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<b>DOI:</b> 10.4103/jehp.jehp_1554_20

# Postpartum care promotion based on maternal education needs: A mixed study

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## Abstract:

**BACKGROUND:** The postpartum period can be considered as one of the most sensitive stages of life in different countries; however, it is inadequate in many developed and developing countries. We aimed to determine the educational needs of mothers in the postpartum period in Bojnourd.

**MATERIALS AND METHODS:** This study was conducted in Bojnourd 2019 with two parts: a qualitative part using the content analysis method and a quantitative part using the descriptive cross-sectional method. Data were collected 45 interviews with women, spouses, and key informants. All content was recorded and fully transcribed on paper. MaxQda10 software was used for the data management. A simultaneous descriptive cross-sectional study was done including 250 pregnant in the third trimester (25.6%), in the first 48 h after delivery (24.4%), in the first 6 months after delivery (24.4%), and in the second 6 months after childbirth (25.6%) who referred to five health centers in Bojnourd to receive midwifery care. Quota sampling was performed for each center according to the population covered, and convenient sampling was done in each center.

**RESULTS:** In the qualitative study, educational needs were classified into four main categories, including “maintaining and restoring physical health,” “sexual health needs,” “mental health needs,” and “educational barriers.” In the quantitative study, according to the findings, the most educational needs among mothers were self-care and breastfeeding and the best time for teaching was during the pregnancy, and the best method was face-to-face training and the best source of information was midwives and gynecologists.

**CONCLUSION:** Attention to the educational needs of each region can be done through various training courses and continuous retraining to promote health provider and should be considered in the planning officials.

## Keywords:

Education need, mixed study, postpartum period

## Introduction

Worldwide, special care has always been considered for the postpartum period because of its importance. However, such care is insufficient in many developed and developing countries.<sup>[1,2]</sup> This period lasts for 4–6 weeks after delivery<sup>[3]</sup> and is one of the most sensitive,<sup>[4]</sup> and at the same time, one of the most important stages of life with respect to reproductive health.<sup>[5]</sup> Because many changes occur during pregnancy and after

delivery, the mother experiences a great deal of vulnerability.<sup>[6]</sup> During this period, the mother experiences serious complications such as anemia, wound opening,<sup>[7]</sup> low back pain,<sup>[8]</sup> postnatal stress,<sup>[9]</sup> sexual problems,<sup>[10]</sup> urinary incontinence, and hemorrhoids.<sup>[11]</sup> They sometimes last for a lifetime.<sup>[12]</sup>

Most women experience childbirth in the context of the culture to which they belong.<sup>[13]</sup> Different cultures have different beliefs about childbirth.<sup>[14,15]</sup> Therefore, in postpartum care, in addition to promoting the physical health of the mother and

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**How to cite this article:** Nazari S, Hajian S, Abbasi Z, Majd HA. Postpartum care promotion based on maternal education needs: A mixed study. *J Edu Health Promot* 2021;10:261.

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Received: 04-12-2020  
Accepted: 29-12-2020  
Published: 30-07-2021

baby, and meeting their psychological and emotional needs and cultural issues, their beliefs should also be considered.<sup>[15]</sup>

Studies show that only 30% of mothers in developing countries commit to postpartum care,<sup>[10]</sup> so that the coverage of postpartum care was 73.94% in Iran in 2010<sup>[14]</sup> and 89% in Turkey 98% in Turkmenistan in 2019.<sup>[16]</sup> Furthermore, the quality of postpartum services related to two hospitals located in Shanghai, China, was reported to be low in more than half of the studied cases.<sup>[15]</sup>

In Iran, according to the guidelines of the Ministry of Health, postpartum care is done three times on days 1–3 (first time), 14–15 (second time), and 42–45 (third time) after childbirth. Nevertheless, postpartum care is considered less important in health-care centers because of various reasons, including the heavy workload of midwives.<sup>[17]</sup> Few studies in Iran have reported low<sup>[18]</sup> to moderate<sup>[19]</sup> quality of postpartum services in hospitals in Tehran, so that most mothers do not consult with health-care providers and many resort to self-therapy and seeking help from friends.<sup>[13]</sup>

