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MODE OF DELIVERY PREFERENCES AMONG MULTIPAROUS WOMEN BASED ON PREVIOUS BIRTH EXPERIENCE

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Abstract

Aim: To explore associations between expectations regarding birth (including mode of delivery) and experience of the previous birth among multiparous women. **Design:** A cross-sectional study. **Methods:** A specially designed questionnaire was used to explore subjective perceptions of previous births. We also used the standardized questionnaire of birth-related fear (W-DEQ). Descriptive statistics and the ANOVA test, chi-square test, and Student t-test were used. The research group consisted of 111 pregnant women with a mean age of 31 (\pm 3.58) years. **Results:** Most women preferred cesarean section as a mode of delivery (63.1%). Women who preferred cesarean section less frequently considered experiencing every stage of the birth to be an advantage of vaginal delivery. They more often perceived pelvic floor damage as a disadvantage of vaginal delivery ($p = 0.000$), and shorter delivery time as an advantage of cesarean section ($p = 0.048$). Significant fear of childbirth was confirmed in 25.2% of respondents. We found statistical significance between cesarean section preference and increased fear of childbirth ($p = 0.05$). **Conclusion:** Focusing on the impact of childbirth on the psychological state of a woman, should be one of the priorities of midwives to reduce fear of subsequent labor and prevent serious mental health issues.

Keywords: cesarean section, fear of childbirth, preference, spontaneous birth.

Introduction

Most women consider pregnancy and childbirth to be positive life events. On the other hand, others evaluate childbirth more negatively. The experience associated with childbirth can be so shocking and traumatic for women that they are afraid to conceive again. They perceive childbirth as confusing, violative, and harmful to their body (Badaoui et al., 2019; Čechová et al., 2014). Pregnancy and anxiety associated with childbirth are very common (Bhatia et al., 2012). Fear of childbirth (FOC) presents a specific dimension within the spectrum of pregnancy anxiety and affects approximately 7%–11% of all pregnant women (Möller et al., 2017; Striebich et al., 2018). Fear of childbirth becomes pathological particularly when it interferes with the daily activities of women, when it is present often or continuously, and when it prevents women from enjoying pregnancy. Studies have shown that fear of childbirth has a significant effect on the course of childbirth and has contributed to a dramatic increase in the number of cesarean sections

worldwide (Demšar et al., 2018; Nilsson et al., 2018). Fear of childbirth may occur primarily in primiparous women before the first birth, but it also often occurs as the result of a previous complicated birth (Izáková, 2013). If severe fear of childbirth occurs before pregnancy, possibly resulting in the avoidance of pregnancy, it is known as primary tocophobia. Secondary tocophobia is defined as a phobic fear resulting from a stressful or traumatic previous birth. In the last two decades, the number of cesarean sections has increased worldwide by 15% and in developing countries by 21% (Möller et al., 2017). One of the reasons for this trend is the increase in the frequency of cesarean section on maternal request (CSMR). The increasing rate of cesarean sections has been very well documented in recent decades, both in developing and developed countries. Globally, the number of cesarean sections increased from 6% to 27.2% between 1990 and 2014. This negative trend poses a serious challenge to healthcare systems and is the subject of debate around the world (Hatamleh et al., 2019).

In general, we consider cesarean section to be a major abdominal operation that saves the life of a mother, child, or both. Despite its benefits in high-risk situations, this operation is also

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associated with numerous surgical risks (Stützer et al., 2017). The enormous increase in the frequency of cesarean sections indicates that the medical indications for performing a cesarean section are becoming more liberal, and cesarean sections on demand are becoming more frequent (Roztočil et al., 2017). The reasons for this increase appear to be multifactorial, including changes in risk factors of pregnant women and also changes in cultural and social attitudes (Stützer et al., 2017). A study of changes in cesarean section indications from the early 1990s to 2005 found that the dominant indications for an elective cesarean section from a purely medical point of view, such as the pathological position of the fetus, had given way to psychosocial indications such as fear of childbirth, or cesarean section on the request of the mother without any simultaneous medical indication (Stjernholm et al., 2010). Other studies have found that there is an association between the desire for cesarean section as a method of childbirth and the fear of childbirth, as well as an association between cesarean section at the request of the mother and a previous negative experience of childbirth (Løvåsmoen et al., 2018).

