Effect of Participatory Care Model on Postpartum Quality of Life and Performance during COVID-19 Pandemic

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Abstract

Background: Postpartum services are the most important factors in preventing unwanted maternal and neonatal outcomes. Considering the COVID-19 pandemic and the stress associated with the risk of infection, one way to improve midwifery services in the postpartum period and reduce unwanted maternal and neonatal outcomes is the participatory care model. We aimed to assess the effect of the participatory care model on quality of life and performance in the postpartum period.

Methods: This quasi-experimental study was performed on 200 women in the third trimester of pregnancy living in Bojnourd, Iran, during 2020. Health-promoting interventions,

including self-care training based on the participatory care model, were performed in four sessions for mothers, spouses, and their supporters. Quality of life and postpartum performance questionnaires were completed two and eight weeks after delivery. Data were analyzed using SPSS software.

Results: Mean quality of life in 2 weeks after delivery in the intervention group standard care groups were 115.52, 114.76 and in the 8 weeks after delivery in the intervention group standard care groups were121.06, 116.84. Mean postpartum performance life in 2 weeks after delivery in the intervention group standard care groups were 74.75, 73.69 and in the 8 weeks after delivery in the intervention group standard care groups were 81.72, 74.84. The results of repeated-measure analysis of variance showed that the intervention group had higher quality of life and performance scores than the standard care group ($P<0.001$).

Conclusion: The participatory care model can be effective in improving the quality of life and performance of mothers, and we recommend its use.

Keywords: Participatory care model; Quality of life; Performance; Postpartum period

Background

The first four to six weeks after delivery, also known as the postpartum period, are one of the most sensitive stages of life and an important field of study in women's reproductive health [1]. Although after this period, pregnancy-induced changes and childbirth return to normal, evidence suggests that many health-related problems persist for months after delivery [2,3]. These include breast and nipple problems, stress related to caring for the baby [4], which sometimes have long-term effects on women's health and quality of life[5]. COVID-19 virus has also become a stressor in the postpartum period. Acute Respiratory Syndrome, named COVID-19 by the World Health Organization (WHO), was initially reported in December 2019 and rapidly become a worldwide epidemic. Ultimately the WHO announced it as a pandemic in March 2020 [6]. The virus can be associated with preterm delivery [7], neonatal death, and fetal asphyxia [8], and the perinatal period can be associated with high levels of anxiety and depression. To enhance healthcare, Telehealth was recommended [9].

Postpartum services are crucial for preventing unwanted maternal and neonatal outcomes[10].

Caregivers' performance and the amount of maternal environmental support are key factors for better adaptation during the postpartum period [11]. In this regard, Iran's Ministry of Health has developed a program for the postpartum period, which includes three postpartum care sessions for the mother on days 1-3, 14-15, and 42-45 after delivery. The content of this care includes examinations, observations, questions, and necessary training on personal, mental, sexual, and oral health, warning signs, common complaints, nutrition, and medication supplements, breastfeeding, neonatal care, and family planning [11]. Nevertheless, postpartum care is often overlooked by health care providers and midwives compared to pregnancy, both quantitatively and qualitatively [2].

Besides the implementation of postpartum care, attention should also be paid to the support given by significant others such as the spouse, which can affect the mother's quality of life and performance [11]. During the COVID-19 pandemic, all pregnant mothers were advised to avoid unnecessary visits to health centers and to reduce such visits, and exposure to environmental contamination, routine care for low-risk pregnant mothers was reduced from eight sessions to four by the Health Department of the Ministry until the full control of the infection.

The mother's condition should be monitored at intervals, the results of tests and ultrasounds should be given by telephone or text message, and if necessary, the mother should be referred to related specialists [12]. Despite the logical nature of this protocol for increasing pregnant mothers' safety and ensuring their health during the postpartum period, it seemed that most of the care needs, especially the educational needs of the target group, were neglected in public health centers. Moreover, counseling and self-care training during pregnancy and the postpartum period, which met the self-care needs of mothers and infants, were overshadowed by the current pandemic conditions. On the other hand, to manage the pressures of the postpartum period and the pandemic, more social support was needed to reduce the existing stressful conditions, albeit temporarily. A qualitative study in Chile on Learning to Work While Homebound - The Effects of Remote Work during the Corona pandemic had improved work performance but that decrease the motivation, creativity, and performance in long terms[13].