Bojnourd city, according to the statistics of 2016, with a population of 334 thousand people and a total fertility rate of 2.4<sup>[20]</sup> Iran Multiple Indicator Demographic and Health Survey (In the region of North Khorasan, Bojnourd city) in 2010, the rate of receiving postpartum care in Bojnourd was less than the national average. This means that receiving care at least once after giving birth, was 73.94% in the whole country and 68.8% in North Khorasan.<sup>[14]</sup> The need to pay attention to the improvement of postpartum care is very much felt. Since quantitative and qualitative research provides more comprehensive evidence when performed in parallel than when done separately. Researchers are free to use all available data collection tools and a variety of data collection methods and not limit themselves to quantitative methods.<sup>[21]</sup> In this study, since some of the needs of postpartum care recipients (including neglected or less observed needs) is heard from the recipients, themselves. These needs should be assessed by methods other than cross-sectional and superficial studies, so that the results can be effective in completing the needs assessment of this group of service recipients. The purpose of this study was to determine the educational needs of mothers after childbirth.

## Materials and Methods

This study was conducted in Bojnourd, 2019 with two parts: a qualitative part using the content analysis method and a quantitative part using the descriptive cross-sectional method. The sample studied in the qualitative section was pregnant women and mothers in

their postpartum period (up to 1 year after delivery) and their spouses and key experts and informants. Data were collected through in-depth interviews with 23 women, 3 spouses and 19 knowledgeable midwives. The inclusion criteria in this section were the ability to understand and transmit Persian concepts, living in Bojnourd, no obvious mental illness and no experience of severe crises such as grief in the last 6 months. Furthermore, key informants were selected from experts who have at least 1 year of employment in midwifery care units and were able to provide the researcher with information and experiences about the postpartum care program. The exclusion criteria were unwillingness to continue interviews or disclose their interviews. The research setting included all health centers in Bojnourd, Bint Al-Huda Hospital, and gynecology and midwifery clinics.

In order to collect the information, after mentioning the objectives of the study and ensuring that the participants' information would remain confidentiality, the interview was conducted with the verbal consent of the participants. All content was recorded and fully transcribed on paper. The interviews were semi-structured, and the duration of the interviews was 30–45 min. Guba and Lincoln criteria were used to ensure the accuracy of qualitative findings. In order to increase the validity of the data, the codes were reviewed by other members of the research team, and diverse participants were enrolled. To trust the data, the codes were coded openly, and the categories were presented to two people outside the research team.<sup>[22,23]</sup> Graneheim and Lundman's method was used to analyze the data in such a way that at the end of each interview, all notes along with the audio file of the interviews were typed word by word and transcribed, then the contents were typed and read several times. To get a general understanding of its content, semantic units and primary codes were determined, and similar codes were placed within more comprehensive categories.<sup>[24]</sup> MaxQda10 software (VERBI Software, the company behind MAXQDA. Headquartered in Berlin Germany) was used for the data management in this section.

A simultaneous descriptive, cross-sectional study was done including 250 pregnant mothers in the third trimester (25.6%), in the first 48 h after delivery (24.4%), in the first 6 months after delivery (24.4%), and in the second 6 months after childbirth (25.6%) who referred to five health centers in Bojnourd to receive midwifery care.

Quota sampling was performed for each center according to the population covered and convenient sampling was done in each center. The inclusion criteria were as follows: ability to read and write in Persian, being Iranian, living in Bojnourd and lack of known physical or mental illness during pregnancy and after childbirth or lack of experience of severe crisis during the last 6 months.

Exclusion criterion was not responding to all items of the questionnaire. The sample size was calculated from the formula for estimating the population prevalence. Sampling was started according to the inclusion criteria in four groups (third trimester of pregnancy, the first 2 days after delivery, the first 6 months and the second 6 months after delivery). The researcher referred to the health centers and hospitals and stated the objectives of the study to those eligible to enter the study. After obtaining their written informed consent, the questionnaires were self-completed in one of the private rooms with low traffic in the health center. The demographic and midwifery information questionnaire and a researcher-made questionnaire on educational and postpartum care needs were used to collect the data. This researcher-made questionnaire was the result of reviewing various studies<sup>[25,26]</sup> including nine reproductive health aspects, self-care, breastfeeding education, infant care, sexual relationships, family planning, psychological issues, religious issues and activities of health centers, scored on a five-point Likert scale. The mean score in each domain was the score of the educational need of that domain. In the questionnaire, mothers were asked a question to specify the time of education and the source of information.

