

## **ORIGINAL PAPER**

#### SATISFACTION OF WOMEN WITH CHILDBIRTH

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#### **Abstract**

Aim: The study aimed to determine childbirth experience and the overall satisfaction of women with childbirth and its related socio-demographic and obstetric factors. Design: A cross-sectional study. Methods: We used the Childbirth Experience Questionnaire (CEQ) on a sample of 161 primiparous women. Results: Total mean CEQ score was 49.78 (SD = 6.02). The best-rated domain was the Perceived safety domain at 2.66 ( $\pm$  1.90). The worst-rated domain was the Professional support domain at 1.66 ( $\pm$  1.30). Regarding childbirth satisfaction, the mode of delivery proved to be a related factor, with the highest level of childbirth satisfaction in women after surgical delivery. Conclusion: Providing quality care and creating a positive experience that can contribute to overall birth satisfaction should be a common target of healthcare professionals in caring for parturient women. In order to create a positive childbirth experience, it is necessary to pay increased attention to the management of labor pain relief, to improving the professional support provided by midwives (i.e., through a more sensitive approach to mothers), to promoting the active participation of the mother during childbirth, and to supporting spontaneous vaginal delivery.

Keywords: childbirth, Childbirth Experience Questionnaire, experience, satisfaction.

#### Introduction

Providing quality care and creating a positive childbirth experience should be the common target of healthcare professionals caring for parturient women (Iravani et al., 2015; World Health Organisation, 2018). Experience of childbirth depends on a woman's expectations, the meeting of her needs during childbirth, the support she receives from medical staff, and her involvement in the decision-making process (Dencker et al., 2010). The psychological experience and reactions of a woman during childbirth are highly individual (Škodová, 2018). Subjective assessment of women's satisfaction with childbirth is currently considered one of the parameters for measuring the quality of healthcare. Childbirth experience and overall satisfaction with childbirth can impact the health of both the mother and baby. A negative childbirth experience contributes to a higher risk of postpartum depression, endangers child development, and worsens a woman's quality of life (Bell & Anderson, 2016). The importance of subjective childbirth experience and satisfaction with childbirth has been

Corresponding author: Erika Maskálová, Department of Midwifery, Jessenius Faculty of Medicine in Martin, Comenius University in Bratislava, Malá Hora 5, Martin, Slovakia; email: maskaloval@uniba.sk evaluated in many studies (Conesa Ferrer et al., 2016; Fenaroli et al., 2019; Jafari et al., 2017). However, studies aimed at determining women's childbirth experiences and overall satisfaction with childbirth using an objective measurement tool are quite limited in Slovakia.

#### Aim

This study aimed to determine childbirth experience and overall satisfaction of women with childbirth, and related socio-demographic and obstetric factors.

## Methods

## Design

The study was designed as a cross-sectional study.

## Sample

The research sample consisted of 161 women with an average age of 29.27 (SD = 4.99) years (min. = 18; max. = 42). There was a deliberate selection of respondents. The group consisted of women who met the inclusion criteria: postpartum condition, primiparity, willingness to cooperate, and willingness to provide written informed consent to participation in the study. The sample characteristics with respect to the research variables (age, education, mode of delivery, gestational week,

labor duration, Oxytocin augmentation during labor, childbirth injury) are presented in Table 1.

#### Data collection

In order to collect the relevant data, and thus achieve the stated aim of the study, we used the Childbirth Experience Questionnaire (CEQ) (Dencker et al., 2010), with the author's consent. The CEO is a selfassessment scale aimed at evaluating the quality of a woman's subjective childbirth experience and overall satisfaction with childbirth. The questionnaire measures four main domains of the childbirth experience: Own capacity, Professional support, Perceived safety, and Participation (relating to the involvement of women in decision-making during childbirth). It consists of 22 items. The response format of the first 19 statements is a four-point Likert scale ranging from 1 (totally disagree); 2 (mostly disagree); 3 (mostly agree); and 4 (totally agree). Questions no. 20, 21 and 22 are assessed using a visual analogue scale (VAS) ranging from 0 to 100 points; the scores from the VAS are then converted as follows: 0-40 points = 1 point; 41-60 points = 2 points; 61-80 points = 3 points and 81–100 points = 4 points. Using this scale, women expressed the degree of pain, control over childbirth, how safe they felt during childbirth, and their degree of control and involvement in decision-making during childbirth. Before calculating the total score of the questionnaire, items no. 3, 5, 8, 9, and 20 were re-coded. Higher total CEQ scores reflected higher satisfaction with childbirth. The questionnaire was supplemented by questions focusing on basic demographic data and other variables, which represented the examined related factors such as age, education, mode of delivery, gestational week, labor duration, Oxytocin augmentation during delivery, and childbirth injury.