Various studies have suggested strategies for optimizing postpartum care, including home visits [11], e-learning [14], feedback training [15], and Internet-based training programs [16]. One of the strategies to promote postpartum care is to raise awareness and improve health beliefs in the family and significant others through family-centered training [17], ,grandmother training [18,19], and community-based education [20], which can improve breastfeeding. Providing care for vulnerable populations is an important part of managing infectious diseases. Using simple solutions such as social networks can be effective in addressing the mothers' concerns [21]. One of the most effective models for promoting self-care behaviors is a participatory care model introduced by Mohammadi and colleagues in

2001 [22]. Such care is shown to be effective in increasing men's participation in prenatal and postpartum care [23] and quality of life[24].

Participatory care involves the regular and logical process of establishing effective, interactive, and dynamic communication between the mother and health care providers for better understanding and recognizing the needs. The participation process is one of the key components of individual and family empowerment and improves quality of life. Participatory care consists of four stages: motivation, preparation, involvement, and evaluation, ranging from self-care to professional care, in which family members, service providers, and health care workers participate, and it ultimately improves health and quality of life [22]. In participatory care, contrary to the traditional approach, the focus is not on the service provider as the main factor of care, but the combined and balanced role of all effective people, including mother, spouse, and friends [23].

Based on the available knowledge, the impact of this model on the quality of life and performance of women in the postpartum period has not been studied. Also, because of the large population covered by government centers in the country, the need for cost-effective and easily available care that is flexible based on the women's socioeconomic status is felt more than ever. Therefore, considering the need for implementing interventions to promote the health and quality of life of women in the critical postpartum period, especially during the COVID-19 pandemic, for the first time, we aimed to assess the effect of an approach based on the participatory care model on the quality of life and postpartum performance in Bojnourd, northeastern Iran during 2020.

Methods

Study design and participants

This study was a quasi-experimental study(In the present study, health centers were randomly selected into intervention and standard care groups, but it was available inside the sampling centers and we did not have random sampling centers, so the study was conducted semi-experimentally.) that was performed on nulliparous pregnant women in the third trimester of pregnancy living in Bojnourd city, North Khorasan Province, Iran. Bojnourd city, with a population of 334 thousand people in 2016 and a total fertility rate of 2.4 [25] in North Khorasan Province, has the second highest fertility rate in the country [26]. Therefore, since we aimed to test the participatory model on quality of life and self-care during the postpartum period, we used the participation of the spouse and key supporter. For this reason, the inclusion criteria were as follows: singleton pregnancy, literacy in Persian, absence of known medical and obstetric disorders in pregnancy, having electronic messengers and Internet access, the presence of the husband and a supporter in the participatory training sessions. The exclusion criteria were: the spouse or the supporter not accompanying the women during the study, infant death, preterm delivery, divorce, and relocation of the city of residence.

Sample size and sampling

The sample size was estimated to be 200 pregnant women with a husband and a key supporter using the formula for comparing the means in each group $\alpha = 0.05$, $z_{\beta} = 0.84$, effect size =0.3 , Minimum sample required 89 mother . Taking into account 10% of sample loss, the sample size in each group was estimated to be 100 people

. Sampling was done in several stages in such a way that, at first, health centers in Bojnourd city were divided into high and low socioeconomic classes. Two centers were randomly selected from the centers with the low socioeconomic class as intervention clusters and two centers as clusters with standard care. The same procedure was performed for privileged areas. Then from within each cluster, using a quota method based on the population covered by each center, 100 people in intervention clusters and 100 people in standard care clusters were included to reach the determined sample size. The sampling period started in July 2020. Participants were then followed up until delivery and for 8 weeks after that by four visits until February 2021.

Measurements

Socio-demographic and obstetrics characteristics

The researcher-made demographic and obstetrics questionnaire had 21 items on the most important information needed about the couples and key supporters. It was validated using face and content validity and by receiving the opinions of 10 experts.

Quality of life Questionnaire

The questionnaire on quality of life after childbirth is a validated questionnaire that has been used in various studies [14,27,28] with 30 items in eight domains: mother's feelings towards herself, mother's feelings towards her child, mother's feelings towards her husband and others, mother's feelings about sex, physical health status, the relationship between childbirth and economic status, maternal satisfaction with the mode of delivery, and her choice about future deliveries. The items were scored on a 5-point Likert scale ranging from 30 to 150. A higher score indicates a better quality of life. The validity of this questionnaire has been previously determined and confirmed in several studies using content validity [27, 28]. In the present study, the reliability of the questionnaire was assessed by internal consistency (Cronbach's alpha: 0.84), and test-retest method, and calculating the correlation coefficient and intra-cluster correlation index (ICC) between two test times, which was 0.93.

