



# Effects of a Parenting Preparation Course on Preferred Mode of Delivery, Fear of Childbirth, and Perception of Traumatic Childbirth in Midwifery Students

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## Abstract

**Background:** The research was carried out to examine the effect of a parenting preparation course given to midwifery students during an academic semester on the preferred mode of delivery, fear of childbirth, and traumatic birth perception.

**Methods:** This was a quasi-experimental study with a pretest-posttest design that included 47 second-year students enrolled in the parenting preparation course. Students took the parenthood preparation course, 2 hours a week, for 14 weeks. Data were collected using a descriptive information form, the pre-pregnancy fear of birth scale, and the perception of traumatic birth scale. Paired t-test and chi-square test were used to evaluate intragroup and intergroup differences. The data were analyzed using SPSS 22.0 software at a statistical significance of 0.05.

**Results:** The mean age of the students was 20.13±0.67 years. The mean score of pre-pregnancy fear of childbirth was 40.46±9.37 in the pretest and 23.61±6.79 in the posttest. In addition, the mean score of traumatic childbirth perception decreased from 77.34±25.15 in the pretest to 39.44±13.78 in the posttest. The number of students who preferred cesarean section decreased significantly, while the number of students who preferred vaginal delivery increased after the preparation course.

**Conclusion:** Parenting preparation classes can contribute to the reduction of fear of childbirth and the perception of traumatic childbirth in women.

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## Highlights:

### What is current knowledge?

Before training; the students' thoughts about birth were negative, and the fear of birth and the perception of traumatic birth were high.

\*Preferences for giving birth before education were mostly cesarean delivery.

### What is new here?

As a result of the parenting preparation course; the students' thoughts on birth and fear of childbirth changed positively.

\*At the end of the study, students' preferences for vaginal birth and alternative birth methods increased.

\*At the end of the study, the preferences of the students for cesarean section decreased.

•It was observed that the majority of the students had decreased fear of birth and perception of traumatic birth.

## Introduction

Pregnancy is a physiological process that imposes a great burden and considerable stress on the female body (1-2). Pregnancy causes many important anatomical, physiological, biochemical, and psychological changes (3) to protect the developing fetus, meet metabolic needs, prepare for the birth process, and protect the health of both mother and fetus (1, 4). Pregnancy is an important and pleasant experience for every couple. However, pregnancy, childbirth, and the postpartum period may cause anxiety and fear, especially in couples who will be parents for the first time. Incomplete or inaccurate information about this process can have negative consequences. Research has shown that negative life experiences are associated with an increased risk of premature birth, low birth weight, and emotional distress in mothers (3, 5-7). Parenting preparation courses provided to parents before pregnancy and childbirth help them adapt to the pregnancy process, manage labor pains, learn and use baby care, and improve breastfeeding and parenting skills (5, 8-10). Although the findings of studies on the effectiveness of antenatal classes in different countries have been inconsistent, it has been generally observed that childbirth preparation courses have a positive effect on reducing the anxiety and stress of mothers (11-17).

The fear of childbirth is experienced not only in pregnant women but also in young individuals who think about pregnancy in the future. Most studies on this

topic have focused on pregnant women or women who have given birth. To the best of our knowledge, no study has investigated midwifery students' perceptions and fears about childbirth after a parenting preparation course and a society-specific scale. However, there are very few studies on the fear of labor and preferred mode of delivery among young women who may become mothers and benefit from maternal health services. In a study by Kapisız et al. (2017) (18), nursing students had fears about childbirth. Another study reported cesarean section as the method of choice for delivery, which was associated with the perception of a high risk of vaginal delivery and fear of birth (19). In a study by Stoll et al. (2014), nursing students had fear of childbirth, and nursing students who were solely exposed to information about childbirth from the media had a higher level of fear (20).

In a previous study, pre-university students saw birth as a normal event in life and described it as painful, frightening, stressful, and miraculous (21). In another study, one-seventh of female university students who did not give birth had a fear of childbirth, and one-fourth of them was severe. In another study, it was stated that those who preferred normal vaginal delivery had low levels of traumatic childbirth perceptions and state anxiety compared to those who preferred water birth or cesarean delivery (22, 23).

