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Investigating the Iranian women's experiences of physiological childbirth

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Abstract

Childbirth experience is one of the important outcomes of childbirth, so creating a positive experience of childbirth should always be considered as one of the goals of health care providers and programs. Present study investigate the Iranian women's experience of physiological childbirth and its related factors. This cross-sectional study from June until Dec 2019 was conducted on 185 women based on estimating the average population formula, who had the experience of physiological childbirth in Fatemieh hospital in Hamadan, Iran. Samples were selected by convenience method. Data collection tools included demographic and midwifery questionnaire, childbirth experience questionnaire (CEQ) and midwifery care observation checklist. Data analysis was done using SPSS software (version 24) and descriptive and analytical tests such as Kolmogorov-Smirnov for assessment of normal data distribution and multiple linear regression test were applied. Significance level in the tests was considered less than 0.05.The overall mean score of childbirth experience was 71.85 ± 10.77 (score range of 22-88). Maternal satisfaction with the midwifery care, and the behavior of care providers were reported to be 67.13% and 75%, respectively. In 172 (92.97%) of cases, the backup midwife was present at the mother's bedside. On the other hand, the mean score of childbirth experience in the areas of "support of obstetric care providers", especially back-up midwives (3.44 ± 0.53), and "own capacity" (3.12 ± 0.53) were higher and lower than other areas, orderly. As satisfaction with physiological childbirth was high, suggesting this type of midwifery care conveys great sense of security and satisfaction. This indicates that, the constant presence of midwifery staffs when women need them and minimal use of medical interventions, play an effective role in creating a positive experience of childbirth.

Keywords: Childbirth, Labor, Delivery, Experience

1. Introduction:

Childbirth is a great and unique event in women's lives[1, 2] and is a physiological and natural process so that about 85-90% of deliveries are low risk and can be performed without complications[3]. Since women are vulnerable during childbirth, the quality of care in this period is very important [4]. By evaluating the quality of care, in addition to assessing the impact of care provided, we can identify the types of required improvements in the care program[5].

In assessing the quality of care provided during childbirth, the mother's experience of childbirth is of particular importance and plays a key role[6], because the quality of care affects women's experiences of childbirth [7].

However, maternity standards are often not followed in practice, and medicalization approach (medical interventions) have replaced the natural approach to labor and delivery care in developed and developing countries [8]. Medicalization and sometimes unnecessary interventions during labor and delivery are associated with poor quality of care, and have negative impact on maternal experience of labor, as shown in some studies [7]. For example, intentional pressure on the uterine fundus to accelerate labor has significantly contributed to women's negative experiences of labor such as discomfort, fatigue and severe pain [9].

Some studies have reported that a significant number of healthy women with low-risk pregnancies experience at least one clinical intervention during childbirth [10, 11] and this is while, it is essential to avoid unnecessary interventions during labor and turn them into a pleasant experience of childbirth for mothers [12].

A few studies that have been conducted on women's experience of physiological childbirth or midwife-led continuous care in the world show that women who go through childbirth without intervention have a better experience of childbirth and more control over labor process than women who receive routine care, [13, 14].

It is said that women's experience of physiological childbirth is not purely physical but multidimensional [15] and this type of childbirth is a transformative psychological experience that causes women to experience a sense of empowerment and power [16]. Therefore, low-risk women should be supported to have a physiological delivery [17], because by avoiding some routine and sometimes unnecessary interventions, delivery will become a desirable and satisfying experience for mothers [18].

More than a decade has passed since the implementation of physiological childbirth education programs and methods of facilitating childbirth for midwives and midwifery teachers in order to promote and increase vaginal delivery in Iran. However, studies show that the implementation of recommended guidelines in this area is often either not implemented properly or some of its provisions are ignored in some centers [19, 20]; results of some Iranian studies also show that sometimes labor and delivery are associated with increased medical interventions [19, 20, 21], which in some cases lead to negative experiences of childbirth in women [8]. Since the experience of childbirth is one of the important outcomes of childbirth, it is essential for caregivers to be aware of the actual perceptions and feelings of mothers about the process of physiological delivery[14]. However, few findings on the actual experiences of Iranian women in centers that provide physiologically delivery are available that show how close the labor and delivery process is to that defined in the standards of physiological delivery [22, 23].