To determine the face validity, the impact score was used and all questions scored above 1.5. Content validity was assessed qualitatively, and corrections were made,<sup>[27]</sup> and all questions obtained a minimum content validity ratio (CVR) and content validity index (CVI). Considering that the number of panel specialists was 10, the minimum acceptable CVR was determined based on the Lawshe table of 0.62 that all items get the minimum score. Based on the Waltz and Basel index and after calculating the CVI based on the aggregation of the number of agreeing points for each item, each of the items that get a CVI higher than 0.78 is considered suitable, and as a result, all the items studied have a minimum score. Obtained CVI and all items were saved. For assessing reliability, internal consistency with Cronbach's alpha coefficient of 88% and test-retest was calculated 1 week apart yielding  $R = 0.8$ .<sup>[28]</sup>

Descriptive and analytical statistics were used, and data were analyzed using the SPSS software, version 21 IBM SPSS IBM is headquartered in Armonk, New York, US.  $P < 0.05$  was considered statistically significant. Ethical considerations include obtaining an ethics code (IR. SBMU. PHNM. 1398.089) and obtaining a license from Shahid Beheshti University of Medical Sciences and North Khorasan, obtaining informed written consent from research units, and assuring research units that they can be excluded from the study at any time.

## Results

The mean  $\pm$  standard deviation (SD) age and number of children of the mothers participating in the qualitative part of the study were  $29 \pm 1$  years and  $1.42 \pm 1$ , respectively. The mean  $\pm$  SD years of service of key informants were  $13 \pm 7$  years and 65% of them had a university degree in midwifery. The key informants included the Director of the Department of Maternal Health Deputy of the Ministry of Health and the Department of Midwifery of the Ministry of Health, the Director of the Department of Midwifery of the Deputy of Treatment and the Director of Maternal Health of the Deputy of Health of North Khorasan University of Medical Sciences and midwives working in midwifery offices and health-care workers responsible for holding physiological delivery classes at Bint Al-Huda Hospital.

Needs were classified into four main categories including: "Maintaining and restoring physical health," "Sexual health needs," "Mental health needs," and "Educational inhibitors" [Figure 1].

### Maintaining and restoring physical health

What was clear from the interviews with the participants was that they mostly experienced physical problems after delivery: "They should give us information about postpartum pain, what medication to take, and what not to take" (first postpartum day, 34 years, G1). One of the needs that mothers may experience in the postpartum period is about postpartum activities. A woman in her fourth postpartum month states that "even after cesarean section, nobody told me when I could get out of bed and when to walk" (4 months postpartum, 25 years, 1G). Another need that mothers experienced in the postpartum period was ignorance about postpartum nutrition and how to take supplements: "They gave me Iron tablets and multivitamins, but I did not take them" (39 weeks pregnant, 29 years, G2).

Furthermore, mothers often felt worried about taking care of their baby's colic: Another problem was the baby's colic. It didn't get any better no matter how hard I tried. The doctor said that his intestines were so swollen that could explode, but whatever I did it would not get better (1 year after delivery, 29 years old, G1).