Mothers' performance in the field of self-care and baby Care Questionnaire

The researcher-made questionnaire on mothers' performance in the field of self-care and infant care was compiled with the help of postpartum lifestyle awareness and belief questionnaire (Kamalifard, 2014) and postpartum care knowledge and practice questionnaire (Golian, 2016), and the latest national instructions of "Integrated Maternal Health Care Protocol" [10,11,29] including 24 items scored on a four-point Likert scale ranging from 24 to 96.

In order to check the qualitative face validity, the primary questionnaire was given to 10 specialists(Reproductive health specialists, gynecologists specialists and midwifes) and 3 eligible mothers to participate in the research, and after making the necessary corrections, it was approved. To check face validity, the coefficient of each item was calculated quantitatively, and finally, because all questions scored more than 1.5, none of the questions were omitted. The validity of the qualitative part of the tool was checked by evaluators. In the quantitative part (considering that there were 10 people in the panel), the minimum acceptable coefficient of variation ratio (CVR) was determined to be 0.62 based on the Lawshe table, and all items received the minimum score. According to the content validity index (CVI) all questions had a score of above 0.79 [30,31]. Also, Cronbach's alpha coefficient for reliability was 0.91, and also the ICC of this instrument, which was completed by 20 eligible women, with a one-week interval, was 0.89.

Intervention protocol and its implementation steps

The action plan was developed based on the results of the preliminary needs assessment study of the target group, which was conducted in Bojnourd, based on the participatory care model [32]. Initially, meetings were held with the officials and staff of Bint Al-Huda health centers and maternity hospitals, and a full explanation of the study was provided. In the next stage, the training classes were advertised by the researcher and the staff of the health centers in person and by phone. In addition to informing in person, the researcher contacted all eligible pregnant women who were in the third trimester of pregnancy and asked them to talk to their spouse and a key supporter to see whether they wished to participate in the study, and included all three in the study upon their approval and informed consent.

Then, the pregnant woman, her husband, and a key supporter were asked to visit the health center together during one of the third-trimester visits to collect data. Because of the COVID-19 pandemic, in which women and their families were not able to hold classes in person, the

first session was held online and offline after coordination with the participants. Online meetings were held by two members of the research team based in Bojnourd using the "Maternal and Neonatal Care" online system (https://homevirtualvisit.ir), which is a telemedicine system in the field of obstetrics and midwifery designed by North Khorasan University of Medical Sciences. The demographic information questionnaire and midwifery records (https://homevirtualvisit.ir), maternal performance questionnaire (self-care and infant care) (https://panel.porsall.com/Poll/Show/93574d2de1ac4b4۰), quality of life questionnaire in the postpartum period (https://panel.porsall.com/Poll/Show/1ba6fb3bcd53451) were designed for simultaneous use in the same system. The training session began after completing the demographic and midwifery records questionnaire using the link provided. Meetings were held simultaneously using the help system, in which the system link (https://www.intelligenttechnology.ir/ch/komak-nazari) was sent to pregnant women and their spouses and key supporters, and after logging in, the content was presented to all three.

In some sessions, all three people logged in from the same system and were trained together. If one of the participants was not able to participate in a class at the same time, the class file was uploaded at another time as a multimedia file in one of the virtual messaging applications and followed by a phone call. Pregnant women and their spouses and key supporters were told to watch the educational video, and their possible questions were answered. Moreover, to gain further trust and higher cooperation rates, the researcher's phone number was given to the participants so that they could call at any time if they had any problems. All people became members of the virtual Q&A group. The meetings were held as follows:

The first session (motivational stage of participatory care model): A friendly relationship was established to establish trust. Then, postpartum problems were discussed in general, and the importance of the role of spouse and key supporter in the postpartum period was discussed. Since these courses were helpful during the COVID-19 pandemic, the last ten minutes of the

session were spent on hygiene and breastfeeding in case pregnant women were infected with the virus. Discussion on these issues increased the awareness, sensitization, and motivation of the participants, which was needed to follow and continue subsequent care programs. The next steps (preparation and involvement), were designed and performed based on the results of training and follow-up participatory visits.

The second and third sessions (participatory educational visits, preparation, and involvement stage) included two visits in the first 24 hours after delivery and the second week after delivery. All women in the study were asked to notify the researcher whenever they were admitted to the hospital for delivery. The hospital visit was coordinated when the spouse and a key supporter were present at the hospital, and they were trained at the hospital. During the second week after delivery, the meeting was held online and offline. These two visits were attended by all three people (pregnant woman, spouse, and key supporter), and the duration of each session varied from 30 minutes to 100 minutes, depending on the needs of the participants.

