Examining the relationship between the childbirth experience, the care provided in the unit, and the satisfaction with the delivery environment

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Abstract

Background and aims: The women’s experience of the delivery process has significant consequences. The quality of these experiences affects the health of the mother and child, their emotional connection, the mother’s sexual activity, and her desire to have another child in the future. The present study investigated the women’s experience of the delivery process, the care provided in the unit, and their satisfaction with the delivery environment.

Methods: This cross-sectional study was conducted on 250 women referred to the labor delivery and recovery room (LDR) unit of Amir al-Momenin hospital (AS) in Zabol city, Iran, in 2022. Data collection tools included the personal characteristics questionnaire, the Childbirth Experience Questionnaire (CEQ), the questionnaire on satisfaction with the delivery environment, and the questionnaire on care provided in the unit. Data analysis was done by SPSS software version 23 using descriptive statistics (absolute and relative frequency, mean and standard deviation) and inferential tests (Pearson correlation test, independent t-test, one-way ANOVA).

Results: This study showed that the mean score of childbirth experience was 65.09 ± 4.71. Also, a statistically significant relationship was found between satisfaction with the delivery environment, the care provided in the unit, and the childbirth experience (P value <0.001). No statistically significant relationship was observed between the demographic characteristics and childbirth experience.

Conclusion: As the satisfaction score increased, the score of birth experience also increased.

Keywords: Vaginal delivery, Childbirth experience, Care, Satisfaction

Introduction

Childbirth is an important event in a woman’s life, which can also be potentially threatening for the mother and infant due to pain and the risk of injury (1). During childbirth, women gain important experiences that remain with them throughout their lives (2). Women unsatisfied with their birth process remember their delivery process with pain, anger, fear, or sadness, and do not forget this painful experience (3). The quality of these experiences affects the health of the mother and child, their emotional connection, the mother’s sexual activity, and her desire to have another child in the future (4). The results of a study indicated that the negative experience of previous childbirth reduces the mother’s desire to have more children in the future and increases the spacing between deliveries (5). The type of psycho-social care that women receive during childbirth, such as participating in care and decision-making, being polite, providing emotional and kind support, and greeting at the time of entry to the delivery unit, remains in their memory forever. If these memories are positive, they can be associated with increased satisfaction with childbirth (6).

According to studies, among the environmental factors, the delivery environment can be stressful for women. This stress can cause muscle contraction that increases the intensity of pain, which in turn increases the mother’s stress and anxiety. Creating a defective cycle reduces the fetal heart rate and lengthens the second stage of labor (7). Providing a suitable environment is one of the most critical factors affecting the progress of childbirth. Providing a quiet, peaceful, and comfortable environment for mothers and preserving their privacy can significantly contribute to their satisfaction, which creates a positive childbirth experience (8). A woman’s satisfaction with childbirth is an experience that can have an immediate and long-lasting effect on the mother’s health and her relationship with the infant (9). It can also lead to increased self-confidence, positive thinking, and expectation of subsequent deliveries, which create a good feeling and strengthen her relationship with the newborn.

On the other hand, lack of satisfaction with childbirth leads to the increased tendency towards the cesarean

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The childbirth experience, the care, and the satisfaction

section in subsequent deliveries, which imposes heavy costs on the individuals and insurance companies and associated risks for the mother and infant (10).

Childbirth experience is a multidimensional phenomenon that depends on many factors, including individual factors, birth environment, midwife support, partner support, social support, etc. It also varies from person to person (11). In forming this unique experience, people's beliefs and expectations about childbirth, which have cultural differences, are also involved (12). In a society with cultural and ethnic diversity, valuing differences is important in providing services (13). The results of a study showed that having access to facilities and receiving sufficient information about the stages of labor and delivery had the same effects on mothers' satisfaction with the birth experience (14). However, in another study, mothers were dissatisfied with the care they received, and the results showed a low birth experience score (15). Finding aspects of services that cause patient dissatisfaction and trying to solve them can be the most effective and least expensive way to provide better and more appropriate services (10). Therefore, considering the differences in cultural, personality, social, and economic characteristics of societies, it is necessary to study human experiences in each society separately (16), and by identifying the realities in each society, the factors affecting women's birth experience in that society can be identified. Considering the importance of mothers' childbirth experience, and also since so far in this region, no study has been done to quantitatively measure childbirth experience and satisfaction with the delivery environment (LDR unit that has just been launched), the researcher decided to conduct a study to investigate the relationship between birth experience and satisfaction with the delivery environment and the care provided in the department.

Materials and Methods

Design

This cross-sectional study was conducted from February 2021 to May 2022 on 250 women who gave birth in the LDR unit of Amir al-Momenin hospital (educational hospital) in Zabol city, Iran.

