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INVESTIGATION OF BIRTH ANXIETY THAT MAY DEVELOP IN NULLIPARIOUS FEMALE HEALTH WORKERS WORKING IN THE DELIVERY ROOM AND THE FACTORS AFFECTING IT: A CROSS SECTIONAL DESCRIPTIVE STUDY

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Abstract

Objectives: Birth anxiety is defined as a negative evaluation of the prepartum, partum and postpartum period and an anxious approach to labor. In our study, it was aimed to reveal the prevalence of birth anxiety among nulliparous health workers working in the delivery room and to investigate some factors that may be effective in the development of birth anxiety and the relationship between these factors.

Materials and Methods: The study, which was planned to be based on a cross-sectional descriptive questionnaire, involved 160 nulliparous female health personnel who were working in the delivery room of Başakşehir Çam and Sakura City Hospital Gynecology Clinic between 01.10.2022 and 01.11.2022. The study used the 19-question Sociodemographic Data Form and the 13-question Scale of Traumatic Childbirth Perception (STCP) prepared by the researcher as data collection tools.

Results: 160 nulliparous female health personnel participated in our study. It was found that half of the patients had moderate birth anxiety. A statistically significant negative relationship was found between the total score of the STCP and the age (years). Those who witnessed a complicated birth had higher overall scores of the STCP compared to those who did not. Participants who preferred cesarean delivery had higher overall scores of STCP compared to those who preferred normal birth.

Conclusion: The study findings suggest that nulliparous female health personnel experience birth anxiety, and several factors contribute to the development of birth anxiety. Therefore, it may be recommended that professional support is provided to female health personnel before and during pregnancy.

Keywords: Delivery room, health personnel, birth anxiety, primary care

Introduction

Pregnancy and childbirth have an important and special place in most women's lives. In addition to the fact that childbirth is a miraculous experience, most women experience birth anxiety because it is an uncontrollable action with an unknown end.[1] Birth anxiety is defined as a negative evaluation of the prepartum, partum and postpartum period and an anxious approach to labor.[2] Birth anxiety can cause many problems as a result of the effects of secreted stress hormones on the body and mind.[3]

Many biological, psychological and sociological factors, such as advanced age, being lonely and unemployed, interventional vaginal delivery, emergency cesarean section and premature birth, can be effective in the formation and triggering of birth anxiety.[4]

In a study conducted in Turkey, It has been reported that the prevalence of birth anxiety in multiparous pregnant women is 40% and 46.6% in primiparous pregnant. [5] A study by Toohill et al. found that 31.4% of nulliparous women experienced severe birth anxiety.[6] In the literature, it has been determined that most of the studies on birth anxiety are for pregnant women, and the studies examining the perception of birth of nulliparous health workers are insufficient.

The objective of this study was to investigate whether working in the delivery room causes birth anxiety in nulliparous female health workers. Additionally, we aimed to determine whether factors such as the duration of working in the delivery room and the number of births seen have an impact on the development of birth anxiety.

Materials and Methods

The study was cross-sectional and descriptive. The study included 160 nulliparous midwives, obstetrician and gynecology assistant physicians and specialists, and rotational assistant physicians from family medicine, pediatrics and other departments who between the ages of 18-45, provided consent to participate and were actively working in the delivery room of Başakşehir Çam and Sakura City Hospital between 01.10.2022 and 01.11.2022.

The study population was calculated using the traditional formulation method.[7]

Of the 425 people actively working in the delivery room, 54 were excluded because they were male, 46 were not in the 18-45 age range, 42 were primiparous or multiparous, and 11 did not give consent to participate in the study. The sample size for the remaining 272 delivery room workers was 160, with a 95% confidence interval. The study was completed with 160 people who answered and completed all the survey questions.

In the study, the 19-question Sociodemographic Data Form and the 13-question Scale of Traumatic Childbirth Perception (STCP) were used as data collection tools. The questionnaire consisting of 32 questions was applied face to face. Since the survey was conducted face-to-face, care was taken to ensure that the participants responded to all questions and that there was no missing data.

Sociodemographic Data Form

The sociodemographic data form is a 19-question questionnaire designed by the researcher to collect information about the participant's age, branch, years of experience in the profession, time spent in the delivery room, experience of witnessing births, complications or stillbirths, whether they have had a singleton birth and, if so, the number of births, number of children wanted, pregnancy history, reasons for termination of pregnancy, recommended method of delivery for patients and preferred method of delivery for themselves.

The scale of Traumatic Childbirth Perception

The Scale of Traumatic Childbirth Perception was developed by Yalnız et al. (2016) to evaluate the perception levels of traumatic birth in women of reproductive age.[8] The scale includes the anxiety, fear, worry and trauma that a woman may experience when she thinks about the phenomenon of childbirth. The questionnaire consists of a total of 13 questions, and each question has a score of 1-10, from nothing to the most severe. The lowest score that can be obtained from the scale is 13, while the highest score is 130. As the score increases, the level of perception of childbirth as traumatic also increases. Permission was obtained from the researchers who developed the scale for its use. The Cronbach's alpha value of the scale was calculated as .895.