The fourth session (follow-up participatory visit: preparation and involvement stage) was held three to four weeks after delivery and in line with previous participatory educational visits, with the presence of a pregnant woman, husband, and a key supporter. Positive and negative results were reviewed, and feedback was received from the participants.

During the intervention period, the standard care group received the routine care of health centers. Women's performance in the field of self-care and infant care and quality of life after delivery were measured and compared in two stages (second and eighth weeks after delivery) by online questionnaires and telephone. A summary of the above intervention method is shown in table 1.

Analysis

Data were analyzed using SPSS software, version 23. According to the objectives of the study, descriptive statistics and inferential statistics (independent *t* test and analysis of variance with repeated measures) were used.

Ethics approval and consent to participate

The study did not have any costs for the participants. They were reassured that their information would remain confidential. This study is part of the Ph.D. dissertation in Reproductive Health of Shahid Beheshti University of Sciences, which has been approved by the Ethics Committee of Shahid Beheshti University of Medical Sciences with the code (IR. SBMU.PHNM.1398.089). At the beginning of the study, written consent was obtained from all participants, and the title of the research proposal was registered in the Iranian Clinical Trial Registration Center (IRCT20180715040477N1).

Results

The participatory care program was performed for 200 people in the intervention and standard care groups, but 12 people were excluded during the program for various reasons (figure 1).

The mean ages of research participants in the intervention and standard care groups were 26.48 (4.03) and 25.40 (4.73) years, respectively. The two groups were homogeneous in terms of demographic and midwifery variables (tables 2 and 3).

The mean scores of women's quality of life in the intervention and standard care groups were 115.52 (10.97) and 114.76 (11.01) two weeks after delivery and 121.06 (10.65) and 116.84 (12.03) eight weeks after delivery, respectively. The results of repeated-measure analysis of variance showed that there was a significant difference between the two groups ($P<0.001$, table 4, figure 2).

The mean general performance scores of women in the intervention and standard care groups 2 weeks after delivery (after presenting two training sessions in the intervention group) were 74.75 (8.54) and 73.69 (9.30). The corresponding scores 8 weeks after delivery (after presenting four training sessions) were 81.72 (9.34) and 74.84 (9.20) in the intervention and standard care groups, respectively (P=0.428). However, the increase in the mean scores of woman's performances in the intervention group eight weeks after delivery was more than the standard care group (P<0.001). The results of analysis of variance with repeated measures showed that there was a significant difference between the two groups (P <0.001, table 5, figure 3).

Discussion

We found that the effect of the participatory model in improving the quality of life and performance of women in the field of self-care and infant care was significant compared to current methods of care. This effect showed itself more as the postpartum weeks increased. Various studies on different methods for improving the quality of life after childbirth have shown encouraging results. One study on the use of short-term postpartum counseling sessions such as breastfeeding, immunization, child and mother care, family planning, sexual health, mental health, and lifestyle, based on the results of a women's needs assessment, showed better quality of life after childbirth in the intervention group [33].

Also, the impact of the home care program in Hainan Province in China on depressed women showed an improvement in quality of life [34]. Providing self-care training based on the pattern of feedback training significantly increased women's quality of life [14]. Also, the findings of some studies showed that support programs improve the quality of life of women in the postpartum period [35] and e-learning, including telephone counseling [37, 36], affect the quality of postpartum life, which is consistent with our study. Although it may seem that educational interventions or home visits will always be associated with positive results, the

method of instruction, its content, and compatibility of the type of care with the needs of the target group and their involvement in care programs, are critical in designing such programs for pregnant women from different social groups and are often neglected. For example, in a clinical trial in Tehran, the effect of home care on quality of life, although the quality of life scores after the intervention were higher in the intervention group, the difference between the groups was not significant [38].

Although women are expected to experience a better quality of life in the postpartum weeks with an improvement in their physical condition and to regain their ability to take care of themselves, significant differences between this variable in the intervention group indicate the importance of counseling. Moreover, training key supporters are also important since they have a key role in women's understanding of social support. However, in one study, home care did not improve the quality of life eight weeks after delivery[38], which could be attributed to the fact that the care location was moved to their house, but in our study, besides the care provided by the health center, caregiving training was also given in the form of a participatory care model.

In the present study, training based on the participatory care model increased women's performance in the intervention group. In a study in South Korea, reviewing educational and psychological interventions of the pregnancy and postpartum period in immigrant women in 2017, showed improved self-care and infant management, and self-efficacy. Moreover, interventions involving spousal participation reported greater effectiveness [39]. Two other studies in Iran that on lifestyle and home care training showed improved lifestyle awareness and women's performance in infant care [11,40].