The sample size was estimated to be 225 samples with \(z_{\alpha/2} = 1.96, \ W = 0.05\) (assuming the coefficient of determining all factors connected with the childbirth experience of the women as outcome variable), \(R^2 = 0.2\) (what part of the outcome variable justifies the influential variables?), \(R^2 \times x \times x = 0.7\) (correlation between the main influential variable and other influential variables) and \(p = 20\) (number of influential variables) in the following formula. It was considered about 250 women.

\[
\frac{(z_{\alpha/2})^2}{W} \left( \frac{1-R^2}{1-R^2_{\text{adj}}} \right) + p + 1
\]

Participants and setting

The criteria for entering the study included; having a normal delivery in the current pregnancy, being 15 to 40 years old, having a healthy baby (based on the post-delivery physical examination), having no specific disease that puts the mother in the high-risk pregnancy group, having a gestational age of 37-42 weeks, having a singleton pregnancy, and having no history of infertility. The exclusion criteria were; needing to complete all the items of the questionnaire and be willing to participate or continue with the study. The women were selected by convenience sampling method.

Data collection

The data collection tools included the individual characteristics questionnaire, the Childbirth Experience Questionnaire (CEQ), the questionnaire on satisfaction with the delivery environment, and the questionnaire on satisfaction with the care provided in the unit.

The personal characteristics questionnaire included two parts. (A) Questions related to demographic information such as the mother's age, education of the mother and her husband, income level, place of residence, employment status, and health insurance status. (B) Questions related to fertility characteristics such as the number of pregnancies, desired pregnancy, delivery factor, receipt of analgesia, and gender of the infant.

The CEQ was designed by Dencker et al in Sweden. It includes 21 items and four dimensions (individual ability, sense of security and control, professional support, and participation). The 4-point Likert scale (completely true, somewhat true, not very true, and not true) is used for items 1 to 18. The childbirth experience items are scored so that scores 4 (completely true) and 1 (not true at all) are the highest and lowest scores, respectively. The scores on the CEQ range from 21 to 84. It should be noted that items 6, 11, 13, 15, and 19 are scored reversely. Items 19 to 21, related to the experience of childbirth pain, and feeling of security and control, are also measured based on the visual analogue scale (0-100). So, option 1 includes scores of 0-40, option 2 contains scores of 41-60, option 3 has scores of 61-80, and option 4 includes scores of 81-100. The standardized CEQ was designed by Dencker et al, and its reliability was confirmed by Cronbach's alpha coefficient of ≥ 0.7 (17). The Persian version of this tool was translated by Abbaspour et al in Iran (18).

The questionnaire on satisfaction with the delivery environment included 13 questions regarding the issues of the delivery environment, staff support (such as respecting patient privacy during the examination), and the facilities available for the patient. The participants expressed their satisfaction or dissatisfaction with the delivery environment on a 5-point Likert scale, ranging from 0 to 4 (very dissatisfied = 0, dissatisfied = 1, indifferent = 2, satisfied = 3, very satisfied = 4). After summing up, the scores were calculated as a percentage of 100, and people were divided into four groups in terms of satisfaction with the environment; 0-24 = very dissatisfied, 25-50 = dissatisfied, 51-75 = satisfied, and 76-
100 = very satisfied. The validity of this questionnaire has been confirmed by the content validity method, and its reliability has been ensured by calculating Cronbach’s alpha of 0.92 (19).

The questionnaire of satisfaction with the care provided in the unit included questions related to the managerial services (initial contact of personnel with the patient at the admission, dealing with complaints and problems, coordination of personnel in providing services, supervision of the officials in the delivery unit) and human services (the attitude and behavior of midwives, staff and residents in the delivery unit, easy access to midwives at the time of need, skill, and experience of midwives in assisting childbirth, emotional support and reduction of anxiety during childbirth by midwives, midwives’ training on the cooperation of mother on the delivery bed, the health points after childbirth and family planning). It also contained questions about amenities, facilities and equipment, health status, lighting system, and heating system of the maternity department. The questions were based on a 3-option Likert scale, ranging from 0 to 2 (satisfied = 2, relatively satisfied = 1, dissatisfied = 0). In the end, the scores were converted into percentages. The lowest score was 0 and the highest was 100, with a higher score indicating greater satisfaction. The reliability of this tool was found to be 0.72 in the study of Alidosti and colleagues (20).

Five faculty members reviewed the questionnaires to determine the scientific validity of the data collection tools, and their opinions were applied. The questionnaires were given to 15 women, who were not part of the study. To determine the clarity of the questions (face validity) to complete and express their opinions. Then, the questionnaires were reviewed in terms of comprehensibility and clarity, as well as the content of each question, and the necessary corrections were made. In this study, the reliability was checked through internal consistency. In terms of internal consistency of the tools, the reliability of the CEQ, the satisfaction with the delivery environment, and the satisfaction with the care provided were evaluated and approved by Cronbach’s alpha of 0.89, 0.70, and 96.0, respectively. Questionnaires were completed 2 hours after childbirth by the researcher’s assistant.