One of the things that makes training effective is how to train health-care providers. "It is better to play an educational CD and leave the room, then after it is over, someone could ask if you have any questions about breastfeeding. They should emphasize on seeing practically how to breastfeed and ask us if we have any problems" (4 months after delivery, 25 years old, G1). In this regard, one of the key informants stated, "Immediately after delivery, we bombard the mother

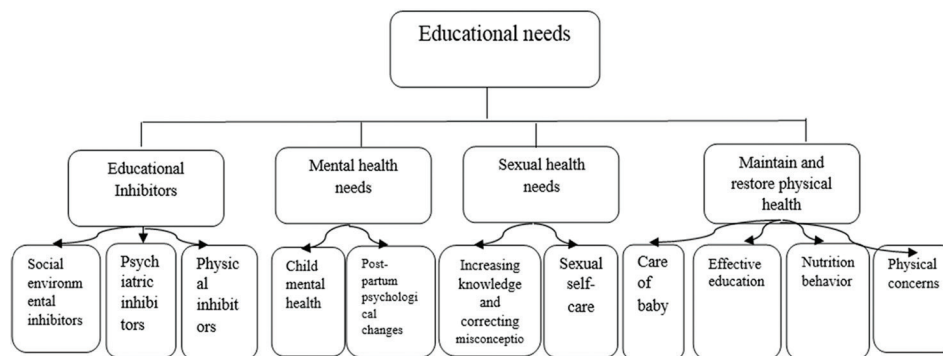


Figure 1: The extracted categories and subcategories of the qualitative study

with information. Mothers are tired after giving birth, and giving a lot of information does not solve the problem” (MSc. in Midwifery, 3 years of work experience).

### Sexual health needs

One of the important needs that mothers experienced in the postpartum period was sexual health needs that were often neglected. One of the mothers, who had been pregnant for 2 months, complained of vaginal dryness upon the onset and continuation of sexual function: “After pregnancy, I had vaginal dryness. I even tried it, but I could not have sex. I even applied clotrimazole ointment, but it did not work” (2 months after delivery, 37 years, G1).

Also, lack of awareness and false beliefs were a major obstacle in meeting sexual health needs. A mother who was 35 weeks pregnant used talked about sexual intimacy in pregnancy: “Although I am in the final month of pregnancy, my neighbors say you should not have sex until you deliver because your baby will have problems, especially since this baby is a girl, if you have sex her mouth would become bigger!” (35 weeks pregnant, 32-year-old, G2).

### Mental health needs

In response to the participants’ question about what they experienced after giving birth, they also mentioned mental health needs. Mothers saw psychological changes of the postpartum period. One of the postpartum fears was depression: “Because my sister got postpartum depression, I had the fear that I would also get depressed” (2 months after delivery, 33 years old, G2).

Moreover, less attention was paid to health education and mental health promotion during the postpartum period. For example, one participant stated, “Psychological issues are not taken into account at all. There is still room for us to learn. I would like to teach those around me how to treat us” (32 weeks pregnant, 30 years, G1).

### Educational inhibitors

The participants also mentioned that their educational needs should be met during this period. One participant believed that in order to determine the future of the child, the umbilical cord should be placed in a holy place: “We threw the umbilical cord in the mosque so that our boy would become a better person” (2 months after delivery, 37-year-old, G1).

One of the beliefs of some residents of the area have is to spend all the period after giving birth in their spouses’ relatives’ house so that she could take good care of her baby; “Now my mother-in-law called and said to go to their house in the village. I do not like to go to the village, my house is much more comfortable now. The village is cold (day 2 postpartum, 16 years old, G1).

“One misconception is that here some people say that the mother should not cry after giving birth if the mother cries in the first 10 days after giving birth, her eyelashes would fall and she would have continuous headaches” said one expert on some common mental states of the mother in the postpartum period (Midwifery expert, level one hospital, and 14 years of work experience).

In the descriptive part of the quantitative study, participants were first compared in terms of demographic characteristics and significantly differed in terms of number of children, education, and maternal occupation [Table 1].

By assessing the different areas of postpartum educational needs in the four study groups [Table 2], we found that the highest mean score in participants regardless of their status in each of the studied periods (pregnancy, first 48 h, first 6 months, and second 6 months) was related to the need for self-care training (scores of 48.07, 51.15, 46.80, and 49.92, respectively). On the other hand, no significant difference was observed between the different aspects of educational needs and the four studied groups.