This study was conducted to examine the effects of a parenting preparation course, which is given to midwifery students during an education semester, on the mode of delivery, fear of childbirth, and traumatic birth perception. We also believe that midwifery students who graduate with positive perceptions of childbirth will help other women to have a positive perception of childbirth.

## Methods

The research was conducted with a quasi-experimental, pretest-posttest design. The study population consisted of 47 students (aged 18 years and over) who took the parenting preparation course in the fall semester of the academic year 2020-2021. Given the small size of the study population, all 47 students who enrolled in this course were included in the study. Students took the parenthood preparation course, 2 hours a week, for 14 weeks. In this course, psychosocial preparation to become a parent, women's health problems that will affect parenting during the preconception period, common disorders during pregnancy and precautions to be taken, nutrition and exercises during pregnancy, pregnancy and sexual life, preparation for breastfeeding during pregnancy and birth, alternative birth method, and birth as well as topics titled "management of pain,

preparation for the birth and postpartum period, and parenting, and birth preparation programs” were discussed.

Data were collected using a descriptive information form, the pre-pregnancy fear of birth scale (PFBS), and the perception of traumatic birth scale (PTBS). The descriptive information form consisted of questions on characteristics such as students' age, place of residence for the longest time, place of residence during education, the experience of presence in the delivery room, observing a normal delivery, and birth preferences.

The PFBS scale was developed by Stoll et al. in 2016 (24), and the validity and reliability of the Turkish version of the scale were confirmed by Uçar and Taşhan (2018) (25). The 10-item scale measures the pre-pregnancy fear of birth in young women and men. The answers are scored based on a 6-point Likert scale. The minimum and maximum overall scores are 10 and 60, respectively. A higher total score indicates a higher level of fear (25). In the present study, Cronbach's alpha value was found to be 0.92 in the pretest and 0.93 in the posttest.

The PTBS scale was developed by Yalnız et al. in 2016 to measure traumatic birth perception in women aged 18-40 years. The scale consists of 13 questions and a single subdimension (26). The answers are scored between 0-10 from nothing to the most severe. A higher overall score indicates a higher traumatic childbirth perception (26). In this study, Cronbach's alpha value of the scale was found to be 0.93 in the pretest and 0.94 in the posttest.

Data were entered into SPSS 22.0 software and then described using numbers and percentages. The normality of data was assessed by the Kolmogorov-Smirnov test. Paired sample t-test was used to evaluate intragroup differences between the mean scale scores of fear of childbirth and traumatic childbirth perception before and after the course. The Chi-square test was applied to evaluate the relationship between pre-course and post-course birth preferences. The Pearson correlation coefficient was also used to evaluate the relationship between the scales in the pretest and posttest. The results were evaluated at 95% confidence interval and a significance level of 0.05.

## Results

The mean age of the students was 20.13±0.67 years. The majority of students had a nuclear family (72.3%), an income equivalent to expenses (68.1%), graduated from Anatolian-Science High School (66.0%), chosen the midwifery department willingly (78.7%), and heard a history of difficult birth from their relatives (55.3%). In addition, 31.9% of the subjects have been previously present in delivery rooms during internships (Table 1).

The frequency of students with a fear of childbirth decreased significantly from 74.5% in the pretest to 29.8% in the posttest (Table 2). While 21.3% of the students preferred vaginal delivery in the pretest, this rate increased to 53.2% in the posttest. The frequency of students who preferred cesarean section as the preferred method of delivery increased significantly from 6.4% to 46.8%. Moreover, the frequency of students who preferred vaginal delivery with epidural anesthesia increased from 4.9% to 10.6% after the intervention (Table 2).

The mean score of the fear of childbirth scale decreased from 40.46±9.37 to 23.61±6.79 after the intervention (P=0.0001). The mean score of the perception of traumatic birth also decreased significantly from 77.34±25.15 in the pretest to 39.44±13.78 in the posttest (P=0.0001) (Table 3).

While it was determined that the students with high scores from PFBS and PTBS in the pre-test mostly preferred cesarean section and vaginal delivery with epidural-spinal anesthesia, it was observed that the number of students who preferred cesarean section and vaginal delivery with epidural-spinal anesthesia decreased in the post-test, and the mean scores of PFBS and PTBS also decreased statistically significantly (p<0.0001) (Table 4). There was also a strong positive correlation between PFBS and PTBS scores both in the pretest (r=0.716, P=0.0001) and posttest (r=0.716, P=0.0001).

