



Determination of Student Midwives' Views on the Ideal Birth Environment in the Educational Journey

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Abstract

Objective: The aim of this study was to examine the views of future midwives on the ideal birth environment.

Methods: A total of 297 students studying in the midwifery department participated in this descriptive study. Data were collected face-to-face between November and December 2023 using the "Opinion Form on Ideal Birth Environment" developed by the researchers. Descriptive and Pearson- χ^2 test statistics were used in the analysis.

Results: The mean age of the students in the study was 20.26 ± 1.87 years. It was found that 75.8% of the students thought that the design of the delivery unit affected women's satisfaction with childbirth, 72.7% thought that it affected the fear of childbirth, and 73.7% thought that the design of the delivery unit affected the motivation of health professionals. In the current study, it was determined that the students who were in the birth environment, took childbirth classes and had information about the ideal birth environment thought that the ideal birth environment was effective on women's birth style, fear of childbirth and birth satisfaction.

Conclusion: It is seen that most of the students in the study think that the birth environment has an impact on women's birth experiences and that these thoughts are related to receiving information on this subject. It is ideal for future midwives to gain knowledge and awareness about the birth environment in order to improve their own practices and to better support women during the birth process.

Keywords: Childbirth, Birth Setting, Midwifery, Student

1. Introduction

The transition of births from the homebirth setting to hospitals in many developed and developing countries, including Türkiye, over the last 100 years reveals that the design of birth environments and maternity care is often dominated by a medical perspective (1). With advances in science and medicine, many countries have recognized that childbirth is much safer in hospital settings. There is no doubt that the technologies used in hospital deliveries are crucial for maternal-fetal health. These interventions, however, should not be routinized and should only be used when absolutely necessary. Non-essential interventions can adversely affect maternal-fetal health and lead to higher birth costs (2,3). Furthermore, such a medicalized birth environment often causes women to lose autonomy during childbirth, preventing them from meeting their physical, emotional and spiritual needs (4). Like all mammals, women instinctively seek a safe, protected, and private space when giving birth. This natural instinct leads women to choose an environment where they feel comfortable, in order to make the birthing process smoother and more peaceful. Historically, such an environment has been a familiar setting with family or loved ones nearby. For this reason, many women opt for home births or other safe spaces (5,6). Laboring women require both high-quality care to minimize the risks of complications and an environment that feels familiar, calm, safe, and secure. When women's basic needs are met, their hormonal systems function optimally, supporting a healthy physiological birth process (7,8). The physical, emotional, spiritual and social characteristics of the birth environment directly affect the

physiology of birth and emphasize the importance of health professionals, especially midwives, to pay more attention to this area. In the study by Wami et al. (2022), it was emphasized that midwives play a crucial role in home births in Hungary, managing both the safety of the birth environment and the physical and psychological aspects of labor (9). Midwives are expected to support the mother emotionally and physically while also being prepared for any complications, considering the effects of the birth environment on birth physiology. In this context, it is essential for midwives to conduct research and deepen their scientific knowledge on the subject. Normalizing the birth process is even more critical in light of the rising cesarean section rates, both in Türkiye and globally. This study aims to explore the views of future midwives on the ideal birth environment. By understanding midwives' perspectives on what constitutes an ideal birth setting, the research has the potential to improve birth experiences on both individual and societal levels. Therefore, this research is considered a significant step toward realizing healthier and more natural birth processes.

Research questions:

- What are the factors associated with students' views on the effect of the birth environment on fear of childbirth?
- What are the factors associated with students' views on the influence of the birth environment on their choice of mode of birth?
- What are the factors associated with students' views on the effect of the birth environment on birth satisfaction?

2. Methods

2.1. Research design

The present study was conducted with a descriptive research design.

2.2. Research sample

The study population consisted of 356 students enrolled in the Department of Midwifery at the Faculty of Health Sciences of a state university. The aim of the study was to reach all students, and no sample selection was made. The sample of the study was comprised of 297 students who voluntarily participated. In the study, 83.4% of the population was reached.