Increasing the average age of marriage, reducing the number of registered marriages compared to previous decades, less desire of couples to have children and the risk of falling population growth and its consequences such as aging population on the one hand, and paying attention to population policies in the country regarding the need to encourage couples to have

children and promote natural and safe childbirth outlined in the policies of Ministry of Health and Medical Education on the other hand, emphasize on the importance of creating a pleasant experience of childbirth in women.

The present study was designed to determine the Iranian women's experience of physiological childbirth and its related factors. For this purpose, while reviewing the perceived experiences of physiological childbirth, the researcher simultaneously observed and recorded the processes and types of care and interventions provided during labor and physiological delivery to better understand the experiences of women in various areas and factors affecting it, including the individual characteristics of participants and interventions performed by care providers during physiological delivery.

2. Methods:

This is a cross-sectional study that was conducted in Fatemieh hospital in Hamadan. In this center, an average of 400 deliveries is performed annually based on the recommended care for labor and physiological delivery. The center also has received accreditation criteria for mother-friendly hospitals and offers the possibility of an accompanying midwife, as back-up midwife, at client's request.

Using convenience sampling method according to the inclusion criteria as below:

being 18-35 years old woman, having low risk pregnancy and childbirth, giving birth to a healthy baby, having wanted pregnancy by the wife and her spouse, having no medical or obstetric disorders during recent pregnancy, and having no known psychological disease before or during the recent pregnancy. Also, completing the questionnaire partially and unwilling to continue with the study were among exclusion criteria, from all delivered women in this hospital, 185 women entered the study who gave birth physiologically between June and December 2019,

Sample size according to the study of Jafari et al [24] and considering the 95% confidence interval and 80% study power, also predicting a sample attrition of 10% (samples' lack of response to the questionnaire) was determined. At the end, based on the formula, estimating the average population, 185 eligible women completed the study.

α=.05 z=1.96

$\alpha = .05$ $z = 1.96$

σ=2, d=0.30

$$n = \frac{z^2 \quad \sigma^2}{d^2}$$

In this study, data collection tools included demographic and midwifery questionnaire, childbirth experience questionnaire and a researcher-made checklist to evaluate the midwifery care during labor and physiological childbirth.

The demographic and midwifery questionnaire, which was developed by studying valid scientific literature according to the study objectives, had 19 questions about age, variables related to social and economic status, number of pregnancies and deliveries, number of children, age of childbirth, whether the pregnancy was wanted, number of prenatal care, pregnancy care provider, participation in childbirth preparation classes, spouse's presence in the childbirth

preparation classes, time of admission to the labor ward, time of delivery, gender of the baby and birth weight.

The childbirth experience questionnaire (CEQ) was designed by Denker et al (2010) in Sweden and contains 22 questions in four areas:" own capacity" includes 8 items (6 items with 4-option Likert's scale and 2 items with observation scale), "caregiver support" has 5 items with 4-option Likert's scale, "woman participation" includes 3 items with 4-option Likert's scale, "perceived sense of security" contains 6 items (5 items with 4-option Likert's scale and 1 item with observation scale). The responses come in a form of "totally agree" to "totally disagree", which is given a score of 4-1, respectively and some items (4, 14, 16, 17) are scored reversely. The minimum and maximum scores of the whole instrument are 22 to 88. The higher score in this questionnaire indicates a better experience of childbirth[25]. The validity and reliability of the childbirth experience questionnaire were reviewed and confirmed by Walker et al (2015) in UK and Vidal et al (2016) in Spain. They assessed the CEQ's face validity and all women found the tool easy to understand and complete. No respondents felt that any questions should be removed or found any of the items were upsetting or offensive. A test-retest reliability was done and Cronbach's alpha was ≥ 0.70 for all of the subscales (Own capacity 0.79, Perceived safety 0.83, Participation 0.72 and professional support 0.94). Cronbach's alpha for the total scale was 0.90[26, 27]. Furthermore, the psychometric properties of this questionnaire has been examined by Zamani et al (2018) in Iran. Quantitative validity were measured using content validity index (CVI)and content validity ratio (CVR) also reliability were measured by using test-retest [28,]. In the present study, Cronbach's alpha coefficient reached 0.79 on thirty post-partum women prior to research sampling, as an acceptable internal consistency value.