Other factors include changes in obstetric practice and the fact that a woman's preference is considered when choosing the mode of birth. Cesarean sections conducted at the request of the mother without medical indication are controversial. Nevertheless, a Norwegian study conducted in 2018 found that the two most common indications for cesarean section were mother's request and a previous cesarean section (Løvåsmoen et al., 2018). An increasing percentage of obstetricians also recommend that women undergo cesarean section without medical indication. A study in Canada points out that up to 25% of health professionals working with pregnant women claim that cesarean section protects a pregnant woman from urinary incontinence and sexual dysfunction after childbirth (Sharpe et al., 2015). A similar study focusing on gynecologists and midwives and their attitudes to cesarean sections at the request of a woman found that 93% of the respondents preferred vaginal delivery to cesarean section if there was no medical indication for cesarean section; while 74.4% of respondents supported the patient's right to choose the method of childbirth without an indication for a cesarean section; and 66.7% would perform a cesarean section at the request of the mother. On the other hand, only 30% of respondents would choose a cesarean section without a medical indication for their own birth or the birth of a partner (Rivo et al., 2018). In the past, vaginal delivery was considered the best option for

a safe birth, while today it is not uncommon for women to request a cesarean section without medical indication (Tuschy et al., 2018).

Aim

The study aimed to explore associations between expectations of the prospective birth (including preferences on mode of delivery) and experience of previous births among multiparous women.

Methods

Design

A cross-sectional study.

Sample

The research group consisted of 111 pregnant women with an average age of 31 (\pm 3.58) years, who had already given birth. The research was carried out in the University hospital in Martin between September 2019 and January 2020. A convenience sampling method was employed. The research group included women who were willing to participate in the study and fulfilled the following inclusion criteria: current pregnancy, multiparity, and informed consent. More detailed characteristics of the participants are presented in the Results section.

Data collection

Measuring instruments

To collect relevant data, achieve the set goals, and verify the hypotheses, we used our own specially designed questionnaire, which we compiled based on a study of the literature and consultations. The study of the literature included scientific articles focusing mainly on topics such as preferences on mode of delivery, reasons for cesarean section preference, cesarean section on demand, or the association between fear of childbirth and preference on mode of delivery (Attanasio et al., 2019; Coates et al., 2020; Dursun et al., 2011). The self-constructed questionnaire included 25 questions, which were divided into three main categories: socio-demographic data, perinatal and health anamnesis, and attitudes towards the next birth. The suitability of the questionnaire was assessed by a specialist in the fields of psychology and midwifery. The socio-demographic section of the questionnaire contained questions on age, education, and marital status. Another section of the questionnaire focused on parity, perinatal loss in the anamnesis, history of chronic diseases, and details of previous birth: i.e., mode of delivery, complications during delivery, length of labor, subjective perception of pain, and use of non-

pharmaceutical pain relief methods or epidural analgesia. This section of the questionnaire also focused on subjective experience of birth, including loss of control, and satisfaction with the quality of communication with the healthcare professionals during the labor. The last section of the questionnaire focused on the preferences and expectations regarding the current birth, including the preferred mode of delivery (vaginal vs cesarean section). We were also interested in the subjective perception of the advantages and disadvantages of spontaneous childbirth and cesarean section from the perspective of pregnant women.

The Wijma questionnaire of childbirth expectations / experiences – W-DEQ (version A) was used to measure the fear of childbirth-related fear in our study. This questionnaire focuses on the feelings and thoughts that women may feel when imagining the upcoming childbirth. The Wijma Delivery Expectancy / Experience Questionnaire version A (W-DEQ-A) was developed by Wijma, Wijn, and Zara in 1998 as a specific measurement tool for assessing the intensity of labor fear in pregnant women. The questionnaire was compiled based on the authors' clinical experience with pregnant women and their experience of their impending birth. The questionnaire contains 33 items, with answers scaled on a six-point Likert scale from 0 "not at all" to 6 "absolute / extreme". The higher the total score, the greater the fear of childbirth. Several values have been taken as the cut-off score of the W-DEQ-A questionnaire: most commonly 85 points and above as an indicator of severe labor fear, and a score of 100 points and above as an indicator of clinically expressed labor fear, which we also adopted. The reliability (Cronbach alpha) of the WDE-Q questionnaire in the present study was 0.88. The Slovak version of the WDE-Q was validated by Pitel et al. (2020) and has shown good psychometric properties.