We found that the mean scores of performance and quality of life of women in the intervention group two weeks after delivery, despite a higher score, were not significantly different from the standard care group, but after eight weeks (after four sessions and counseling in the virtual

group) higher and significant scores than the standard care group were seen. Such differences (improving quality of life and performance) can be characteristic of this type of intervention on the target group. In classical studies, although the effects of educational interventions can be seen for weeks after the intervention, in the present study, the participatory nature (not only training mothers but also the husband and a key supporter) was the most important reason for the sustainability of significant effects on the desired outcomes, the effects of which were visible on quality of life structures, which makes this study unique compared with other similar studies.

One of the most important components in managing any threat of contagious diseases is caring for vulnerable populations, and pregnancy has been reported as very dangerous for many women[41]. The use of simple strategies such as social media can be effective in reducing the mother's anxiety [21]. Social support can reduce the anxiety induced by the COVI-19 pandemic in pregnant women [42,43]. The results of a study in China showed that by reducing the perception of social support from others, the rate of postpartum depression increased [44], while the perception of support, especially spouse support [45] increased self-care behaviors during the COVID-19 pandemic. In our study, the participatory care model was associated with improved support by the spouse and key supporter in the postpartum period, increased self-care behaviors, and better performance of women in the postpartum period.

Although the participatory care model was used for the first time in improving the quality of life and performance of women in postpartum self-care and was effective, our study had some limitations. For example, the quasi-experimental design of the study and the impossibility of randomization of participants into study groups and blinding were among its limitations.

Conclusion

The findings of this study showed that the use of the participatory care model was effective during the postpartum period and improved the mothers' quality of life and performance in self-care and caring for the baby during the COVID-19 pandemic. Therefore, the design and implementation of family-centered intervention programs focusing on the health needs of individuals can be effective in increasing the understanding of women's satisfaction and social support, promote their health in the postpartum period.

Abbreviations

WHO: World Health Organization; COVID-19: Coronavirus disease-19; CVR: Coefficient of variation ratio; CVI: Content validity index.

Declarations

Ethics approval and consent to participate: This study has been approved by the Ethics Committee of Shahid Beheshti University of Medical Sciences with the code (IR. SBMU.PHNM.1398.089). All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1964 and its later amendments. At the beginning of the study, written consent was obtained from all participants, and the title of the research proposal was registered in the Iranian Clinical Trial Registration Center (IRCT20180715040477N1).

Consent for publication: Not applicable.

Availability of data and materials: The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Competing interests: The authors declare that they have no competing interests.

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Authors' contributions: SN: Contributed to the development of the concept, collected and analyzed data, and wrote the draft and final article; SH: Contributed to the development of the concept, reviewed and revised the draft, and final article; ZA: Contributed to the development of the concept and reviewed the draft; HAM: Contributed to the development of results and analyzed the data. All the authors read and approved the final manuscript.