The midwifery care observation checklist to evaluate the quality of care during physiological delivery is based on the principles mentioned according to "Lamaz International Association outlines" that are followed in the "Physiological and Painless Delivery": A topic introduced by the Ministry of Health and Medical Education in 2017[29], and the national guideline on performing virginal delivery and presenting pharmaceutical and non-pharmacological methods to reduce labor pain [30].

The checklist contained 59 two-option (yes / no) questions and its minimum and maximum scores were 59 to 118. A higher score indicated that care provided during labor was closer to the criteria recommended for physiological delivery. The option "yes" in this checklist received the score of 2 and the option "no" received the score of 1, and some questions were scored reversely (yes received the score 1 and no received the score 2). The higher score of the observation checklist, indicates better performance and compliance with physiological delivery criteria. It should be noted that, the observed and recorded midwifery care during labor and physiological childbirth refers to the impact of all types of care, cumulatively on women's perception and experience of physiological childbirth. The validity of this tool was assessed by face validity and qualitative content validity.

The qualitative content and face validity of the demographic, midwifery information questionnaire and the midwifery care observation checklist were assessed by ten experts and faculty members of the Department of Midwifery and Reproductive Health in terms of sentence structure, eloquence, simplicity and clarity of each item, and the relevance of items to the objectives of the tools in all areas of physiological delivery care. The necessary changes and corrections were made in accordance with the suggestions and recommendations of experts.

At the beginning of the data gathering, the researcher attended in labor and delivery ward to observe and record the process of physiological delivery care in order to determine whether the items of physiological delivery are performed in practice. This process was carried out during morning, evening and night shifts (about 164 shifts) and sampling was done for eligible women with experience of physiological deliveries. To minimize the possibility of bias by the researcher, she, as a midwifery student mentor, was present most days of the week to reduce the behavioral changes that occur due to the presence of external observer. All participants were informed to return to the midwifery clinic in the hospital for post-partum visits and the next step of data collection was performed at a maximum interval of one month after childbirth. The participants were informed about the confidentiality of their information and research objectives, and then written consent was obtained from them. The questionnaires were given to the participants to be completed by self-completion method. However in 9 cases, due to lack of literacy of women, the questionnaires were completed by the researcher. All participants were asked to answer the questions in one of the private and quiet rooms of the clinic. It took an average of 20 minutes to complete the questionnaires.

3. Data analysis:

Data analysis was performed by SPSS software (version 24) using normal data distribution test by Kolmogorov-Smirnov method, and descriptive (frequency, mean and standard deviation and percentages) and analytical. Descriptive statistics were used to determine the central indices and dispersion and in the analytical part, multiple linear regression test was used. Significance level of less than 0.05 was considered. The present study was approved after obtaining the code of ethics (IR.SBMU.PHARMACY.REC.1398.059) from Shahid Beheshti University of Medical Sciences.