A pilot study involving five respondents was conducted to evaluate the quality of the questionnaires. After correcting a number of misspellings (understandability of the questions) we compiled a final version of the questionnaire. Our respondents were multiparous women who were currently pregnant. They were invited to participate in the research after admission to hospital shortly before their labor (due to the start of the first phase of the labor or due to a planned cesarean section), or during their regular pregnancy examination, which also included CTG monitoring. The questionnaire was distributed in the gynecological outpatient clinic in Martin. Respondents who agreed to participate in our research were firstly asked to sign an informed

consent and then completed the paper-pencil questionnaire. Respondents had about 30–40 minutes to complete the questionnaire, which they did during the CTG examination or while waiting for the doctor's visit. From a total of 135 respondents invited, 111 agreed to participate in the research – a response rate of 82.2%. We collected our data from September 2019 to January 2020.

Data analysis

Statistical processing was performed in Microsoft Office Excel and the freely available statistical software PSPP. As part of the interpretation of the results of the questionnaire, we used descriptive statistics (frequency, percentage, mean, and variance). Statistical tests of significance (ANOVA, Chi-square, and Student t-test for independent samples) were used to statistically verify the established hypotheses.

Results

Table 1 represents the characteristics of research participants, including categorical variables such as age, education, parity, and subjective preference regarding mode of childbirth and level of childbirth-related fear as measured by the WDE-Q questionnaire. Our research group consisted of 77 women who were giving birth for the second time, 30 in their third pregnancy, and four who had had more than three previous pregnancies. The majority of women were 26–35 years old (84.7%), followed by age groups 36–45 (9.9%), and the smallest group was the youngest, aged 18–25 (5.4%). The majority of participants (45.9%) had completed secondary education with graduation, 40.5% had completed tertiary education, 9% of participants had completed secondary education without graduation, and only 4.05% had completed only primary education. Most women (58.6%) in our study were married. Less than half of respondents (36%) were single, and 3.6% were divorced. More than one-third (33.3%) of participants had experienced perinatal loss. Perinatal loss was defined as unintended or involuntary loss of pregnancy by miscarriage, early loss (< 20 weeks), stillbirth (> 20 weeks gestation), or neonatal loss (newborn through 28 days of life) (Fenstermacher & Hupcey, 2013). Only 9% of respondents stated that they had a chronic disease that required long-term treatment. The majority of participants (73.9%) perceived their previous pregnancy as uncomplicated; 16.2% of previous pregnancies had involved mild problems; 7.2% had been considered a risk pregnancy; and for 2.7%, the previous pregnancy had involved more serious problems. The most important question in our study

Table 1 Basic characteristic of participants (n = 111)

Characteristics		n	%
Age	18–25 years	6	5.4
	26–35 years	94	84.7
	36–45 years	11	9.9
Education	tertiary education	45	40.5
	secondary education with diploma	51	45.9
	secondary education without diploma	10	9
	primary education	5	4.05
Marital status	married	65	58.6
	single	40	36
	divorced	4	3.6
Parity	secundigravidity	77	69.4
	thirdgravidity	30	27.0
	multigravidity	4	3.6
Experience of perinatal loss	yes	37	33.3
	no	74	66.7
Chronic disease	yes	10	9
	no	101	91
The course of previous pregnancy	uncomplicated	82	73.9
	less serious problems	18	16.2
	risk pregnancies	8	7.2
	more serious problems	3	2.7
Subjective preference on mode of childbirth	vaginal birth	41	36.9
	cesarean section	70	63.1
W-DEQ value	W-DEQ < 99	83	74.8
	W-DEQ > 100	28	25.2

W-DEQ value – Wijma Delivery Experience Questionnaire; W-DEQ < 99 – indicator of severe labor fear; W-DEQ > 100 – indicator of clinically expressed labor fear

concerned the mode of delivery women would prefer if they had an option. More than one-third (36.9%) of respondents stated that they would choose to give birth naturally, vaginally. On the other hand, 63.1% of respondents stated that they would choose a cesarean section as the method of childbirth. In total, 25.2% of participants showed elevated levels of childbirth-related fear.