**Table 1: Mean age of the mother, duration of marriage, number of children, and age of the last child**

Variable	Pregnant mothers			48 h after delivery			First 6 months after delivery			Second 6 months after delivery			P
	Mean±SD	Minimum	Maximum	Mean±SD	Minimum	Maximum	Mean±SD	Minimum	Maximum	Mean±SD	Minimum	Maximum	
Mother's age (years)	27.09±5.99	15	43	27.45±6.42	14	40	27.7±6.21	17	40	28.65±5.96	19	42	0.493*
Duration of marriage	6.83±5.22	1	26	8.53±5.78	1	22	7.62±4.91	1	28	8.75±5.38	2	28	0.109*
Number of children	2.25±0.090	0	5	2.18±1.15	1	6	1.80±0.87	1	5	1.87±0.84	1	4	0.023*

Variable	Pregnant mothers, n (%)			48 h after delivery, n (%)			First 6 months after delivery, n (%)			Second 6 months after delivery, n (%)			P
	Minimum	Maximum	Total	Minimum	Maximum	Total	Minimum	Maximum	Total	Minimum	Maximum	Total	
Number of pregnancies	48 (75)	16 (25)	64 (100)	18 (30)	42 (70)	60 (100)	29 (46.7)	33 (53.3)	62 (100)	24 (37.5)	40 (62.5)	64 (100)	0.448*
Nulliparous	32 (50)	32 (50)	64 (100)	44 (73.3)	16 (26.7)	60 (100)	34 (56.7)	26 (43.3)	60 (100)	40 (62.5)	24 (37.5)	64 (100)	0.001*
Multiparous	16 (25)	16 (25)	32 (50)	16 (26.7)	16 (26.7)	32 (50)	26 (43.3)	26 (43.3)	60 (100)	24 (37.5)	24 (37.5)	48 (75)	0.003*
Mother's education	54 (85.7)	9 (14.3)	63 (100)	55 (91.7)	5 (8.3)	60 (100)	47 (75.8)	15 (24.2)	62 (100)	62 (96.9)	2 (3.1)	64 (100)	0.003*
Diploma or less	32 (50)	32 (50)	64 (100)	44 (73.3)	16 (26.7)	60 (100)	34 (56.7)	26 (43.3)	60 (100)	40 (62.5)	24 (37.5)	64 (100)	0.001*
University	32 (50)	32 (50)	64 (100)	16 (26.7)	16 (26.7)	32 (50)	26 (43.3)	26 (43.3)	60 (100)	24 (37.5)	24 (37.5)	48 (75)	0.003*
Mother's occupation	54 (85.7)	9 (14.3)	63 (100)	55 (91.7)	5 (8.3)	60 (100)	47 (75.8)	15 (24.2)	62 (100)	62 (96.9)	2 (3.1)	64 (100)	0.003*
Homemaker	32 (50)	32 (50)	64 (100)	44 (73.3)	16 (26.7)	60 (100)	34 (56.7)	26 (43.3)	60 (100)	40 (62.5)	24 (37.5)	64 (100)	0.001*
Employed	32 (50)	32 (50)	64 (100)	16 (26.7)	16 (26.7)	32 (50)	26 (43.3)	26 (43.3)	60 (100)	24 (37.5)	24 (37.5)	48 (75)	0.003*
Total	63 (100)	63 (100)	126 (100)	60 (100)	60 (100)	120 (100)	62 (100)	62 (100)	124 (100)	64 (100)	64 (100)	128 (100)	0.003*

\*Chi-square test. SD: Standard deviation

According to pregnant mothers, and those in the first 48 h, the first 6 months and the second six after delivery, the most desirable training time was 50.8%, 36.6%, 55.7%, and 53.1% of the pregnancy period, respectively, which showed no significant difference ( $P = 0.159$ ).

According to pregnant mothers, and those in the first 48 h, the first 6 months and the second 6 months after delivery, the most reliable source of information and training on postpartum care were obstetricians and midwives (50%, 40%, 56.5%, and 53.1%, respectively), which showed no significant difference [Table 3].