4. Results:

The absolute and relative frequency distributions of participants' demographic and midwifery characteristics were determined using descriptive statistics (frequency, mean and standard deviation and percentages).(table1)

Table 1: Descriptive statistics of Individual and demographic variables

Variable	Mean ±SD	Min	Max
Woman's age	26.59 ± 4.79	18	34
Number of pregnancies	2.05 ± 0.97	1	4
Number of childbirths	1.84 ± 0.8	1	3
Number of children	1.81 ± 0.79	1	4

Variable	Number (percent)
Woman's education	
illiterate	0(0)
Elementary and middle school	12 (6.47)
High school and diploma	147 (76.46)
University	26 (14.07)
Spouse's education	

Illiterate	1 (.54)
Elementary and middle school	13 (7.03)
High school and diploma	146 (78.92)
University	25 (13.51)
Woman's occupation	
housewife	176 (95.14)
worker	1 (.54)
Employee	7 (3.78)
Self-employed	1 (.54)
Spouse's occupation	
Unemployed	1 (.54)
worker	18 (9.73)
Employee	11 (5.95)
Self-employed	155 (83.78)
self-assessment of economic status	
Weak	15 (8.11)
moderate	156 (84.33)
Good	12 (6.48)
Excellent	2 (1.08)
residence	
City	149 (80.54)
Village	36 (19.46)
Gender of the baby	
Girl	104 (56.22)
Boy	81 (43.78)
Maternal satisfaction from the gender of the baby	
Yes	172 (93.22)
No	13 (6.78)
Father's satisfaction from the gender of the baby	
Yes	166 (89.87)
No	19 (10.13)
Birth weight	
Less than 2500	0 (0)
2500-3500	167 (90.27)
More than 3500	18 (9.73)
The woman's experience of a pleasant recent pregnancy	
Yes	169 (91.35)
No	16 (8.65)
The presence of the woman on the delivery room tour	
Yes	18 (9.73)
No	167 (90.27)
Experience the presence of the woman in the childbirth preparation class	
Yes	164 (88.65)
No	21 (11.35)
Regular attendance of the woman in the childbirth preparation class	

	Yes	142 (76.76)
	No	43 (23.24)
Spouse attendance in the childbirth preparation class		
	41 (22.16)	22.16
	144 (77.84)	77.84