2.3. Dependent and independent variables

The independent variables of this research are grade level, status of taking a childbirth course, receiving information about the ideal birth environment, practicing in the birth unit. The dependent variable are the state of thinking that the birth environment affects fear of childbirth, choice of birth mode and satisfaction with childbirth.

2.4. Data collection

The data for the research were collected through face-to-face interactions with students at the educational institution where the study took place, between November and December 2023. The questionnaire was distributed to the students at the end of their class and completed in the classroom setting. Students were given the opportunity to ask questions if they needed clarification, and they took approximately 10 minutes to complete the questionnaire.

2.5. Data collection tools

In the study, the "Opinion Form on Ideal Birth Environment", which was prepared by making use of the literature appropriate for the purpose of the study, was used as a data collection tool (5,7,8,10,11). The questionnaire form includes a total of 20 questions about the introductory information of the students,

the characteristics of the maternity unit where they practice, and the effects of the maternity unit design on the birth process, women and healthcare professionals.

2.6. Data evaluation

Statistical analyses were performed using SPSS (IBM SPSS Statistics 24) package program. Frequency tables and descriptive statistics were used to interpret the findings. Continuity correction according to expected value levels and Pearson- χ^2 test statistics were used to examine the relationship between two qualitative variables. $p < 0.05$ was accepted as significance value.

2.7. The ethical dimension of the research

For the implementation of the study, ethical approval was obtained from the Non-Interventional Ethics Committee of a state university (decision dated 13.10.2023, numbered 137). Institutional permission for data collection was obtained from the Dean's Office of the Faculty of Health Sciences. Verbal and written informed consent was obtained from the participants in the study. The study was conducted in accordance with the ethical principles of medical research involving human subjects of the Declaration of Helsinki.

3. Results

The descriptive information of the students who participated in the study and information about the characteristics of the birth unit where the practice was performed are presented in Table 1. Accordingly, the mean age of the students was 20.26 ± 1.87 years. It was determined that 30% of the students were in the first, 30.6% in the second, 23.2% in the third and 16.2% in the fourth grade. It was found that 58.2% of the students took a childbirth course, 86.2% did not receive information about the ideal birth environment, and 66% did not practice in the birth unit. Of the students who practiced in the birth unit, 90.1% described the birth unit design in a clinical atmosphere.

Table 1. Distribution of Students' Descriptive Information and Characteristics of The Birth Unit Where the Practice was Performed (n=297)

Variables		n	%
Grade level	1.	89	30.0
	2.	91	30.6
	3.	69	23.2
	4.	48	16.2
Status of taking a childbirth course	Yes	124	41.8
	No	173	58.2
Receiving information about the ideal birth environment	Yes	41	13.8
	No	256	86.2
Practicing in the birth unit	Yes	101	34.0
	No	196	66.0
Design features of the applied birth room *	Single labour rooms	47	46.5
	Birth in the lithotomy position	57	56.4
	Private bathroom in the rooms	25	24.8
	Window in the birth room	54	53.5
	Relaxing colors in the environment	25	24.8
Defining the applied birth room design *	Feeling of a home environment	10	9.9
	Clinical atmosphere	91	90.1
Age	Mean \pm Standard deviation	20.26 \pm 1.87	
	Minimum	17	
	Maximum	26	

*Responses were calculated based on 101 students who participated in the birth room practice.

In Table 2, students' views on the effects of the labor unit design are presented. It was determined that 81.5% of the students thought that the labor unit design affected women's birth process, 86.2% thought

that it affected women's choice of birth, 73.7% thought that it affected women's choice of mode of birth, and 68% thought that it affected the severity of contractions perceived by women. It was also found that 75.8% thought that the design of the birth unit affected women's satisfaction with childbirth, 72.7% thought that it affected the fear of childbirth, and 73.7% thought that the design of the birth unit affected the motivation of health professionals. It was found that the most common responses were “the level of feeling of labor contractions” (58.2%) as the effects of birth environment design on birth physiology, “feeling of security (72.4%)” as the effects of birth environment design on women, and “direct view of the bed in the room from outside the door (61.3%)” as the physical conditions of the birth unit that negatively affected women's satisfaction with birth.