Table 2 shows the method of previous delivery and the respondents' subjective perception of it. Most (65.8%) previous deliveries in our study were vaginal, 18.9% of respondents had had an acute cesarean section due to complications during labor, 12.6% of participants had had a planned cesarean section. In 2.7% of cases, forceps or vacuum extraction had been necessary. Up to 84.7% of respondents claimed that they had had an uncomplicated labor, whereas 15.3% stated that some form of complication had occurred during labor. Another factor that we examined in our study was the length of the previous birth. Most previous labors lasted 10–15 hours. Only 28.8% of women had given birth within five hours. For 27% of respondents the birth had lasted between 5–10 hours, and 14.4% of participants had had labor of longer than 15 hours. Most of the respondents (96.4%) in our study confirmed that during the birth they had felt a loss of control over the course of the childbirth.

The respondents who had had this feeling claimed it was mainly due to exhaustion (34.3%), pain (31.7%), and fear (23.8%). Only 29.7% of respondents claimed that their previous birth had been a positive experience. The overwhelming majority of respondents (60.4%) in our research confirmed that their experience of the previous birth had been somewhat negative, and 9.9% of respondents stated that they subjectively perceived their previous birth as a traumatic experience. The majority of respondents (70.3%) in our study stated that they felt the same worries as before their first birth. Less than one-third of respondents (28.8%) reported that they did not feel less worried before the current birth than before the first birth. Only 0.9% of respondents claimed that they felt less worried now than before the first birth. We also explored whether women had used epidural analgesia during their previous labor. Less than half of respondents (49.5%) confirmed that they had received epidural analgesia.

Preference for cesarean section was closely related to perceived benefits of vaginal birth and cesarean section among pregnant women in our sample. Table 3 shows that women who preferred cesarean section as the mode of birth less frequently considered the experiencing of every stage of labor to be an advantage of vaginal delivery ($p = 0.000$; Chi-square = 13.3). They also more often perceived

Table 2 Subjective perception and course of previous birth (n = 111)

Perception of previous birth		n	%
Type of previous birth	vaginal delivery	73	65.8
	acute cesarean section	21	18.9
	planned cesarean section	14	12.6
	vacuum extractor / forceps	3	2.7
Complication during labor	yes	17	15.3
	no	94	84.7
The use of epidural analgesia	yes	55	49.5
	no	56	50.5
The length of birth	less than 5 hours	32	28.8
	5–10 hours	30	27.0
	10–15 hours	33	29.8
	more than 15 hours	16	14.4
Losing control during labor	yes	107	96.4
	no	4	3.6
Reasons for the loss of control (n = 265)*	exhaustion	91	34.3
	pain	84	31.7
	fear	63	23.8
	complication during labor	16	6.0
	attitude of medical staff	7	2.7
	don't have such a feeling	3	1.1
	others	1	0.4
	definitely positive	0	0.0
Previous childbirth experience	positive	33	29.7
	rather negative	67	60.4
	traumatic	11	9.9
Fewer worries about next childbirth	same worries as before first childbirth	78	70.3
	no	32	28.8
	yes	1	0.9
	I have no worries about childbirth	0	0.0

*Respondents can mark more than one answer, total number of responses were 265.

