82	

*ANOVA, **Paired t test

Table 4. Comparison of the post hoc test of fear of childbirth of the groups after the implementation of the intervention

variable	groups	Post hoc After intervention
Fear of child birth	-Face to face peer education and control group	P= 0.000
	-Online peer education and control group	P= 0.031
	- Face to face and online peer education group	P= 0.000

Discussion

This study examined the effect of face-to-face and online training interventions by peers compared with the control group. The findings showed that at the end of the intervention, the FOC scores in both face-to-face and online peer education groups had a significant decrease compared to their pre-intervention scores and the scores obtained by the control group. One month after the completion of the intervention, the two face-to-face and online peer education groups showed a greater decrease in the fear of childbirth score compared to their pre-intervention scores and the scores obtained by the control group.

In line with our results, Rahmani et al. (2020) showed that peer education was more effective in reducing the fear of childbirth in pregnant women compared to the discussion group by healthcare workers (22). Moreover, Alidoost et al. (2014) showed that the intervention by peers increased women's motivation for natural childbirth and decreased the intention of cesarean section (23).

One of the main reasons for fear of childbirth is incomplete or misleading information(28). The Harsanyi Doctrine states that the difference in the level of knowledge causes different levels of beliefs and attitudes in people (29). Thus, providing psychological training in line with cognitive-behavioral therapy to reduce the causes of fear of childbirth, and anxiety and assess the benefits and harms of natural childbirth and cesarean delivery, leads to the development of the necessary knowledge and skills in expectant mothers and, as a result, reduces their fear. In line with the present study, most of the studies have shown positive and useful benefits of the peer-centered education approach. The desirable outcomes of this method can be attributed to the fact that peers share their experiences in simple terms and pregnant women are more probably to trust the experiences of those who have already been in similar situations. In the peer education approach, people protect their health and develop their level of knowledge, attitudes, and skills. In this process, the peer and members of a group strengthen the sense of empathy that leads to increased knowledge.

Godarzi et al. (2015) showed that breastfeeding education through peer support increased mothers' perceived ability to breastfeed their new infant (30). Molazem et al. (2018) also concluded that peer education effectively reduced fear and anxiety in patients undergoing coronary angiography (31). Another study showed that patients who have received peer education had higher self-efficacy compared to those who received nursing education (32).

However, Tafazzoli et al. (2013) reported that peer support and education by healthcare

workers during pregnancy do not affect the initiation of breastfeeding (33). The inconsistency in these studies can be related to the difference in social values and culture, personality conditions, and different aspects of the birth experience of women. The quality of peer education can play a significant role in learning outcomes. Criteria such as listening, self-confidence, the ability to communicate clearly with peers, and the ability to stimulate and encourage peers should be taken into consideration when choosing peer coaches. The differences in peer education outcomes in different studies can be attributed to various factors such as peer selection, failure to encourage and motivate peers to participate in the selected discussions, and improper group control. Several studies have shown that peer support using mobile phones has been effective in reducing distress and problems of women with breast cancer (34) and self-care in patients with diabetes (35).

Nieminen et al. (2016) assessed the feasibility of CBT-based internet interventions in primigravid women with extreme fear of childbirth. The results showed that primiparous women who had a severe fear of childbirth could be treated using a CBT-based self-help program through the internet (36).

Considering the effectiveness of education through mobile phones, it can be said that mobile phones act as a guide for action (positive signs that people receive from their surroundings and internal environment) and act as a reminder and encourage people to change and improve their attitudes. It seems that the availability of mobile phones and the information and reminders provided by them can reduce worry and fear, confirming the benefits of new technologies, especially mobile phones in health education. Mobile phones are available to almost everyone and can be used to overcome many obstacles, including the problem of access to different social groups, lack of financial resources, and lack of physical space, especially in critical situations such as the COVID-19 pandemic.

The main limitation of this study was the selection of only the women who could access and use a smart cell phone and the WhatsApp messenger. One important strength of our study was its randomised, controlled design. Besides, the study was performed with primiparous women to understand the effect of peer education clearly. This is the first study, to the best of our knowledge, to investigate the effects of face-to-face versus online peer education.

Conclusion

Face-to-face and online peer education are effective in reducing the FOC in pregnant women. Peer education methods are a complementary supplement to mental health promotion. Such methods can be used for developing national health policies and planning for encouraging women to natural childbirth and as a consequence reduction of cesarean section.

Declarations

Acknowledgements

Conflicts of interest

The authors declared no conflicts of interest.

Ethical approval

The ethical considerations that were taken into account involved informing the participants about the research process and its timing, the nature of the intervention, obtaining written consent, maintaining the confidentiality of the sessions, and allowing the participants to withdraw from the study at any point during the research.