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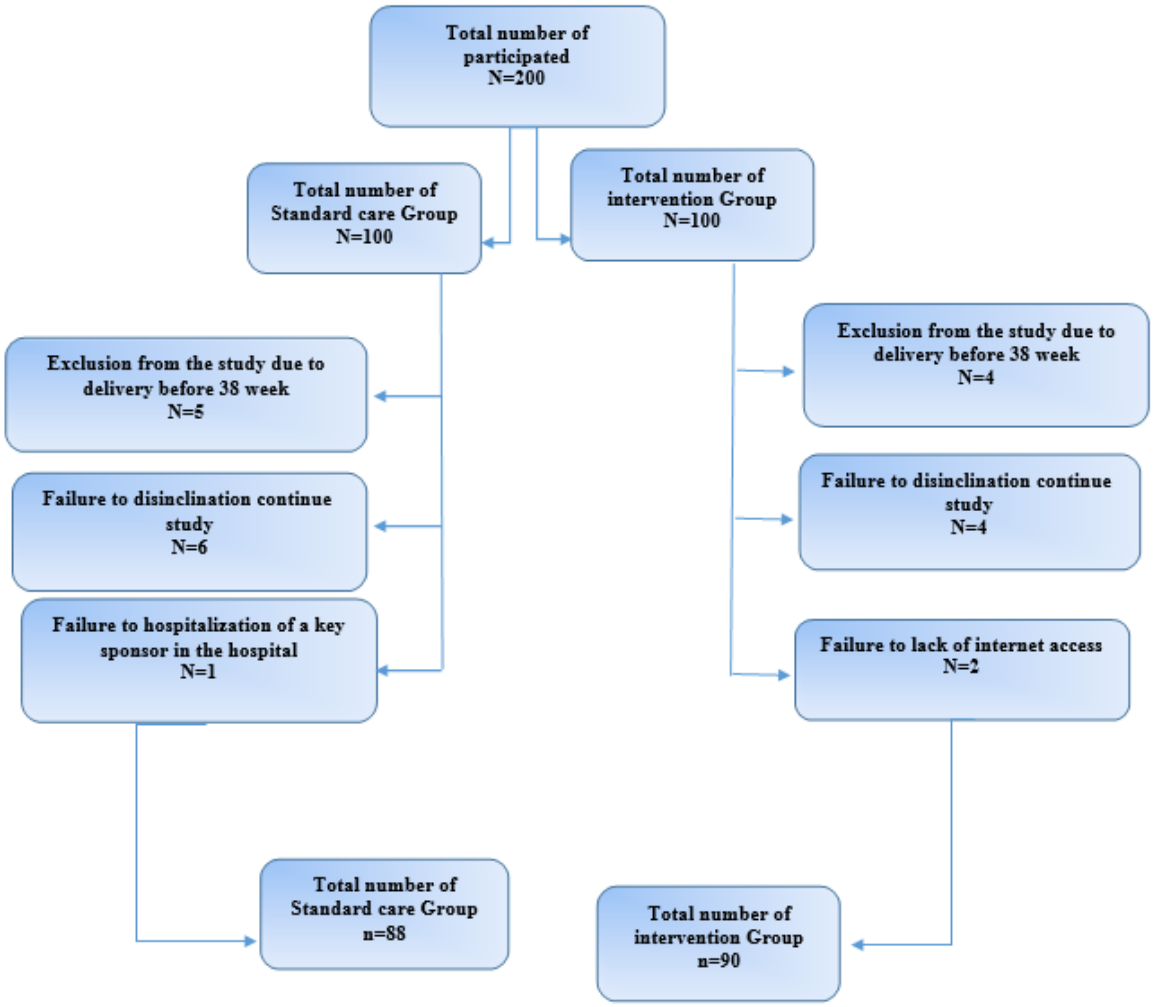

Figure 1. Flow chart for this study

Table 1. Summary of the data collection method

Row	Sessions	Place	Stage of participatory care model	Time	Content

1	Session 1	Online or offline training	Motivation	Third trimester of pregnancy	Changes and physical, mental, and emotional needs of the mother in the postpartum period maternal and neonatal risk factors after delivery Benefits of breastfeeding The role of the father and supporter in supporting the mother in the continuation of exclusive breastfeeding Adhering to health tips and breastfeeding if the mother is infected with COVID-19
2	Session 2	Bint Al-Huda Hospital in Bojnourd	Preparation and involvement	First day after delivery	Time to visit the health centre Time to screen the baby Mother and baby care Breastfeeding Maternal and infant danger signs Attention to maternal mood disorders
3	Session 3	Online or offline training	Preparation and involvement	7-14 days after delivery	Mental health Caring for the mother and child at home
4	Session 4	Online or offline training	Preparation and involvement	21-30 days after delivery	Communication with mother and baby Maternal physical activity status Exercise and postpartum massage

Table 2. Demographic characteristics of the intervention and standard care groups

Variable	**Intervention group; Mean±SD**	**Standard care group; Mean±SD**	**P value***
Mother's age (years)	26.48 (4.03)	25.40 (4.73)	**0.103**
key supporter's age (years)	49.01 (9.47)	51.02 (9.97)	**0.171**
***independent t-test**			
Variable	**Intervention Group; n (%)**	**Standard Care Group; n (%)**	**P value**
Woman's education			
0-6 years	4 (4.4)	6 (6.8)	
7-12 years	19 (21.1)	23 (26.2)	**0.302***
More than 12 years	67 (74.5)	59 (67)	
Total	90 (100)	88 (100)	
Type of mother education			
Medical Sciences	5 (5.6)	7 (8)	**0.564****
Non-medical sciences	85 (94.4)	81 (92)	
Total	90 (100)	88 (100)	
Woman's occupation			
Housewife	67 (74.4)	69 (78.4)	**0.567****
Employed	23 (25.7)	19 (21.6)	
Total	90 (100)	88 (100)	
Spouse's education			
0-6 years	1 (1.2)	3 (3.4)	**0.124***
7-12 years	31 (34.4)	39 (44.3)	
More than 12 years	58 (64.4)	46 (52.3)	