Table 2. Distribution of Students' Views on The Effects of The Birth Unit Design

Variables		n	%
Does the design of the birth unit affect women's labor process?	Yes	242	81.5
	No	6	2.0
	No opinion	49	16.5
Does birth unit design influence women's choice of place of birth?	Yes	256	86.2
	No opinion	41	13.8
Does the design of the birth unit influence women's choice of mode of birth?	Yes	219	73.7
	No	20	6.7
	No opinion	58	19.5
Does birth unit design affect women's perceived intensity of contractions?	Yes	202	68.0
	No	24	8.1
	No opinion	71	23.9
Does birth unit design affect women's satisfaction with childbirth?	Yes	225	75.8
	No	3	1.0
	No opinion	69	23.2
Does birth unit design affect women's fear of childbirth?	Yes	216	72.7
	No	11	3.7
	No opinion	70	23.6
Does birth unit design affect the motivation of health professionals?	Yes	219	73.7
	No	3	1.0
	No opinion	75	25.3
Effects of birth environment design on birth physiology*	The level of sensation of labor contractions	173	58.2
	Release of oxytocin and various hormones	137	46.1
	Mother and baby attachment	131	44.1
Effects of birth environment design on women*	A sense of security	215	72.4
	Self-confidence and sense of autonomy	169	56.9
	Satisfaction with childbirth	163	54.9
	Comfort status	147	49.5
	Stress and fear	95	32.0
Physical conditions of the birth unit that negatively affect women's satisfaction with childbirth*	The bed in the room is directly visible from outside the door	182	61.3
	Ward system trauma rooms	164	55.2
	Hearing other women shouting and the sounds of childbirth	156	52.5
	Labour and birth in different rooms	142	47.8
	Giving birth in the lithotomy position	176	59.3

* Students gave more than one answer. n: Count, %: Column percentage.

Table 3 shows the relationship between the effect of the birth environment on fear of childbirth and some variables. Accordingly, a statistically significant relationship was found between the effect of the birth environment on fear of childbirth and the students' grade level, taking a childbirth course, receiving information about the ideal birth environment and practicing in the birth unit ($\chi^2=41.360$, $p<0.001$; $\chi^2=37.325$, $p<0.001$; $\chi^2=12.092$, $p=0.002$; $\chi^2=21.770$, $p<0.001$, respectively). It was found that students with higher education level, who took childbirth courses, received information on ideal birth

environment and practiced in the birth unit thought that the birth environment would affect women's fear of childbirth.

Table 3. Examination of the Relationship Between the Effect of The Birth Environment on Fear of Childbirth and Some Variables (n=297)

Variables		The effect of the birth environment on the on fear of childbirth						χ^2	p
		Yes		No		No opinion			
		n	%	n	%	n	%		
Grade level	1.	64	71.9	6	6.7	19	21.3	21.159	0.002
	2.	55	60.4	11	12.1	25	27.5		
	3.	63	91.3	0	0.0	6	8.7		
	4.	37	77.1	3	6.3	8	16.7		
Status of taking a childbirth course	Yes	107	86.3	4	3.2	13	10.5	17.358	<0.001
	No	112	64.7	16	9.2	45	26.0		
Receiving information about the ideal birth environment	Yes	37	90.2	2	4.9	2	4.9	7.229	0.027
	No	182	71.1	18	7.0	56	21.9		
Practicing in the birth unit	Yes	87	86.1	4	4.0	10	9.9	12.205	0.002
	No	132	67.3	16	8.2	48	24.5		

n: Count, %: Column percentage

Table 4 shows the relationship between the effect of the birth environment on women's choice of mode of birth and some variables. Accordingly, a statistically significant relationship was found between the effect of the birth environment on the choice of mode of birth and the students' grade level, taking a childbirth course, receiving information about the ideal birth environment and practicing in the birth unit ($\chi^2=21.159$, $p=0.002$; $\chi^2=17.358$, $p<0.001$; $\chi^2=7.229$, $p=0.027$; $\chi^2=12.205$, $p=0.002$, respectively). It was found that students with higher education level, who took childbirth courses, received information on ideal birth environment and practiced in the birth unit thought that the birth environment would affect women's choice of mode of birth.