### Discussion

The results of the qualitative section confirmed the four categories of physical health maintenance and recovery, mental health needs, sexual health needs, and educational inhibitors. A study of Slomian *et al.*

in India also showed that one of the needs of mothers in the postpartum period was educational needs and the need for psychological support.<sup>[29]</sup> In the study of Martin *et al.* in the United States, one of the main themes was the lack of awareness of women about postpartum health.<sup>[30]</sup> Ganji *et al.* (2017) in mix study also showed that 56.7% of mothers in the postpartum period experience sexual dysfunction.<sup>[4]</sup> In China, the most wanted need of mothers was self-care and infant care;<sup>[31]</sup> in Canada, the needs were related to breastfeeding, pain and complications of sutures, and decreased postpartum motility,<sup>[32]</sup> and in London, needs were mostly related to unwanted onset, unwanted feelings with the baby, and unfulfilled supportive needs.<sup>[33]</sup>

With respect to psychological needs, in a study in Tehran, one of the educational needs of spouses was mental support of the mother.<sup>[34]</sup> Another study on psychological changes mentioned factors such as fatigue,

**Table 2: Mean±standard deviation educational need areas based on the studied mothers**

Educational need	Mean±SD				P
	Pregnant mothers	48 h after delivery	First 6 months after delivery	Second 6 months after delivery	
Reproductive health	15.71±4.97	17.35±4.44	15.27±4.98	16.37±4.27	0.081
Self-care	48.7±11.60	51.15±12.7	46.80±13.00	49.92±10.92	0.190
Breastfeeding	36.42±9.76	35.90±9.36	35.18±10.77	37.80±9.45	0.504
Neonatal care	23.71±5.82	23.31±5.72	24.17±7.31	24.20±5.87	0.838
Sexual health	16.39±5.33	18.8±4.67	16.12±5.82	17.50±4.81	0.122
Family management	10.29±3.41	10.85±3.3	9.95±3.41	10.79±2.72	0.334
Mental health	13.85±3.93	13.85±4.15	12.38±4.20	13.85±3.48	0.940
Religious issues	6.76±3.82	6.65±2.73	6.32±2.63	7.28±2.20	0.188
Health-care center activities	13.40±3.91	13.96±4.8	13.29±4.84	14.62±3.59	0.246

One-way ANOVA test

**Table 3: Frequency of education time and desirable sources of gaining information in the studied mothers**

Variable	During pregnancy, n (%)	48 h after delivery, n (%)	First 6 months after delivery, n (%)	Second 6 months after delivery, n (%)	Total, n (%)	P
Time of education						
Pregnancy	32 (50.8)	22 (36.6)	34 (55.7)	34 (53.1)	122 (49.2)	0.159
Immediately after delivery	13 (20.6)	10 (16.7)	9 (14.8)	9 (14.1)	41 (16.5)	
Upon discharge	9 (14.2)	13 (18.4)	8 (13.1)	6 (9.4)	34 (13.7)	
3-5 days after delivery	4 (6.3)	5 (8.3)	1 (1.6)	2 (3.1)	12 (4.8)	
10 days after delivery	0	6 (10)	1 (1.6)	2 (3.1)	9 (3.6)	
Upon referral to the health center	1 (1.6)	3 (5)	2 (3.3)	6 (9.4)	12 (4.8)	
When the mother requires help	4 (4.6)	3 (5)	6 (9.8)	5 (7.9)	18 (7.2)	
Source of information						
Obstetrician and midwife	11 (50)	24 (40)	35 (56.5)	34 (53.1)	125 (50)	0.696
Health-care physician	10 (17.2)	11 (18.3)	1 (1.6)	5 (7.8)	28 (11.2)	
Health-care personnel	1 (15.6)	16 (26.7)	15 (22.4)	19 (29.7)	60 (24)	
Friends	4 (1.6)	0 (0)	2 (3.2)	0 (0)	3 (1.2)	
Family	5 (6.3)	5 (8.3)	2 (3.2)	3 (4.7)	14 (5.6)	
Books related to this period	5 (7.8)	2 (3.3)	1 (1.6)	1 (1.6)	9 (3.6)	
Pamphlets	1 (1.6)	2 (3.3)	2 (3.2)	1 (1.6)	6 (2.4)	
Virtual network	0 (0)	0 (0)	3 (4.8)	1 (1.6)	4 (1.6)	
Radio and TV	0 (0)	0 (0)	1 (1.6)	0 (0)	1 (0.4)	