Code of Ethics

To conduct the research, the ethical code of IR.UMSU.REC.1399.018 was obtained from the Medical Ethics Committee of Urmia University of Medical Sciences, Urmia, Iran.

Use of Artificial Intelligence (AI)

We acknowledge that no AI tools or technologies have been used to prepare this manuscript.

Funding

Authors' contribution

RB and FR contributed to the conception and design of the research. A.K performed the quality assessment of the studies. JR interpreted the data. RB drafted the manuscript. All authors reviewed the manuscript, agreed to be fully accountable for ensuring the integrity and accuracy of the work, and approved the final manuscript.

References

1. Federenko IS, Wadhwa PD. Women's mental health during pregnancy influences fetal and infant developmental and health outcomes. CNS Spectrums. 2004; 9(3): 198-206.

2. Lou S, Frumer M, Schlutter MM, Petersen OB, Vogel I, Nielsen CP. Experiences and expectations in the first trimester of pregnancy: a qualitative study. Health Expect. 2017; 20(6): 1320–1329.

3. Biehle SN, Mickelson KD. Worries in expectant parents: Its relation with perinatal well-being and relationship satisfaction. Personal Relationships. 2011; 18(4): 697-713.

4. Fenwick J, Gamble J, Creedy DK, Buist A, Turkstra E, Sneddon A, et al. Study protocol for reducing childbirth fear: a midwife-led psycho-education intervention. BMC Pregnancy Childbirth. 2013; 13(1): 190.

5. Nasiri F, Sharifi S. Relationship between fear of childbirth and personality type in pregnant women. The Iranian Journal of Obstetrics, Gynecology and Infertility. 2013; 16(66): 18-25.

6. Tavassoli A, Zafari Dizaji A. Social Factors Affecting Elective Cesarean in Iran: social factors affecting to elective cesarean. Bioethics and Health Law Journal. 2021; 1(1): 1–7.

7. Khanzadeh A, Rostampour A, Nedaee N, Khosrojavid M. Effectiveness of cognitive-behavioral education on anxiety during pregnancy and delivery method in primiparous women. Journal of Nursing Education. 2017; 5(6): 24-32.

8. Gabbe SG, Niebyl JR, Galan HL, Jauniaux ERM, Landon FMB, Simpson JL,et al. Obstetrics: normal and problem pregnancies e-book. 2016: Elsevier Health Sciences.

9. Crockett LK. Examining early childhood health and educational outcomes of late preterm infants in Manitoba: A population based study. 2015.

10. American College of Obstetricians and Gynecologists. ACOG practice bulletin no. 107: induction of labor. Obstetrics & Gynecology. 2009; 114: 386-397.

11. Sydsjo G, Sydsjo A, Gunnervik C, Bladh M, Josefsson A. Obstetrics outcome for women who received individualized treatment for fear of childbirth during pregnancy. Acta Obstetricia et Gynecologica Scandinavica. 2012; 91(1): 44-49.

12. Fathi ZM, Abedini S, MOHSENI S. The Effect Of Childbirth Preparation Courses On The Reduction Of Anxiety Of Pregnant Women Referring To Health Centers Of Sirik In Hormozgan, Iran.

13. Fisher C, Hauck Y, Bayes S, Byrne J. Participant experiences of mindfulness-based childbirth education: a qualitative study. BMC Pregnancy and Childbirth. 2012; 12(1): 126.

14. Campbell HS, Phaneuf MR, Deane K. Cancer peer support programs—do they work. Patient Education and Counseling. 2004; 55(1): 3-15.

15. Smith SM, Paul G, Kelly A, Whitford DL, O'Shea E, O'Dowd T. Peer support for patients with type 2 diabetes: cluster randomised controlled trial. BMJ. 2011; 342.

16. Boothroyd RI, Fisher EB. Peers for progress: promoting peer support for health around the world. Family Practice. 2010; 27(suppl_1): i62-i68.

17. Kay M ,Santos J, Takane M. mHealth: New horizons for health through mobile technologies. World Health Organization. 2011; 64(7): 66-71.

18. Rafiei M, Ghare MS, Akbari M, Kiani F, Sayehmiri F, Sayehmiri K, Vafaee R. Prevalence, causes, and complications of cesarean delivery in Iran: A systematic review and meta-analysis. International Journal of Reproductive Biomedicine. 2018; 16(4): 221.

19. Liamputtong P, Koh L, Wollersheim D, Walker R. Peer support groups, mobile phones and refugee women in Melbourne. Health Promotion International. 2015; 31(3): 715-724.