The independent variables in the study were age, marital status, branch, years in practice, years in the delivery room, delivery complications and stillbirths, deliveries and number of births, and current pregnancies and reasons for abortion, and several dependent variables were desired number of children, desired number of children, preferred method of delivery, and method of delivery recommended to patients.

Statistics

IBM SPSS version 25.0 (SPSS Inc., Chicago, Illinois, USA) package program was used for data analysis in the study. When the data of the study were examined in terms of normality assumptions, Kolmogorov-Smirnov

values were determined as p>0.05. Therefore, Pearson correlation analysis was performed using parametric tests to determine the relationship between scale scores and various variables. In addition, the Independent Samples T-test and One Way ANOVA test were applied from parametric tests to determine whether there was a significant difference between the scale scores and the sociodemographic data and various variables of the participants. If the difference between the groups was significant, the Sidak test was used from the Post-Hoc tests to determine which groups the significance was between. P<0.05 was considered statistically significant.

Results

In Table 1, a frequency analysis of the sociodemographic data of the participants is given.

Table 1. Sociodemographic Data About Participants (n=160)

Demographic variables		**n or Median (Min-Max)**	**% or Avg. ±SS**
Age		28.0 (20.0-38.0)	27.51±2.74
	27 years and younger	75	46.87
	Over 27 years old	85	53.13
Marital status	Married	58	36.37
	Single	102	63.75
Profession	Doctor	119	74.37
	Midwife	20	12.50
	Nurse	21	13.13
Maternity ward tenure (months)		8.0 (1.0-84.0)	15.71±16.54
	0-6 months	78	48.75
	7-12 months	26	16.25
	13 months and older	56	35.00
Did you contribute to the birth?	Yes	90	56.25
	No	70	43.75
If yes, how many births have you contributed?	 0-50 births 51-100 births Over 100 births	42.50 (1.0- 1000.0) 51 13 26	113.14±189.98 56.66 14.44 28.90
Have you witnessed a complicated birth?	Yes	126	78.75
	No	34	21.25
Have you seen a stillbirth?	Yes	101	63.12
	No	59	36.88
Which method of delivery would you like to choose for yourself?	Vaginal birth	90	56.25
	Cesarean delivery	70	43.75
Which delivery method do you recommend to patients?	Vaginal birth Cesarean delivery	143 17	89.37 10.63

The age of the participants was divided into two categories: below and above 27 years, as the average age of the participants was 27 years, in order to achieve a homogeneous distribution. When we look at the frequency distribution of the data regarding various variables of the participants, it was determined that %46.87 of them under 27 years old, 48.8% of them worked in the delivery room between 0-6 months, 93.8% of them had both normal and cesarean delivery, 78.8% of them witnessed complicated birth, 63.1% of them witnessed stillbirth, 56.3% of them contributed birth, 56.3% of them wanted to give birth with the vaginal birth method and 89.4% of them recommended the patients to give birth with the vaginal birth method.

According to the STCP scoring, it was seen that 50% of the participants had a moderate level, 18.8% had a high level, 3.1% had a very high level, 22.5% had a low level, and 5.6% had a very low level of traumatic childbirth perception in the frequency distribution obtained regarding the scores they received from the scale.

The arithmetic means of the participant's responses to the STCP items are given in Table 2.

Table 2. The Arithmetic Mean of the Participants' Responses to the Scale of Traumatic Childbirth Perception Items

The Scale of Traumatic Childbirth Perception Items	**Avg.**
M1. To what extent are you afraid of the thought of giving birth?	6.80
M2. How anxious is the thought of giving birth?	6.72
M3. How scared are you of losing control in childbirth?	6.33
M4. How afraid are you of dying in childbirth?	4.52
M5. To what extent do you think the interventions during childbirth will harm you?	5.28
M6. How much does the thought of physical damage to the genital area, which is the birth tract during childbirth (tears, fragmentation, enlargement, swelling, pain, deformity, etc.) worry you?	**7.36**
M7. How much does the thought of having a normal birth scare you?	6.63
M8. How scared are you of losing control at the height of your labor?	6.34
M9. How often does the thought of childbirth come to your mind and make you restless?	3.17
M10. How anxious would you be about accompanying a friend to her birth?	3.01
M11. When faced with a situation that reminds you of childbirth, do you feel alienated from your surroundings or as if you are watching yourself from the outside?	2.44
M12. How anxious do you feel when you see a news, movie, or series about childbirth on TV?	2.40
M13. When the thought of giving birth comes to mind, do you feel your heartbeat quicken?	2.85
Overall score	**4.91**

Avg: Average

According to the results of this analysis, the general arithmetic mean of the numerical values of the participants' answers to the STCP items was determined as 4.91. It was determined that the participants got the highest score from M6 and the lowest score from M12.