Table 3 Preferences on mode of delivery according to perceived benefits of vaginal birth and cesarean section among research participants

		Vaginal birth n (%)	Cesarean section n (%)	Chi-Square	p-value
Experiencing of every stage of the labor is an advantage of vaginal birth	yes	14 (34.1)	5 (7.1)	13.3	0.001
	no	27 (65.9)	65 (92.9)		
Pelvic floor damage is a disadvantage of vaginal delivery	yes	11 (26.8)	44 (62.9)	13.4	0.001
	no	30 (73.2)	26 (37.1)		
Fear of failure during birth	yes	24 (58.5)	54 (77.1)	4.3	0.05
	no	17 (41.5)	16 (22.9)		
Shorter delivery time is an advantage of cesarean section	yes	21 (51.2)	49 (70.0)	4.3	0.05
	no	20 (48.8)	21 (30.0)		

pelvic floor damage to be a disadvantage of vaginal delivery ($p = 0.000$; Chi-square = 13.4), together with fear of failure ($p = 0.038$; Chi-square = 4.3). Shorter delivery time was perceived to be an advantage of cesarean section ($p = 0.048$; Chi-square = 3.9), which was a statistically significant result. The most frequently mentioned advantage of spontaneous childbirth was direct contact with the child after childbirth. Other advantages were faster recovery after delivery and experience of every part of the birth. The biggest disadvantage of natural childbirth

from the respondents' point of view was pain during childbirth. Another disadvantage was the fear of failure and fear of pelvic floor damage. The same questions were posed regarding cesarean section.

According to the respondents, the most common advantage of a cesarean section was that they would not feel pain. Other advantages were the preservation of the pelvic floor and the shorter time of birth. The most frequently cited disadvantage of cesarean section was the long recovery time. Other disadvantages, according to the respondents, were

the wound following cesarean section and fear of surgery.

Table 4 represents the level of childbirth-related fear according to preference on the mode of the delivery measured by the W-DEQ questionnaire, and also the preference on each type of labor according to W-DEQ values. We assumed that there would be a statistically significant difference in the level of childbirth-related fear between women based on their preferences for a particular mode of delivery. Women who preferred cesarean section as a mode of delivery had a significantly higher level of WDE-Q score compared to women who preferred spontaneous delivery ($p = 0.05$; Student t -test = 1.93).

Table 5 presents the analysis of fear in the respondents (increased fear values in the WDE-Q questionnaire) depending on the use of epidural analgesia in the previous birth, the length of the

previous birth, and complications during the previous birth. Our research indicated that women who had used epidural analgesia in previous childbirth had higher average values of fear of childbirth ($p = 0.042$). Respondents, whose previous birth had been without complications indicated a higher level of fear of childbirth ($p = 0.009$). In this case, statistical significance between the examined indicators was demonstrated as we can see in table 5. Higher average values of fear of childbirth were reported by women whose previous birth had lasted more than ten hours compared to women whose birth had lasted fewer than ten hours. At the level of significance, statistical significance between the level of fear of childbirth and the length of previous childbirth was demonstrated ($p = 0.016$; $r = 3.578$). A statistical correlation was not confirmed in the correlation analysis between respondents' age, pain during previous birth, and fear of childbirth.

Table 4 Comparison of the level of the childbirth – related fear according to the preference on mode of delivery in a research sample ($n = 111$)

Subjective preference on mode of delivery	n	WDE-Q mean	WDE-Q SD	Student t-test	p-value
Vaginal birth	41	79.93	21.03		
Cesarean section	70	87.47	19.27	-1.93	0.05

SD – standard deviation

Table 5 Level of childbirth – related fear according to different factors during previous childbirth ($n = 111$)

Factors		n	WDE-Q mean	WDE-Q SD	Student t-test	p-value
Epidural analgesia	yes	55	88.60	18.14	2.06	0.042
	no	56	80.84	21.45		
Complication during childbirth	yes	17	96.35	18.00	2.66	0.009
	no	94	82.57	19.90		

Discussion

In our research, we focused primarily on women's experience of their previous birth and the extent to which this experience had influenced their attitudes toward further pregnancy and childbirth. More than half of the respondents (63.1%) who took part in our research confirmed that if they had a choice, they would prefer their next birth by cesarean section, and 36.9% of respondents would prefer vaginal delivery. The preference for cesarean section was associated mainly with the subjective advantages that mothers cited, such as shorter period of labor, and avoidance of pelvic floor damage. On the other hand, the longer recovery time after surgery was less often specified as a disadvantage of cesarean section. Respondents who preferred cesarean section also less often mentioned the experiencing of every stage of the birth as an advantage of vaginal delivery, more

often citing fear of failure during childbirth, and fear of pelvic floor damage during childbirth.