Sampling was conducted after obtaining ethical approval from the Ethics Committee of Zabol University of Medical Sciences and receiving the code of ethics (IR. ZBMU.REC.1400.126). If eligible, participants were introduced to the topic and research goals and invited to offer their informed written consent. Participants were also assured of the confidentiality of information.

**Data analysis**

Data analysis was done by SPSS software version 23, using descriptive statistics (absolute and relative frequency, mean and standard deviation) and inferential tests (Pearson correlation test, independent t-test, one-way ANOVA). All questionnaires were completed 2 hours after delivery, and sampling continued until reaching data saturation.

**Results**

The present study was conducted on 250 women referred to Amir al-Momenin (AS) hospital in Zabol city.

The results of the present study showed that the mean age of the women participating in the study was 25.66 ± 5.73 years. There was no statistically significant relationship between demographic characteristics and childbirth experience (Table 1). The mean score of care provided in the unit was 58.79 ± 10.56, which was a sign of the participants’ moderate level of satisfaction with the care provided, as shown in Table 2.

In the present study, the scores of satisfaction with the delivery environment and the care provided increased, and the score of childbirth experience also increased (Table 3).

**Discussion**

The present study investigated the relationship between birth experience and satisfaction with the delivery environment and the care provided in the ward. As the satisfaction score increased, the score of birth

| Table 1. The relationship between demographic characteristics and child experience |
|------------------------------------------|---------|----|
| Variable | No. (%) | \( P \) value |
| Age | <20 | 60 (24) |  |
| | 20-25 | 69 (27.6) |  |
| | 25-30 | 58 (23.2) | 0.257 * |
| | 30-35 | 60 (24) |  |
| | >35 | 3 (1.2) |  |
| Reading and writing | High school | 79 (31.6) | 0.121 b |
| | Diploma | 79 (31.6) |  |
| | University | 42 (16.8) |  |
| Reading and writing | High school | 79 (31.6) | 0.349 b |
| | Diploma | 74 (29.6) |  |
| | University | 83 (33.2) |  |
| Mother’s occupation | Housewife | 219 (87.6) | 0.525 b |
| | Employed | 31 (12.4) |  |
| Level of income | Optimal | 190 (76.0) |  |
| | Relatively favorable | 53 (21.2) | 0.05 b |
| | Undesirable | 7 (2.8) |  |
| Place of residence | City | 175 (70.0) | 0.986 b |
| | Village | 75 (30.0) |  |
| Health insurance | Have | 219 (87.6) | 0.107 b |
| | Not have | 31 (12.4) |  |

*One-Way ANOVA; *The independent-sample t test.
experience also increased, and there was no statistically significant relationship between any of the demographic characteristics and the birth experience.

The results of the Alidosti et al study, which investigated the satisfaction of postpartum women with the services and facilities of Hajar hospital in Shahrekord, showed that the mean age of the participants was 26.7 ± 4.48 years. The mothers' satisfaction with the care provided in the unit was 64.41 ± 9.55 for management services, 55.81 ± 5.68 for human services, and 56.78 ± 9.15 for facilities and equipment, which was moderate to high level (20). In the present study, the mean satisfaction score with the care provided in the unit (management, human services, facilities, and equipment) was 58.79 ± 10.56. Also, the results of the Ghobadi et al study, which investigated the level of satisfaction with the experience of natural childbirth and its related factors among mothers hospitalized in the postpartum ward of Al-Zahrai hospital in Rasht, showed that the mean satisfaction score of mothers’ experience of natural childbirth was 59.03 ± 6.53, which was at a moderate level. In this study, the highest level of satisfaction was reported for environmental factors (68.00 ±2.78), and the mother’s satisfaction with accessing facilities and receiving sufficient information about stages of labor had the same effects on their satisfaction with the childbirth experience (P<0.001) (14). However, the study by Mohammad et al that examined the women's satisfaction with the care received showed that their overall satisfaction score was 36.12, and 82.0% of women were dissatisfied with the care they received. The results of this study also showed a low score for the childbirth experience. The lack of a formal plan for women’s care during childbirth was considered one of the reasons for women’s dissatisfaction with the care provided (15). The results of this study are not constant with the present study’s findings, which could be due to differences in the sampling method and location of the study. In the study of Dolatian et al, a negative childbirth experience was reported by 27.8% of mothers in Shahid Chamran hospital in Borujerd and by 8.4% of mothers in Mahdieh Hospital in Tehran (19).