The results of the analysis regarding the comparison of the total scores of the participants in terms of various variables are given in Table 3. According to the results of this analysis, a statistically significant difference was found between the total score of the STCP and the question "Have you witnessed a complicated birth?" (t=2.172, p=0.031). Those who witnessed a complicated birth were found to have higher STCP total scores compared to those who did not. A statistically significant difference was found between the total score of the STCP and the question "Which delivery method do you want to choose for yourself?" (t=- 3.573 p<0.001).

In Table 4, the scale scores applied to the participants and the relationships between various variables were shown by Pearson correlation analysis. According to the results of this analysis, a statistically significant negative relationship was found between the total score of the STCP and the age (years) (r=-0.177, p=0.026). A statistically significant negative relationship was found between the total score of the STCP and the question "How many children do you want?" (r=-0.320 p<0.001).

There was no statistically significant difference between the total score of the STCP and age (p=0.051), marital status (p=0.990), occupation (p=0.752), the branch in which the physician worked (p=0.505), tenure in the profession (p=0.297) and duration of duty in the delivery room (months) (p=0.257), but there was a statistically significant difference between the "Did you witness a complicated birth?" question (t=2.172, p=0.031). Those who witnessed a complicated birth had higher overall scores of the STCP compared to those who did not.

Table 3. Comparison of the Mean Scores of the STCP According to Various Characteristics of the Participants (n=160)

Variables	N	STCP Total Mean±SD	t, F	p
Age				
27 years and younger	75	67.37±21.58	1.967	0.051
Over 27 years old	85	60.71±21.16		
Marital status				
Married	58	63.81±20.62	-0.012	0.990
Single	102	63.85±22.16		
Profession [b]				
1) Doctor	119	63.46±21.49	0.285	0.752
2) Midwife	20	67.20±20.66		
3) Nurse	21	62.76±23.44		
Maternity ward tenure (months)[b]				
1)0-6 months	78	62.14±21.55	1.369	0.257
2)7-12 months	26	70.12±15.60		
3) 13 months and older	56	63.29±23.65		
Did you contribute to the birth? [a]				
Yes	90	64.13±20.53	0.196	0.845
No	70	63.45±22.94		
Have you witnessed a complicated birth? [a]				
Yes	126	65.73±20.58	2.172	**0.031**
No	34	56.79±23.86		
Have you seen a stillbirth? [a]				
Yes	101	64.30±19.97	0.342	0.733
No	59	63.03±24.18		
Which method of delivery would you like to choose for yourself? [a]				
Vaginal birth	90	58.65±21.81	-3.573	**<0.001**
Cesarean delivery	70	70.50±19.41		

a: Independent samples t-test, b: One way ANOVA, Post-Hoc: Sidak, p<0.05, STCP: Scale of Traumatic Childbirth Perception

Table 4. Correlation Analysis Results of Scale Scores Applied to Participants and Relationships Between Various Variables

		1	2	3	4	5	6
1- STCP Total	R	1					
	P						
2-Years (years)	R	-0.177*	1				
	P	**0.026**					
3- What is your year in the profession?	R	-0.090	0.631**	1			
	P	0.255	**<0.001**				
4-How long did you work in the delivery room? (months)	r	0.047	0.087	0.330**	1		
	p	0.551	0.276	**<0.001**			
5- How many births have you contributed?	r	0.002	0.121	0.060	-0.187	1	
	p	0.984	0.257	0.573	0.077		
6-How many children would you like?	r	-0.320**	0.044	0.004	-0.074	-0.221	1
	p	**<0.001**	0.608	0.962	0.389	0.057	

*Correlation is significant at 0.05 level (Pearson correlation test), ** Correlation is significant at 0.01 level (Pearson correlation test), STCP=Scale of Traumatic Childbirth Perception

Discussion

The findings of this study, which is a specialty thesis to determine the birth anxiety that working in the delivery room and seeing birth can cause on nulliparous female health personnel and the factors affecting it, are discussed in the literature.

In the literature, it has been determined that most of the studies on birth anxiety are for pregnant women, and the studies examining the perception of birth of nulliparous health workers are insufficient. In our study, the sample group was determined to be nulliparous female health personnel due to the fact that they spent time with women during the birth process and witnessed this process one-on-one, and it is thought that they will contribute to the relevant literature.