A global study of preferences regarding childbirth and the reason for such preferences indicated that women prefer vaginal childbirth as a mode of birth. The preference for cesarean section ranged from 5%–20% in developed countries, and from 1.4%–50% in less developed and underdeveloped countries (Coates et al., 2020). Similar results were obtained in a study by Kosan et al. (2019), in which the cesarean section preference in women was 17.2%, and the study by Betrán et al., 2018, in which overall preference reached 15%. Studies that focus primarily on preferences regarding mode of birth have more often reported a preference for vaginal delivery rather than cesarean section by women, with this preference largely dependent on the type of previous delivery and subjective perception of delivery (Attanasio

et al., 2019; Kosan et al., 2019; Løvåsmoen et al., 2018).

A study focusing on the reasons for cesarean section preference (Betrán et al., 2018) showed that the most common reasons for cesarean section preference were pain during childbirth, and fear of pelvic floor damage, which was also indicated in our research. Other reasons were the risk of urinary incontinence and the negative impact on sexual function after childbirth. Comparable results were also described in the review study by Jenabi et al. (2019). Cesarean section at the request of a woman with the no clear contraindication to spontaneous delivery is cited as one of the most important factors behind the increasing incidence of cesarean sections worldwide. In recent years there has been an increase in women who require cesarean section as a mode of delivery based on its subjectively perceived advantages over vaginal delivery (Mylonas & Friese, 2015). The American Association of Gynecologists and Obstetricians (ACOG) argues that a request for any surgery should be subject to thorough discussion between the physician and the patient. This process should include the main principles of medical ethics and patient autonomy. From this statement it follows that the patient's choice should be respected and supported as long as the principles of medical ethics are respected. On the other hand, FIGO (International Federation of Gynecology and Obstetrics) rejects these ideas since, according to its recommendations, a cesarean section without a medical indication is not ethically justified (Dursun et al., 2011).

Another aim of our research was to determine the level of fear of childbirth in multiple mothers, measured by the standardized questionnaire of expectations against childbirth WDEQ. In this case, significant fear of childbirth was confirmed in 25.2% of respondents. These results are significantly higher than in some other studies using the WDEQ questionnaire. In a study by Striebich et al. (2018), significant fear of childbirth was present in 5.5%; while Nilsson et al. (2018) found an 8.1% prevalence of severe fear of childbirth-related. Comparable results were described in a study by Størksen et al. (2015) in which the rate of fear of childbirth in women was 6%–10%. However, in a study by Demšar et al. (2018) significant fear of childbirth was found in 23.1%, and in an Australian study, 26% of respondents were afraid of childbirth (Poggi et al., 2018). One of the possible reasons for the relatively high prevalence of increased childbirth-related fear in our sample could be the fact that a certain amount of data collection was carried out in a very short time before birth (after

the admission to the hospital due to the onset of labor), which could be reflected in the increased levels of the fear among women in our sample. It is estimated that while 80% of women have common anxiety about pregnancy and childbirth, 20% of pregnant women show increased fear of childbirth, while the incidence of pathological fear levels is estimated at 6–10% (Weaver et al., 2012). Most of the research on the issue of fear of childbirth has been carried out in Scandinavian countries, where the term has long been recognized and treated.

The newly coined term “tokophobia” (or tokophobia), mainly used to describe an intense fear of childbirth, is becoming a common justification for elective cesarean section and preference for cesarean section as a mode of delivery. Our study also showed increased levels of fear of childbirth among women who prefer cesarean section as a method of childbirth. In a study by Sluijs et al. (2020) the influence of significant fear of childbirth on the preference for a cesarean section as a method of childbirth was also identified. According to a study conducted in six Scandinavian countries, preference for cesarean section in women was associated with a higher level of fear of childbirth and a negative experience of previous childbirth (Ryding et al., 2016). Comparable results were also described in a study by Karlström et al. (2011), according to which the most common reason for cesarean section preference was fear of childbirth. The probable reason for this preference could be the perception of cesarean section as the best way to prevent the risks and unpredictable situations associated with childbirth (Demšar et al., 2018; Martos et al., 2020; Striebich et al., 2018).