20. White VM, Young M-A, Farrelly A, Meiser B, Jefford M, Williamson E, et al. Randomized controlled trial of a telephone-based peer-support program for women carrying a BRCA1 or BRCA2 mutation: impact on psychological distress. Journal of Clinical Oncology. 2014; 32(36): 4073-4080.

21. Rotheram-Borus MJ, Tomlinson M, Gwegwe M, Comulada WS, Kaufman N, Keim M. Diabetes buddies: peer support through a mobile phone buddy system. The Diabetes Educator. 2012; 38(3): 357-365.

22. Rahmani R, Yaghoobi Moghadam F, Hadizadeh-Talasaz1 F, Rahmani MR. The effect of peer education on fear of childbirth in pregnant women: A randomized clinical trial. International Journal of Women's Health and Reproduction Sciences.2020; 8(2):209-214.

23. Alidoost N. The Effectiveness of Peer Education on Knowledge, Attitude and Choice of Delivery in Nulliparous Women referred to Book an Health Centers (Doctoral dissertation, Tabriz

University of Medical Sciences, School of Nursing and Midwifery).

24.Ghazaei M, Davodi I, Neysi A, Mehrabizadeh Honarmand M, Basak Nejad S. Effectiveness of Cognitive Behavioral Therapy and psycho-education on fear of natural childbirth and its related variables. Journal of Applied Psychology. 2018; 12(1): 103-125.

25. Wijma K, Wijma B, Zar M. Psychometric aspects of the W-DEQ; a new questionnaire for the measurement of fear of childbirth. Journal of Psychosomatic Obstetrics & Gynecology. 1998; 19(2): 84-97.

26. Mortazavi F. Validity and reliability of the Farsi version of Wijma delivery expectancy questionnaire: an exploratory and confirmatory factor analysis. Electronic Physician. 2017; 9(6): 4606.

27. World Health Organization. WHO recommendations non-clinical interventions to reduce unnecessary caesarean sections: web annex 4: CERQual evidence tables. InWHO recommendations non-clinical interventions to reduce unnecessary caesarean sections: web annex 4: CERQual evidence tables 2018.

28. Ahmadi Z. Identifying and explaining experiences of fear of childbirth and coping strategies: A qualitative study. Journal of Qualitative Research in Health Sciences. 2020; 9(1): 47-58.

29. Haines HM, Rubertsson C, Pallant JF, Hildingsson I. The influence of women's fear, attitudes and beliefs of childbirth on mode and experience of birth. BMC Pregnancy and Childbirth. 2012; 12: 1-4.

30. Godarzi Z, Saeidi M, Daneshvar Ameri Z, Shamshiri AR, Sadeghi T. Impact of Peer Education on Breastfeeding Self-Efficacy in Primiparous Women: a Cluster Randomized Controlled Trial. Hakim Health Systems Research Journal. 2015; 18(2): 105- 113.

31. Molazem Z, Shahabfard Z, Askari A, Kalyani MN. Effects of a peer-led group education on fear, anxiety and depression levels of patients undergoing coronary angiography. Investigacion y Educacion en Enfermeria. 2018; 36(1).

32. Mohammadpourhodki R, Rahnama M, Abdollahimohammad A, Shashraki Vahed A, Shamsizadeh M, Shahdadi H. Comparison of effect of nursing education and peer education methods on self-efficacy in patients with myocardial infarction. Modern Care Journal. 2018; 15(1): e56012.

33. Tafazzoli-M, A m-, Boskabad-H, -S Ez. Comparing the Effect of Peer Support and the Education of Health Care Providers on Breastfeeding Initiation Time among Primiparous Women in Mashhad. Iranian Journal of Obstetrics, Gynecology and Infertility. 2012; 15(4): 19-28.

34. White VM, Young M-A, Farrelly A, Meiser B, Jefford M, Williamson E, et al. Randomized controlled trial of a telephone-based peer-support program for women carrying a BRCA1 or BRCA2 mutation: impact on psychological distress. Journal of Clinical Oncology. 2014; 32 (36): 4073-4080.

35. Rotheram-Borus MJ, Tomlinson M, Gwegwe M, Comulada WS, Kaufman N, Keim M. Diabetes buddies: peer support through a mobile phone buddy system. The Diabetes Educator. 2012; 38(3): 357-365.

36 . Nieminen K, Andersson G, Wijma B, Ryding E-L, Wijma K. Treatment of nulliparous women with severe fear of childbirth via the Internet: a feasibility study. Journal of Psychosomatic Obstetrics & Gynecology. 2016; 37(2): 37-43.