Table 4. Examination of the Relationship between the Effect of Birth Environment on Women's Choice of Mode of Birth and Some Variables (n=297)

Variables		The effect of the birth environment on the choice of mode of birth						χ^2	p
		Yes		No		No opinion			
		n	%	n	%	n	%		
Grade level	1.	64	71.9	6	6.7	19	21.3	21.159	0.002
	2.	55	60.4	11	12.1	25	27.5		
	3.	63	91.3	0	0.0	6	8.7		
	4.	37	77.1	3	6.3	8	16.7		
Status of taking a childbirth course	Yes	107	86.3	4	3.2	13	10.5	17.358	<0.001
	No	112	64.7	16	9.2	45	26.0		
Receiving information about the ideal birth environment	Yes	37	90.2	2	4.9	2	4.9	7.229	0.027
	No	182	71.1	18	7.0	56	21.9		
Practicing in the birth unit	Yes	87	86.1	4	4.0	10	9.9	12.205	0.002
	No	132	67.3	16	8.2	48	24.5		

n: Count, %: Column percentage

Table 5 shows the relationship between the effect of the birth environment on women's satisfaction with childbirth and some variables. Accordingly, a statistically significant relationship was found between the effect of the birth environment on women's satisfaction with childbirth and the students' grade level, taking childbirth classes, receiving information about the ideal birth environment and

practicing in the birth unit ($\chi^2=56.293$, $p<0.001$; $\chi^2=43.731$, $p<0.001$; $\chi^2=15.221$, $p<0.001$; $\chi^2=28.010$, $p<0.001$, respectively). It was found that students with higher education level, who took childbirth courses, received information on ideal birth environment and practiced in the birth unit thought that the birth environment would affect women's choice of mode of birth.

Table 5. Examination of the Relationship between the Effect of the Birth Environment on Women's Satisfaction

Variables		The effect of the birth environment on birth satisfaction						χ^2	p
		Yes		No		No opinion			
		n	%	n	%	n	%		
Grade level	1.	44	49.4	3	3.4	42	47.2	56.293	<0.001
	2.	72	79.1	0	0.0	19	20.9		
	3.	66	95.7	0	0.0	3	4.3		
	4.	43	89.6	0	0.0	5	10.4		
Status of taking a childbirth course	Evet	118	95.2	0	0.0	6	4.8	43.731	<0.001
	Hayır	107	61.8	3	1.7	63	36.4		
Receiving information about the ideal birth environment	Yes	41	100.0	0	0.0	0	0.0	15.221	<0.001
	No	184	71.9	0	0.0	69	27.0		
Practicing in the birth unit	Yes	95	94.1	0	0.0	6	5.9	28.010	<0.001
	No	130	66.3	3	1.5	63	32.1		

with childbirth and some variables (n=297).

n: Count, %: Column percentage

4. Discussion

A safe and supportive birth environment facilitates the birth process, reduces stress levels and provides a positive experience. Midwives play a major role in the preparation of the ideal birth environment, which is critical for the physical and emotional health of both mother and baby. The midwife is an indispensable health professional for the woman and her family with the emotional support she provides in the safe environment for the mother. Thanks to the reassuring environment it creates, it provides a special birth experience for the woman. In all these aspects, the midwife aims to maximize the health of mother and baby by making the birth process positive. The perspective of midwifery students, who are the midwives of the future, on the ideal birth environment is extremely important both for their own professional development and for shaping the experiences of future mothers and babies. Their understanding of the physical, emotional and psychological components of the birth environment makes them better equipped.

In the current study, the majority of the students who practiced in the labor and birth unit described the labor and birth unit design as a clinical atmosphere. However, most of the students stated that they thought that the birth environment influenced women's fear of childbirth, the birth process and birth satisfaction. The physical environment is an important factor that shapes the mother's experience and psychological well-being during the birth process. When the literature is examined, it is seen that the design of the birth environment has many effects. Improving the birth environment increases both physical and psychological comfort. This holistic approach is extremely important for individuals' emotional well-being as well as their physical health (12). In the study examining the effects of environmental stress factors on the birth process and birth hormones; it shows that stress causes negative changes on birth hormones and this may affect processes such as the duration and frequency of birth and postpartum recovery. In the study conducted by Sayiner and colleagues in 2021, it is emphasized that providing the ideal birth environment can reduce these stress effects and provide a healthier birth process by regulating hormone levels (13).