The CEQ was translated into Slovak using the reverse translation method, in cooperation with English language experts. We developed several versions of the translation (mutually independent), which were mostly identical, and led to the creation of a final version of the questionnaire by Slovak language experts. The validity and reliability of the translated questionnaire in our socio-cultural environment have not been verified. The Cronbach's alpha coefficient was 0.88. The questionnaire has been validated in several countries and language versions. Previous validation studies have indicated good psychometric properties for the CEQ.

We chose maternity hospitals according to their availability and willingness to cooperate with the study. Of three Slovak hospitals approached, two (with an average birth rate of approximately 1,500 births per annum) consented to participation in the research. The questionnaires were then distributed

**Table 1** Basic characteristics of participants (n = 161)

Characteristic	n (%)
Age	
18–30 years	96 (59.63)
31 years and more	65 (40.37)
<b>Education level</b>	
with secondary and primary school education	65 (40.37)
with university education	96 (59.63)
Mode of delivery	
spontaneous vaginal delivery	131 (81.37)
operative (Instrumental vaginal delivery and Cesarean delivery)	29 (18.01)
missing data	1
Gestational week	
until 37 <sup>th</sup> week	31 (19.26)
$38^{th} - 40^{th}$ weeks	101 (62.73)
41 <sup>th</sup> week and more	29 (18.01)
Labor duration	
less than 12 hours	130 (80.75)
more than 12 hours	31 (19.25)
Oxytocin augmentation during labor	
yes	91 (56.52)
no	70 (43.48)
Maternal childbirth injuries	
no	35 (21.74)
episiotomy, perineal rupture	106 (65.84)
Cesarean – section wound	20 (12.42)

in these two hospitals. We conducted the research from December 2017 to January 2019. The questionnaire was distributed in printed form to women in the puerperium ward on the second – fourth day after delivery. All participants received information about the aims of the study and instructions on how to complete the questionnaire; and each participant signed an informed consent form before completing it. From the 210 distributed questionnaires, we received 161 completed forms, representing a response rate of 76.66%.

## Data analysis

The results were analyzed using the statistical program of the freely available statistical program PSPP, version 18.0. Descriptive statistics (frequency, mean, and standard deviation) were used to characterize demographic and obstetric variables. The normality of data distribution was tested and found satisfactory, making possible the use of parametric statistical tests of significance. In order to test the significance of differences in the rate of satisfaction with childbirth identified by the CEQ questionnaire, we used Student's t-test for two independent selections and the ANOVA tool

(analysis of variance). We considered results with a p-value  $\leq 0.05$  to be statistically significant.

## **Results**

Table 1 provides an overview of the essential characteristics of the research sample. The largest age group was composed of women aged between 18 to 30 years (59.63%); and the majority of women were university educated (59.63%). Women who gave birth spontaneously vaginally predominated (81.37%). The majority of women delivered on their due date (62.73%). For 80.75% of women, childbirth lasted less than 12 hours. Oxytocin augmentation was provided to 56.52% of women; and childbirth injury in terms of episiotomy was present in 65.84% of women. The total mean score for the CEQ was 49.78 (SD = 6.02).