If a pregnant woman requests a cesarean section due to fear of childbirth, counseling, especially in the area of cognitive and behavioral therapy, should be suggested to help her reduce her fear of childbirth (Weaver et al., 2012). Although tokophobia is the primary reason for the preference for cesarean section at the request of the mother, in multiparous women it is a combination of tokophobia with several factors such as a previous cesarean section or the occurrence of complications in a previous birth (Nieminen et al., 2009).

In our study, there was no significant relationship between the age of mothers and the higher incidence of fear of childbirth. In most cases, the opposite results have been shown concerning the fear of childbirth and the age of the mothers. While one study described significant fear of childbirth, especially in women who were pregnant after 32 years of age, another study reported incidence of fear

of childbirth in pregnant women under the age of 20 (Dencker et al., 2019). A study by Räisänen et al. (2014) described the relationship between advanced age of mothers (≥ 40) and the occurrence of significant fear of childbirth. Other studies have not shown a difference in the incidence of fear of childbirth according to maternal age (Hall et al., 2012; Poikkeus et al., 2006; Ternstrom et al., 2015; Waldenström et al., 2006).

A statistically significant association was found between the use of epidural analgesia in previous childbirth and increased levels of fear of childbirth. Other predisposing factors of increased fear of childbirth in our study were the incidence of complications in previous childbirth, and length of childbirth of more than ten hours.

Limitation of study

One of the study limitations is the convenience sampling process, together with the cross-sectional study design, which allows us to identify associations between key factors in the study, but not to make causal interpretations. On the other hand, the strengths of the present study include a focus on the combination of several psychological and perinatal factors influencing preferences for cesarean section, such as the method of childbirth, the occurrence of complications in childbirth, the use of pharmacological and non-pharmacological methods in managing childbirth and the fear of childbirth. All these factors have helped us to perceive the issue of the experience of childbirth as a holistic issue.

Conclusion

It is well known that fear has a negative effect on quality of life, and even more so on a woman's well-being during pregnancy. Naturally, pregnant women who are about to give birth for the first time are worried about the course of childbirth, as it is an unknown situation for them. On the other hand, multiparous women have already experienced childbirth, and their negative experiences can result in a pathological fear of childbirth or avoidance of additional pregnancies. In our research, we focused on women's experiences of their previous births and the extent to which these experiences influenced their attitude toward further pregnancy and childbirth. The issue of fear of childbirth is becoming increasingly topical worldwide. We, therefore, tried to examine the factors influencing the inception of fear of childbirth and to analyze childbirth as a comprehensive process. Childbirth may seem an everyday routine for medical staff, but it is a unique and emotionally powerful experience for a pregnant woman that occurs once, or a very

limited number of times in her life. Physicians and midwives should not only take into consideration the delivery of the baby itself but should also focus on the whole course of the birth and the subjective perception of the woman. The woman's psychological state has a considerable influence on the course of her pregnancy and on how she copes with stressful situations. Thus, it is in the interest of midwives as primary healthcare providers to evaluate the health of a pregnant woman holistically, including her mental attitude, to choose appropriate interventions to reduce her fear of childbirth and to help her to make her childbirth a positive experience.

Ethical aspects and conflict of interest

Our study complies with standard ethical rules. The research proceeded only after approval from the Ethics Committee of the University Hospital in Martin was received. In addition, the head of gynecology and obstetrics and the head midwife at the University Hospital in Martin were informed of and approved our research and its main aims. All participants received information about the study aims and details about their participation. The data collection was anonymous, and all participants expressed their willingness to be included in the study. The authors declare that they are not aware of any conflict of interest.

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Author contributions

Conception and design (BD, ZS), data analysis and interpretation (BD, ZS), manuscript draft (BD, ZS), critical revision of the manuscript (BD, ZS, MB).

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