Chart 1: Interventions during labor and physiological delivery

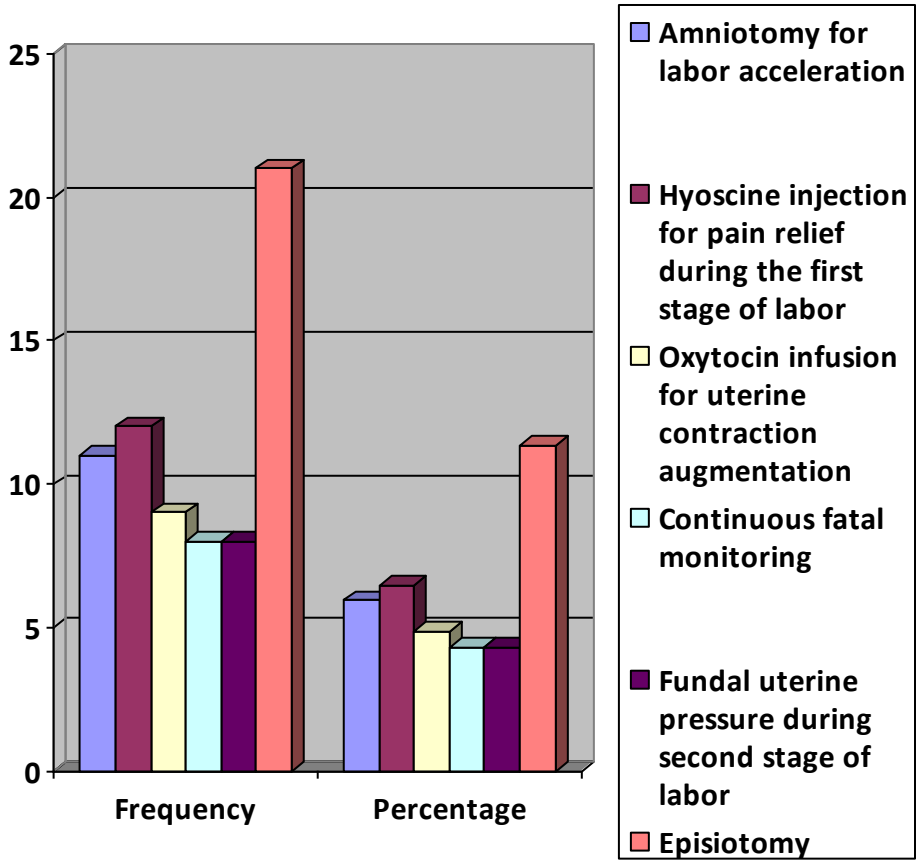

Chart 2: Supportive measures during labor and physiological delivery

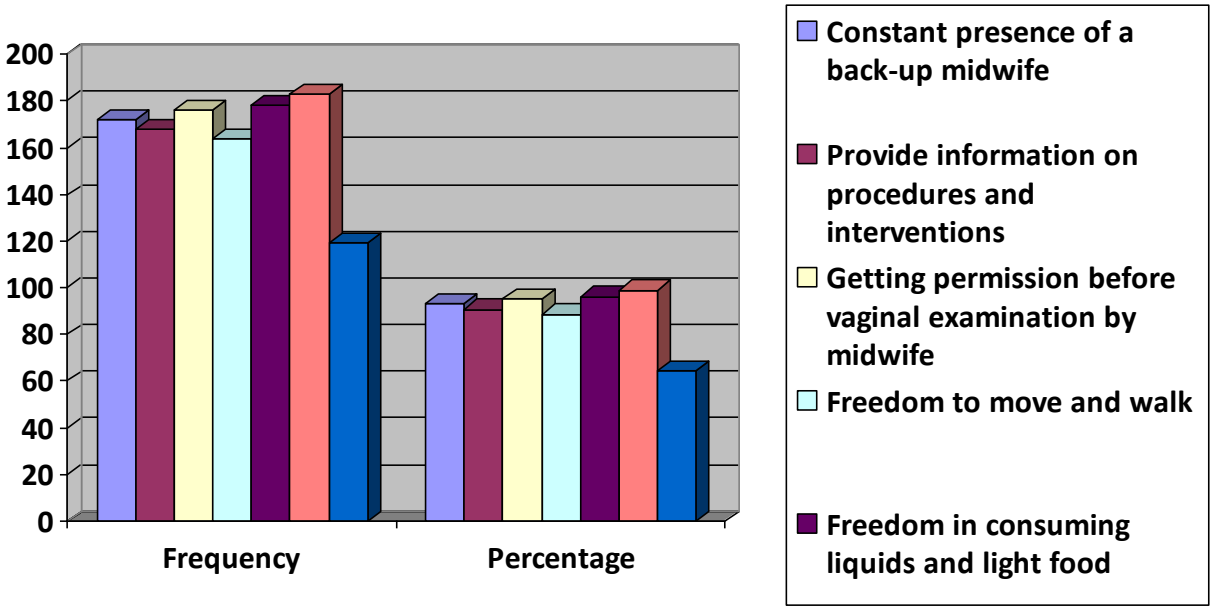

Table 2: Descriptive statistics of different areas of childbirth experience questionnaire scores

Frequency / Area	Mean ± SD	Minimum score	Maximum score	Balanced score (1-4)
Own capacity	24.95 ± 4.21	12	30	3.12 ± 0.53
Professional support	17.2 ± 2.66	9	20	3.44 ± 0.52
Perceived sense of security	19.6 ± 3.46	8	24	3.27 ± 0.58
Woman participation	10.1 ± 1.77	5	12	3.37 ± 0.59
Total score of women's experience	71.85 ± 10.77	34	86	3.26 ± 0.49