## Discussion

Prenatal parenting education is a vital part of prenatal care that is provided in many different environments all over the world (27). The purpose of such training is to develop and strengthen the ability of couples to make informed decisions appropriate to their situations (5). Along with this, the literature has defined several positive effects on maternal outcomes with better recognition of the onset of childbirth by prenatal education (5, 6). It has been demonstrated that midwifery students often have similar thoughts to the general population about the mode of child delivery before taking birth courses (28, 30). In the present study, after the parenting preparation course, the means scores of fear of childbirth and the traumatic childbirth perception decreased significantly. Moreover, the preferred mode of delivery of the students who may become expectant mothers in the future was affected by the preparation course.

Similar to our findings, Ryding et al. (2003) (28) and Karabulut et al. (2015) (30) reported that childbirth preparation training decreased the levels of fear related to childbirth. In our study, after the preparation course, there was an increased tendency towards vaginal delivery and alternative delivery and a decreased tendency towards cesarean section and vaginal delivery with epidural anesthesia. Previous studies in Turkey also showed that taking obstetrics classes increases the tendency toward vaginal delivery (31, 32-35). The fact that the students were studying in the field of health sciences could be a contributing

factor in the tendency towards vaginal birth. Studies in other counties reported that 12.5-15.6% of the students preferred cesarean section over other modes of delivery (36-39). Students prefer cesarean section due to the fear of childbirth and low confidence in vaginal delivery. Educational strategies during university education can help reduce the fear of vaginal delivery and provide evidence-based information about different birth options.

Having evaluated the fear of childbirth and perception of traumatic childbirth among midwifery students, the mean score of fear of childbirth was 40.46±9.37 and the mean score of traumatic childbirth perception was 77.34±25.15 before the parenting preparation course. In a similar study by Güleç (2020) (40) on nursing and midwifery students, the mean score of fear of childbirth was 41.7±8.3 and the mean score of traumatic childbirth perception was 70.1±22.5 before taking the obstetrics and parenting preparation courses. This indicates the high level of fear of birth and perception of traumatic birth among midwifery and nursing students. In our study, the mean scores of traumatic childbirth perception and fear of childbirth were higher in students who preferred normal birth with epidural and cesarean section. Kapisız et al. (2017) (41) also stated that nursing students had fear of childbirth and a tendency towards cesarean section, especially due to the fear of pain related to natural childbirth. Similarly, Edmons et al. (2015) (37) stated that 61.4% of the students had fear of normal delivery. In a study by Hauck et al. (2016) (36) on Australian university students, 26.1% of the students had high fear of childbirth, and those with high scores of fear had 2.6 times more tendency for cesarean delivery. The fear of natural birth has been reported as the main reason for preferring cesarean section over natural delivery (42-45). Providing prenatal education about the benefits of normal vaginal delivery would encourage women to give normal vaginal delivery.

In the present study, the mean scores of fear of childbirth and perception of traumatic childbirth decreased significantly after the parenting preparation course, and the number of students who chose vaginal delivery and alternative birth methods increased. Other studies have also shown that childbirth preparation education is effective in reducing students' fear of childbirth and perception of traumatic childbirth. Mete et al. (2017) (46) reported that the number of women who preferred vaginal delivery with epidural anesthesia decreased after a training course, and the number of women who preferred spontaneous vaginal delivery increased. Another study reported that prenatal education helped reduce the fear of childbirth and negative thoughts about childbirth in pregnant women in the last trimester (47).

### Study limitations

Since the research was conducted on a small group of people, the results of the study cannot be generalized. Furthermore, the subjects took various courses during the research and education process and may not have been able to focus much on this education.

## Conclusion

Providing the parenting preparation course increased the tendency towards vaginal delivery and decreased the tendency towards cesarean section among midwifery students. Moreover, fear of childbirth and perception of traumatic childbirth decreased after the course. Although the current high rate of cesarean section, providing prenatal education and parenting preparation courses to the young generation could shift preference toward normal delivery. In order to develop a positive attitude towards childbirth, it can be suggested to identify and eliminate the lack of knowledge and strengthen decision-making skills. It is also suggested to increase the awareness of women from all parts of society through visual media by preparing a public service announcement containing the benefits, risks, and indications of delivery methods.