Total	90 (100)	88 (100)	
Spouse's occupation			
Employed	33 (36.7)	28 (31.8)	
Manual Laborer	6 (6.7)	11 (12.5)	**0.388*****
Self-Employed	51 (56.6)	49 (55.7)	
Total	90 (100)	88 (100)	
Monthly income			
sufficient income	80 (88.9)	71 (80.7)	**0.147****
Insufficient income	10 (11.1)	17 (19.3)	
Total	90 (100)	88 (100)	
Key supporters			
Mother	74 (82.2)	67 (76.1)	
Other people (sister-in-law, mother-in-law, sister)	16 (17.8)	21 (23.9)	**0.454****
Total	90 (100)	88 (100)	
Key supporters' education			
0-6 years	47 (52.2)	55 (62.5)	**0.486***
7-12 years	19 (21.1)	17 (19.3)	
More than 12 years	24 (26.7)	16 (18.2)	
Total	90 (100)	88 (100)	
key supporters' occupation			
Housewife	72 (80)	79 (89.8)	**0.094****
Employed	18 (20)	9 (10.2)	
Total	90 (100)	88 (100)	

***Mann-Whitney U Test**
**** Fishers Exact Test**
**** * Chi-square Test**

Table 3. Midwifery characteristics of the intervention and standard care groups

Variable	**Intervention group; Mean±SD**	**Standard care group; Mean±SD**	**P value***
Weeks of gestation at delivery	39.20 (0.97)	39.18 (1.03)	**0.889**
Neonate weight (grams)	3209.61 (365.38)	3295.85 (365.81)	**0.113**
***independent t-test**			
Variable	**Intervention group; n (%)**	**Standard care group; n (%)**	**P value**
Neonate's sex			
Female	50 (55.6)	38 (43.2)	**0.103***
Male	40 (44.4)	50 (56.8)	
Total	90 (100)	88 (100)	
Planned pregnancy			
Yes	87 (96.7)	79 (89.8)	**0.079****
No	3 (3.3)	9 (10.2)	
Total	90 (100)	88 (100)	
Mode of delivery			
NVD	56 (62.2)	60 (68.2)	**0.325***
CS	34 (37.8)	21 (31.8)	
Total	90 (100)	88 (100)	

Episiotomy			
Yes	51 (91.1)	52 (86.7)	**0.136****
No	5 (8.9)	8 (13.3)	
Total	56 (100)	60 (100)	
Causes of hospitalization			
Labor Pain	34 (37.8)	40 (45.5)	
Rupture of membranes (ROM)	13 (14.4)	15 (17)	
Postdate (Gestational age= 40 week)	24 (26.6)	15 (17)	
Other cases (Decreased fetal movement, vaginal Bleeding, Decreased amniotic fluid index, elective cesarean section due to genital herpes, cervical myoma)	19 (21.2)	18 (20.5)	**0.415***
Total	90 (100)	88 (100)	
Place of pregnancy care			
Health center	30 (33.3)	18 (20.5)	
Gynaecologist's office	47 (52.3)	52 (59.1)	
Health center and gynecologist's office	9 (10)	13 (13.6)	**0.255***
Health center and midwifery office and gynecologist's office	4 (4.4)	6 (6.8)	
Total	90 (100)	88 (100)	

*** Chi-square Test**
****Fishers Exact Test**

Table 4. Comparison of the mean overall score and scores of the different dimensions of the postpartum quality of life in the intervention and standard care groups

Variable	Assessment occasion	Intervention group; Mean±SD	Standard care group; Mean±SD	P value*	P value**
Overall score of postpartum quality of life	2 weeks after delivery	115.5 (10.97)	114.76 (11.01)	**0.645**	**<0.001**
	8 weeks after delivery	121.06 (10.65)	116.84 (12.03)	**0.015**	
Mother's feelings toward herself	2 weeks after delivery	22.37 (3.14)	22.63 (3.17)	**0.586**	**<0.001**
	8 weeks after delivery	23.80 (3.20)	22.51 (3.34)	**0.009**	
Mother's feelings toward her child	2 weeks after delivery	13.98 (1.73)	14.22 (1.30)	**0.303**	**0.103**
	8 weeks after delivery	14.25 (1.41)	14.28 (1.15)	**0.883**	
Mother's feelings toward her spouse and others	2 weeks after delivery	31.86 (4.37)	32.21 (5.39)	**0.635**	**0.144**
	8 weeks after delivery	32.55 (4.30)	32.36 (5.55)	**0.797**	
Mother's feeling toward sexual relations	2 weeks after delivery	9.31 (3.04)	7.89 (2.24)	**0.001**	**0.001**
	8 weeks after delivery	10.26 (2.82)	7.96 (2.29)	**0.000**	
Physical health	2 weeks after delivery	26.23 (4.26)	28.23 (4.44)	**0.208**	**0.982**
	8 weeks after delivery	25.40 (4.43)	27.42 (4.79)	**0.242**	
Financial status	2 weeks after delivery	4.63 (0.58)	4.54 (0.86)	**0.430**	**0.221**
	8 weeks after delivery	4.60 (0.57)	4.56 (0.82)	**0.766**	
Satisfaction with delivery	2 weeks after delivery	3.58 (1.25)	3.89 (1.08)	**0.081**	**0.117**
	8 weeks after delivery	3.67 (1.26)	3.87 (1.12)	**0.272**	
Choice of the delivery method for future	2 weeks after delivery	3.52 (1.37)	3.93 (1.15)	**0.033**	**0.179**
	8 weeks after delivery	3.67 (1.26)	3.85 (1.19)	**0.346**	