Table 3: Examining the impact of individual variables, midwifery care provided and childbirth experience on the childbirth experience total score

Demographic characteristics of the samples	Non-standard Beta	Standard error	Standard Beta	t-Statistics	P-value
Spouse's education	24.75	3.14	0.74	2.8	0.008
The woman's experience of a pleasant recent pregnancy	16.95	4.33	0.28	3.86	<0.001
Experience the presence of the woman in the childbirth	8.78	9.15	0.18	2.69	0.006

preparation class					
Spouse attendance in the childbirth preparation class	3.31	1.51	0.15	2.19	0.03
Midwifery care provided based on physiological childbirth	0.674	0.03	0.80	18.28	P<0.001
mother's sense of pain	3.382	0.6	0.327	5.625	P<0.001
Mother's sense of control during childbirth	2.684	0.6	0.204	4.405	P<0.001
Mother's sense of security during childbirth	4.741	0.57	0.457	8.201	P<0.001

Non-pharmacological pain relief methods used during labor included aromatherapy (8.9%), hot shower (54%), topical cold therapy (3.83%), topical heat therapy (32.26%), birth ball (64.94%), breathing technique (98.92%) and massage (91.84%). Also, pharmacological pain relief methods used during labor were transcutaneous electrical nerve stimulation (TENS) (16.81%), epidural anesthesia (2.74%), spinal anesthesia (7%), entonox (nitrous oxide/oxygen mixture) gas (64.32%) and injectable narcotics (5.43%) (Chart 1&2).

It is necessary to explain that due to the lack of proportion and equality in the number of items in each area of the questionnaire, the total score of the each area of CEQ (mean and standard deviation) was divided on the number of items of that area so that the scores of the areas are comparable to each other (Table 2).

To gain the data in table 3, we performed univariate regression analysis and then variables that became significant ($p<0.05$), in the next step, multiple linear regression test was performed for them. The results show that the education of spouses ($p=0.008$), woman's perception of the pleasantness of pregnancy ($p<0.001$), woman's perception of the usefulness of childbirth preparation classes ($p=0.006$) or presence of the spouse in the childbirth preparation classes ($p=0.03$) have relationship with women's experience of childbirth. Meanwhile, the high level of spouse's education and having pleasant experiences during pregnancy had greater effects on woman's childbirth experience. It is necessary to mention that the observed and recorded midwifery care during labor and physiological childbirth refers to the impact of all types of care, cumulatively on women's perception and experience of physiological childbirth.

Also, with increasing the education of spouses ,the total score of childbirth experiences increased an average of 24.75 units and when women had more pleasant experience during pregnancy, had experience of the presence in the childbirth preparation classes or their Spouses participant in childbirth preparation classes, the total score of childbirth experience increased an average of 16.95, 8.78, and 3.31 units, respectively. On the other hand, with increasing the score of the midwifery care, sense of pain, sense of control and sense of security, the total score of childbirth experience increased an average of 0.67, 3.38, 2.68 and 4.74 units.

A comparison of the standard beta of the variables showed that among these factors, the mother's sense of security had the greatest impact on the childbirth experience ($p<0.001$). It is worth noting that, due to the importance of these items of questionnaire, their effect on the score of childbirth experience was measured separately (Table 3).

Mothers' satisfaction with the labor and delivery care and the behavior of obstetric care providers:

In this regard, the results showed that the level of women's satisfaction with the quality of care was very high (15.13%) and high (52%), respectively, and their satisfaction with the behavior of obstetrics care providers was very high (11%) and high (64%), respectively.

5. Discussion:

The participants of the present study possessed pleasant experiences of physiological childbirth which are attributed to several individual factors and quality of care during childbirth. Perception of support from midwifery staff and their greater sense of security were effective factors in improving women's experience of labor and physiological delivery.