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## Ethical statement

In order to conduct the research, approval was obtained from the scientific research ethics committee of the relevant University on 29.11.2021 with the decision number 10398. Verbal and written consent were obtained by explaining the purpose of the study to the students. The study was conducted in accordance with the Helsinki Declaration.

## Conflict of interest

There are no conflicts of interest

## Author contributions

All authors contributed to the study's conception and design. Material preparation, data collection, and analysis were performed by Ezgi ŞAHİN and Saadet YAZICI. The first draft of the manuscript was written by Ezgi ŞAHİN and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

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Table 1. Distribution of sociodemographic characteristics of students (N=47)

Sociodemographic Characteristics	Number	%
<b>Family Type</b>		
Nuclear family	34	72.3
Extended family	13	27.7
<b>Family's income</b>		
Less income than expenses	9	19.1
Income equivalent to expenses	32	68.1
More income than expenses	6	12.8
<b>Graduated from ...</b>		
Vocational High School of Health	16	34.0
Anatolian/Science High School	31	66.0
<b>Did you choose the midwifery willingly?</b>		
Yes	37	78.7
No	10	21.3
<b>Have you heard a history of difficult birth from your relatives?</b>		
Yes	26	55.3
No	21	44.7
<b>Have you been to the delivery room during your internships?</b>		
Yes	15	31.9
No	32	68.1

Table 2. Comparison of students' thoughts on fear of childbirth and birth preferences before and after the intervention  
\*X<sup>2</sup>= Chi-square test, statistically significant.

Descriptive characteristics	Pretest		Posttest		P-value
	n	%	n	%	
<b>Does the thought of giving birth frighten you?</b>					
Yes	35	74.5	14	29.8	X <sup>2</sup> =6.836 P=0.009*
No	12	25.5	33	70.2	
<b>How would you like to deliver your baby?</b>					
Vaginal birth	10	21.3	25	53.2	X <sup>2</sup> =11.0 P=0.028*
Caesarean section	22	46.8	3	6.4	
Alternative delivery method (water birth, lotus birth, and hypnobirthing)	8	17.0	14	29.8	
Vaginal delivery with epidural-spinal anesthesia	7	4.9	5	10.6	
<b>Total</b>	47	100	7	100	

Table 3. Comparison of mean scores of pre-pregnancy fear of childbirth and traumatic birth perception scales before and after the intervention

Scales	Pretest Mean score	Posttest Mean score	P-value
<b>Pre-pregnancy fear of childbirth</b>	40.46±9.37 (Min:17, Max:57)	23.61±6.79 (Min:10, Max:44)	t=11.15 P=0.000*
<b>Perception of traumatic childbirth</b>	77.34±25.15 (Min:20, Max:119)	39.44±13.78 (Min:13, Max:65)	t=12.73 P=0.000*

\*Statistically significant according to paired t-test; data are presented as mean ± standard deviation.

Table 4. Comparison of the mean scores of the pre-pregnancy fear of childbirth and perception of traumatic childbirth scales according to the preferred mode of delivery

	n	Pretest		n	Posttest	
		Mean score			Mean score	
How would you like to deliver your baby?		PFBS	PTBS		PFBS	PTBS
Vaginal delivery	10	30.60±8.54	62.70±34.19	25	21.52±5.48	37.16±13.79
Cesarean section	22	45.04±5.89	86.45±19.78	3	33.66±5.50	56.66±9.07
Alternative delivery methods (Water birth, lotus birth, and hypnobirthing)	8	38.50±10.11	71.75±16.78	14	22.28±4.73	35.28±10.38
Vaginal delivery with epidural-spinal anesthesia	7	42.42±8.65	76.00±26.35	5	31.80±8.34	52.20±11.56
Test		F=8.386, P=0.000* 2>1, 4>1	F=2.438 p=0.077		F=8.187 P=0.000* 2>1 4>1 2>3 2>4	F=4.463 P=0.008*

\*Statistically significant according to paired t-test; F: one-way analysis of variance; data are presented as mean ± standard deviation.

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