Bryanton et al investigated the predictive factors of women’s understanding of the childbirth experience. The mean score of childbirth perception in women with natural childbirth was 102.6 (57-134), which indicated a positive childbirth experience (21). Another study by Oweis in Jordan investigated the factors affecting the childbirth experience, and the measurement tool included a questionnaire on satisfaction with the childbirth experience. The findings of this study showed that women were not satisfied with their childbirth experience, as their overall mean score of satisfaction with the childbirth experience was 111.6, and only 15.3% of the participants were satisfied with the childbirth experience (22). The results of this study are different from the present study’s findings, which could be due to factors such as differences in sample size, sampling location, the culture of the two societies, and the level of participation of mothers during labor. In the study of Dolatian et al, an increase in satisfaction with the delivery environment increased the level of satisfaction with delivery (19). However, in Mahdieh hospital of Tehran, no statistically significant relationship was found between satisfaction with the delivery environment and satisfaction with delivery, which is different from the finding of the present study. This difference could be due to the absence of LDR in the delivery unit and the educational nature of Mahdieh hospital (19). The results of the Zamani et al study, which examined the individual-social factors related to childbirth experience, showed that the mean score for childbirth experience was 58.13 ± 10.72. The maternity staff support was also higher than other areas, and the mean score of mother’s participation was lower than other areas. The type of delivery and the pregnancy age were also among the most critical factors significantly correlated with the mother’s birth experience (23).

The negative experience of childbirth can affect the mother’s plans for pregnancy and the choice of delivery method (24). Many women want a quick and painless delivery. Shortening the labor and making labor pain bearable can be achieved to a large extent by providing a suitable environment (25). Providing an exceptional environment for each woman, helping women enjoy a calm environment with soft colors, and maintaining the patient’s privacy can significantly contribute to the satisfaction of mothers and the creation of a pleasant birth experience (8). Satisfied clients respond differently to the services and care they receive than those who are dissatisfied. Generally, clients who are satisfied with the service continue to use it and accept and follow the recommended treatment. Dissatisfaction with childbirth causes the choice of cesarean section in subsequent childbirths and imposes heavy costs on the individual and the government (26). One of the limitations of the present study was the level of accuracy of the research units when answering the questions, which could affect the results. To resolve this limitation, we completed the questionnaires at the same time and place within the first

### Table 2. The mean score of the childbirth experience, satisfaction with the delivery environment, and the care provided in the unit

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Childbirth experience</td>
<td>65.09 ± 4.71</td>
</tr>
<tr>
<td>Satisfaction with the delivery environment</td>
<td>85.83 ± 8.29</td>
</tr>
<tr>
<td>Satisfaction with the care provided in the unit</td>
<td>58.79 ± 10.56</td>
</tr>
</tbody>
</table>

### Table 3. The relationship between childbirth experience, satisfaction with the delivery environment, and the care provided in the unit

<table>
<thead>
<tr>
<th>Variable</th>
<th>R</th>
<th>P value *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Childbirth experience</td>
<td>1.0</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Satisfaction with the delivery environment</td>
<td>1.0</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

* Pearson correlation test.
2 hours of delivery and before the discharge of mothers so that all participants would have the same conditions for completing the questionnaire. We suggest a comparative study between two teaching and non-teaching hospitals in different cities in Iran.

Conclusion
A statistically significant relationship was found between satisfaction with the delivery environment, the care provided in the unit, and the childbirth experience. As the satisfaction score increased, the score of birth experience also increased.

Acknowledgments
We hereby express our gratitude and appreciation to all the colleagues who helped us conduct this study. We would also like to thank the respected officials of Zabol University of Medical Sciences, Amir al-Momenin hospital, and the women who participated in the study.

Authors’ Contribution
Conceptualization: Hayede Arbabi, Zahra Omidi.
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Funding acquisition: Hayede Arbabi, Zahra Omidi.
Investigation: Hayede Arbabi, Zahra Omidi.
Methodology: Hayede Arbabi, Zari Dolatabadi.
Project administration: Hayede Arbabi.
Resources: Hayede Arbabi, Zahra Omidi.
Software: Hayede Arbabi, Zari Dolatabadi.
Supervision: Hayede Arbabi.
Validation: Hayede Arbabi.
Visualization: Hayede Arbabi, Zahra Omidi, Zari Dolatabadi.
Writing–original draft: Hayede Arbabi, Zahra Omidi.
Writing–review & editing: Hayede Arbabi, Zari Dolatabadi.

Competing Interest
None.

Ethical Approval
Ethical considerations in this study included obtaining permission from the Ethics Committee of Zabol University of Medical Sciences, (IR.ZBMU.REC.1400.126) and obtaining written consent to participate in the study.

References
22. Oweis A. Jordanian mother’s report of their childbirth.


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