The comprehensive support of parturient woman during childbirth, which was observed and recorded in this study, is the most important factor in creating a positive childbirth experience. A study showed that continuous midwifery support also led to timely meeting of women's emotional and physical needs, and this midwife-centered care helped women to have a positive experience of childbirth [31].

These experiences were examined in various areas such as feeling more secure, participating , feeling more in control during labor and delivery and receiving appropriate support from midwifery staff. Nevertheless, the own capacity of mothers during labor had the least effect, and receiving support from staff during labor and delivery had the highest effect on positive childbirth experience compared to other areas. The evidence show that, if women during labor and childbirth, feel more in control of their situation and try to control their situation with more confidence, they will experience less fear and have lower perception of pain [32]. A research reported that, receiving support from staff and health care providers is associated with high confidence of woman during labor and delivery, which leads to greater satisfaction with the labor and delivery process [33]. Another study states the positive experience of childbirth and greater satisfaction of women with the delivery have a direct correlation with respectful communication, mutual understanding, and receiving the information needed by delivery staff [34].

In this study, the majority of participants were satisfied with the care they received. Since in the study environment, the care and services provided by midwifery staff were based on the principles of care in physiological childbirth, the amount of medical interventions during labor and delivery were minimized and decisions were made based on individual's indication. This could be one of the important factors in increasing the satisfaction of service recipients in this study. Also a study that examined the related factors to satisfaction of women with the experience of vaginal childbirth showed that the reduction of medical interventions and vaginal examinations during labor and delivery was associated with the highest satisfaction and pleasant experiences [35].

In the present study, the majority of women were cared by a back-up midwife who was present at the women's request and provided ongoing care during labor and delivery, and gave them information about the process of labor and the use of sedation techniques such as massage.

As well as in the present study, women's perceptions of appropriate communication with staffs, the principles of care based on respect for the mother, and protect human dignity and privacy preservation in most cases was reported to be desirable that contributing to creating a positive experience of childbirth and reassuring relationship with emotional support.

The findings of similar studies show that creates a close relationship between midwife and mother, which has a great impact on mothers' perception of empowerment, satisfaction and desirable experience of childbirth [35,36].

In addition, results of a review study indicated that women who were continuously supported during labor are more satisfied with their childbirth experience [37].

In this study, among the main individual factors that affect positive experience of childbirth, having pleasant experiences during pregnancy and the spouse's level of education had the greater effects. Existing studies also highlight the role of spouse's education on improving women's experience of vaginal delivery. For instance, a study conducted in six provinces of Iran on the level of male participation in prenatal, childbirth and postnatal care showed that the high level of spouses' education is effective in their participation in maternal care [38]. Also, evidence indicates that spouse's support has an undeniable role in reducing maternal anxiety, better endurance of labor pain and greater chance of success in vaginal delivery [39].

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Although the present paper is the first one to describe a sample of Iranian population's experiences regarding physiological childbirth objectively, generalization of obtained findings to other population should be done by a precautionary approach. In addition, childbirth experience like consumer satisfaction is an individual and subjective issue that may not be sufficiently measured by a self-report structured questionnaire and can be affected by various factors that are not assessed in this research.

6. Conclusion:

The high score of participants' experience following a physiological childbirth suggesting that this type of midwifery care conveys great sense of security and satisfaction. This indicates that, the constant presence of midwifery staffs when women need them and minimal use of medical interventions play an effective role in creating a positive experience of childbirth. In addition, due to the women's poor understanding of their own capacity, helping to increase women's understanding of self-efficacy and capacity during pregnancy by encouraging and facilitating their regular attendance at childbirth preparation classes and providing a suitable ground for their spouses' presence in these classes, are essential factors in creating a pleasant experience of childbirth. However, additional research is needed to better understand key factors contributing to maternal childbirth experiences, specifically, qualitative or longitudinal research to confirm current results.

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Conflict of interest:

The authors of this study have no conflict of interest to report.

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