Studies have reported varying rates of birth anxiety due to cultural and geographical differences and differences in how anxiety is measured. According to a study conducted abroad in 2009 on birth anxiety, 48% of pregnant women reported moderate, and 26% reported a high degree of anxiety.[9] Pusuroglu conducted a review in our country, which revealed that around 20% of pregnant women experienced moderate levels of birth anxiety, while 15% experienced severe levels.[10] In our study, which supports the literature, it was found that 50% of the universe had moderate levels of birth, 18.8% had high levels, 3.1% had very high levels, and 22.5% had low levels of birth anxiety.

There are many factors that affect the anxiety of birth, such as age, occupation, and previous negative birth experiences. According to Nieminen's 2009 study on birth anxiety, there is a positive correlation between age

and anxiety levels during childbirth.[11] Research suggests that advanced age can cause birth anxiety due to factors such as women's planned lifestyles, the fear of unfinished projects and the desire to keep everything under control in the face of the return of the modern world.[11] In contrast to these studies in the literature, Rouhe states a study in 2015 found that younger people experience more anxiety at birth.[12] In 2020, a study by Bıyık and Aslan reported greater birth anxiety at a young age.[13] A statistically significant negative relationship was found between age and the STCP scores in the nulliparous health workers who participated in our study, supporting this literature. The fact that the majority of young pregnant women are nulliparous and do not have experience with childbirth may cause more birth anxiety.

Birth anxiety is one of the most important factors affecting birth preference. In a study conducted on health personnel, 39.3% of midwives and 58.3% of physicians stated that they would prefer cesarean delivery for themselves.[14] In Duman's study in which nulliparous female health workers questioned their birth preferences, 57.4% of the participants stated that they would prefer vaginal delivery, 23.1% stated that they would prefer cesarean section, and 19.5% stated that they were undecided.[15] It was seen that 56.3% of the nulliparous health personnel who participated in our study preferred vaginal delivery for themselves, while 43.7% preferred cesarean delivery. The data obtained in the study are consistent with the literature. This finding showed that the participants who preferred cesarean delivery scored high on the STCP. It has been seen that birth anxiety is effective in the cesarean section preference of female health workers.

Another issue in which birth anxiety can be effective is the situation of having children. A study conducted at the School of Nursing in 2017 stated that women with birth anxiety may prefer to adopt or even be childless instead of pregnant.[16] In our study, no significant difference was found between the participants' desire to have children and the scores obtained from the STCP. This result showed that the birth anxiety experienced by the participants did not affect their desire to have children. This finding is inconsistent with the literature. This can be explained by the fact that the study was conducted on nulliparous women and that the participants wanted to taste the feeling of motherhood. In the study, the number of children requested by the participants was questioned, and the STCP total score of the participants who wanted to have an only child was higher than that of the participants who wanted to have 2 or 3 more children. This data from the study showed that consistent with the literature, birth anxiety leads women to want to have fewer children.

A study conducted by Stoll et al. in Canada found that young women with low levels of birth anxiety were affected by poor birth history and complications.[17] According to the research conducted by Nieminen, women who have a history of birth with complications using methods such as vacuum and forceps in their previous birth experience more birth anxiety than women who do not develop complications in childbirth.[11] In the literature, there are studies showing that the history of complicated birth increases the anxiety of childbirth, but there is no contribution to the literature on the effect of having a complicated birth on health workers. In

our study, it was seen that the STCP score was high in health workers who had a complicated birth. According to the findings obtained in the study, seeing a complicated birth causes birth anxiety in nulliparous female health workers.

One limitation of the study is that it was conducted in a tertiary health center, which is the highest level in the referral system, and this may have increased the risk of complicated and difficult labor. Another limitation is that it was a questionnaire study, which means that the results are based on the respondents' declarations.

In conclusion, this study was conducted to investigate the birth anxiety that may develop in nulliparous female health workers working in the delivery room and the factors affecting it.
Based on the results, half of the participants experienced moderate levels of birth anxiety. The results indicate that there was no significant difference in experienced birth anxiety between the different branches of participants. According to the study, young participants had a higher rate of birth anxiety.
When the factors that may cause birth anxiety are examined, it is seen that the years spent in the profession, the duration of working in the delivery room, the number of births seen and the stillbirths have no effect on birth anxiety. Nulliparous female health personnel who witnessed complicated births were found to have higher birth anxiety.
As stated by many sources that birth anxiety is effective in the choice of birth method; in this study, it was seen that female health personnel preferred the elective cesarean section method at a higher rate for herself compared to vaginal delivery recommended to her patients.
According to the results of our study, seeing birth causes anxiety in nulliparous female health personnel. Considering this result, it may be recommended that female health personnel receive support from a professional team before and during pregnancy. The duty of family physicians is to approach the patient's profession in accordance with the profession of pregnant women and to manage the process by considering such factors, especially in female health workers.

Ethical Considerations: Ethical approval was acquired from Başakşehir Çam ve Sakura City Hospital Clinical Research Ethics Committee Presidency (12/10/2022-2022.10.326).

Conflict of Interest: The authors declare no conflict of interest.

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