pregnancies
* independent *t* test **Repeated Measures ANOVA

Figure 2: Changes in quality of life scores of the intervention and standard care groups in the 2 and 8 weeks after delivery

Table 5: Comparison of the mean overall score and scores of the different dimensions of the maternal performance in the intervention and standard care groups

Variable	Assessment occasion	Intervention group; Mean±SD	Standard care group; Mean±SD	P value*	P value**
Overall score of maternal performance	2 weeks after delivery	74.75 (8.54)	73.69 (9.30)	**0.428**	**<0.001**
	8 weeks after delivery	81.72 (9.34)	75.84 (9.20)	**<0.001**	
Maternal performance in self-care	2 weeks after delivery	32.56 (6.29)	32.40 (5.23)	**0.856**	**<0.001**
	8 weeks after delivery	35.81 (6.92)	33.30 (5.10)	**0.007**	
Maternal performance in baby care	2 weeks after delivery	42.18 (4.68)	41.28 (5.79)	**0.253**	**<0.001**
	8 weeks after delivery	45.91 (4.81)	42.53 (5.77)	**<0.001**	
*** independent *t* test** ****Repeated Measures ANOVA**					

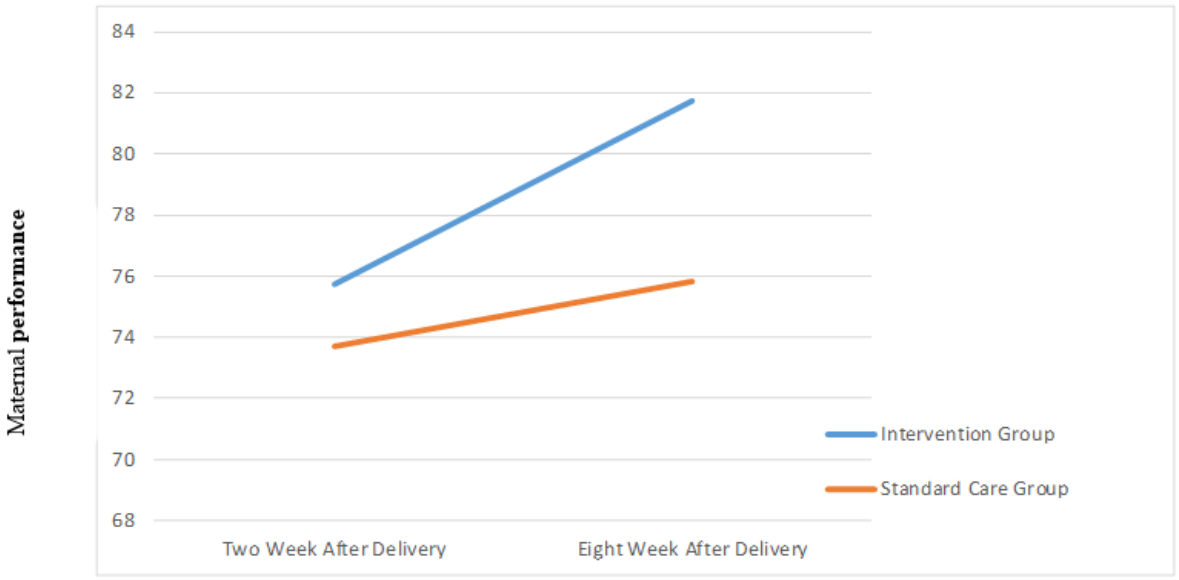

Figure 3: Changes in mothers' performance scores in the intervention and standard care groups in the 2 and 8 weeks after delivery