One-way ANOVA

anxiety and fear, and changes in the mental image in sexual relations.<sup>[35]</sup> In another study, sexual needs were extracted in five themes: physical change, psychological change, family relationships, coping, change of attitude, behavior, and justification,<sup>[36]</sup> which are consistent with our study. Studies indicate that the educational needs of each woman vary according to their age, background, experiences, and expectations,<sup>[37]</sup> which is related to the limited awareness of many mothers about postpartum problems and care.<sup>[38]</sup>

It seems that providing programs for self-care before and during childbirth, such as nutrition education programs, exercise during pregnancy, how to perform timely, and appropriate care and education regarding referral services in pregnancy play an important role in empowering women. Such education will be able to reduce the rate of complications during and after pregnancy.

One of the subclasses of our study was the false beliefs mothers had. Such beliefs were also seen in another study, in which a chicken neck was hanged on a height for the baby straighten his/her neck quickly, or the perineal area was burnt with ashes of cloth to reduce postpartum hemorrhage.<sup>[34]</sup>

The results of our quantitative study showed that breastfeeding and self-care were the most required need. Mohseni *et al.* (2009) showed that the greatest educational need of mothers was in the field of mental health and family planning.<sup>[25]</sup> Katherine study showed that the greatest educational need on the 3<sup>rd</sup> day after delivery was episiotomy care and postpartum problems, and on the 7<sup>th</sup> day, after delivery was baby care.<sup>[39]</sup> Sward and Watt Sward also showed that the greatest educational need was for mental issues.<sup>[40]</sup> The most stressful factor in Azizzadeh Forouzi (2010) study was breast problems and postpartum hemorrhage, changing diapers.<sup>[41]</sup> The most stressful factor in the Nazari *et al.* was bathing the baby and low back pain.<sup>[9]</sup>

Mental health ranked sixth in our study, family planning ranked eighth, and infant care ranked third. The results of our study were consistent with the study of Katherine and Asward and Azizzadeh and Nazari and inconsistent with the study of Mohseni. The reason could be the cultural differences between the two studied communities in Rafsanjan and Bojnourd, especially in Bojnourd due to the high fertility rate, the need for family planning education is less felt.

In our study, the best time to train mothers was during pregnancy, which has been confirmed by other studies.<sup>[42]</sup> Pregnancy care provide a suitable opportunity to educate self-care behavior and to present required knowledge to

reduce their anxiety. For the same reasons, not paying attention to the time of providing training is one of the reasons for the failure of the mentioned postpartum training programs, even if postpartum care is provided to mothers by health-care providers.<sup>[43]</sup>

The most trusted source of training was obstetricians and gynecologists, which was consistent with other studies<sup>[37,44]</sup> that could confirm the important role of health personnel in providing training and gaining the mothers' trust. One of the strengths of the study is that the present study is the first to assess the needs in this area. Moreover, the diversity of the social and economic status of the research setting and the existence of subcultures and people's beliefs that affected the women's perception of educational needs further increased the quality of the study. One of the limitations of our study was that some participants did not allowed to record their voice during the interviews. Due to this point, the differences between different ethnic groups and cultures in Iran are suggested in future research to study the educational needs of other regions.

## Conclusion

Attention to the educational needs of each region can be done through various training courses and continuous retraining to promote health provider and should be considered in the planning officials.

## Acknowledgments

This article is a part of the dissertation of Shahid Beheshti University of Medical Sciences with the code of ethics (IR. SBMU. PHNM. 1398.089). I hereby express my gratitude and appreciation for the guidance of respected professors of the university, officials, and colleagues of health centers and Bint Al-Huda Hospital in Bojnourd and all mothers who had the necessary cooperation with the researcher to conduct this research.

## Financial support and sponsorship

This research is the result of a part of the PhD dissertation of the first author, which was approved by the Research Assistant for Research of Shahid Beheshti University of Medical Sciences.

## Conflicts of interest

There are no conflicts of interest.

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