The results of research conducted by Yalçıntepe and Oran in 2024 also show that the use of natural elements such as plants and natural light in the birth room reduces women's stress levels and facilitates relaxation. Natural light and a large space accelerate the healing process and support general well-being. In addition, the ideal birth environment increases privacy, allowing women in labor to establish deeper and more meaningful connections with family members (14). According to the findings of a study conducted by Özdilek and Kısa in 2024, pregnant women prefer privacy, dim light and a calm atmosphere in the ideal birth environment. It is also noteworthy that they wanted their husbands, midwives and mothers to be with them during labor. These findings reflect women's search for comfort and support during the birth process (15).

The study conducted by Aburas et al. in 2017 emphasizes the potential of natural stimuli (such as plants, natural light, nature sounds) in the birth environment to reduce stress levels, provide relaxation and increase overall satisfaction during the birth process. The study draws attention to the importance of integrating natural elements in the design of birth environments by showing that these elements of nature positively affect the birth experience (16). Migliorini et al.'s 2023 study on two different birth settings (hospital and birth center) included observation, field research and self-report questionnaires and included 66 low-risk female participants. The findings revealed that mothers who gave birth in a birth center developed a more positive perception in terms of spatial-physical and social aspects and that these mothers felt better about their birth experience (17).

In the phenomenological study conducted by Cambra-Rufino et al. in 2024 to determine the impact of the birthplace on the birth experience and satisfaction levels of mothers, there are striking statements regarding the design of birth spaces. The study emphasizes that the design features in hospitals shape the experiences of women during the birth process (18). In the study conducted by Aktaş Reyhan et al. in 2022, in which women's expectations and needs regarding the design of maternity units were examined, their experiences during the birth process, their level of discomfort and the design elements they preferred were evaluated. In this context, women emphasize the elements they desire in the birth environment, such as privacy, comfort, proximity to nature and a supportive atmosphere, and provide important data on how ideal birth units should be (19). In the current study, the students who were in the birth environment, took childbirth classes and had knowledge about the ideal birth environment stated that the ideal birth environment had an impact on women's birth style, fear of childbirth and birth satisfaction. This creates an important awareness in terms of improving birth experiences. The study conducted by Malesela in 2021 emphasizes the importance of the design and atmosphere of the birth environment for both women and health professionals. The research, which was conducted to determine the conditions necessary for the implementation of best practices in midwifery practice, reveals the potential of improving birth spaces to improve birth experiences and mothers' satisfaction (20).

5. Conclusion and Recommendations

In conclusion, the role of environmental factors in the birth process is of great importance. The design, atmosphere and physical conditions of the birth environment can directly affect the mother's birth experience. Providing appropriate birth conditions is possible by taking into account factors such as privacy, comfort and proximity to nature. Therefore, environmental factors should be taken into consideration in order to make the birth process more positive and to increase the satisfaction of mothers. The acquisition of this knowledge by midwifery students plays a critical role both in terms of improving their own practices and supporting women better during the birth process. This awareness will increase students' competencies in improving the birth environment and meeting women's needs, while potentially leading to more positive birth experiences and maternal satisfaction. In this way, they can demonstrate a more conscious and effective approach by taking into account the impact of environmental factors in their future midwifery practice.

Limitations

The study has some limitations. These are; students who have not yet taken a childbirth course and have not practiced in the childbirth unit were also included in the study. These students had to answer the questions without having information about the subject. However, it can be assumed that they will have thoughts about childbirth from information sources such as social attitudes, social media, health professionals, etc., who are also women of reproductive age. In addition, since this study only included midwifery students from a specific school, generalization of the findings may be limited. The perspectives and experiences of midwifery students in different schools may not be the same as in this study. Therefore, further research in different contexts and schools is important to provide a broader understanding and comparison.

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