Table 2 provides an analysis of the individual items of the CEQ questionnaire. In the *Own capacity* domain, the lowest mean score was for the item: "As a whole, how painful did you feel childbirth was?" at  $2.76~(\pm~1.01)$ . In the *Professional support* domain, the lowest mean score was given for the item: "I felt very well cared for by my midwife"

**Table 2** Childbirth experience questionnaire (CEQ) item description

CEQ items	mean (SD)	min.	max.	median
Domain: Own capacity				
1. Labor and birth went as I had expected.	2.07 (0.91)	1	4	2
2. I felt strong during labor and birth.	2.34 (0.77)	1	4	2
4. I felt capable during labor and birth.	2.15 (0.71)	1	4	2
5. I was tired during labor and birth. <sup>R</sup>	1.96 (0.81)	1	4	2
6. I felt happy during labor and birth.	2.45 (0.95)	1	4	2
19. I felt that I handled the situation well.	1.79 (0.63)	1	4	2
20. As a whole, how painful did you feel childbirth was? <sup>R</sup>	2.76 (1.01)	1	4	3
21. As a whole, how much control did you feel you had during childbirth?	2.43 (0.72)	1	4	2
Domain: Professional support				
13. My midwife devoted enough time to me.	1.57 (0.74)	1	4	1
14. My midwife also devoted enough time to my partner.	2.10 (1.04)	0	4	2
15. My midwife kept me informed about what was happening during labor and	1.58 (0.77)	1	4	1
birth.				
16. My midwife understood my needs.	1.60 (0.71)	1	4	1
17. I felt very well taken care of by the midwife.	1.47 (0.70)	1	4	1
Domain: Perceived safety				
3. I felt scared during labor and birth. <sup>R</sup>	2.41 (0.97)	1	4	2
7. I have many positive memories from childbirth.	2.30 (0.86)	1	4	2
8. I have many negative memories from childbirth. R	3.02 (0.80)	1	4	3
9. Some of my memories from childbirth make me feel depressed. <sup>R</sup>	3.57 (0.67)	1	4	4
18. My impression of the team's medical skills made me feel secure.	1.48 (0.61)	1	4	1
19. I felt that I handled the situation well.	3.18 (0.92)	1	4	3
Domain: Participation				
10. I felt I could have a say whether I could be up and about or lie down.	2.11 (1.04)	1	4	2
11. I felt I could have a say in deciding my birthing position.	2.89 (0.88)	1	4	3
12. I felt I could have a say in the choice of pain relief.	2.55 (1.01)	1	4	3

R – ratings of negatively worded statements are reversed (questions 3, 5, 8, 9, 20); Item 20–22 assessed on a VAS – scores were recoded to categorical values, 0–40 = 1, 41–60 = 2, 61–80 = 3 and 81–100 = 4 (item 20 is reversed); SD – standard deviation; min. – minimum; max. – maximum

at 1.47 ( $\pm$  0.70). In the *Perceived safety* domain, the lowest score was for: "Some of my memories from childbirth make me feel depressed" at 3.57 ( $\pm$  0.67). Finally, in the *Participation* domain, the lowest mean score was awarded for the statement: "I felt I could have a say whether I could be up and about or lie down" (during the onset of labor) at 2.11 ( $\pm$  1.04). The highest item score was for the *Perceived safety* domain at 2.66 ( $\pm$  1.90), and the lowest for the *Professional midwifery support* domain at 1.66 ( $\pm$  1.30) (Table 2).

Regarding the *Own capacity* domain, the variable of childbirth duration was indicated as statistically significant; women whose childbirth lasted for more than 12 hours proved to be more satisfied (p = 0.034). With regard to the *Professional support* domain, the final mode of delivery was indicated as a statistically significant variable; women who underwent surgical delivery were more satisfied (p = 0.002). In the *Perceived safety* domain, the variables of age and childbirth injuries were indicated as statistically significant; with women in the age category of 31 and over more satisfied (p = 0.004) – as were women with a wound after

undergoing cesarean section (p = 0.024). In terms of Participation, variables such as the final mode of delivery and childbirth injuries proved to be statistically significant; women gave satisfaction scores for this domain after surgical delivery (p = 0.001); as did women with a wound after undergoing cesarean section (p = 0.000). Regarding overall satisfaction with childbirth, the final mode of delivery variable was indicated as statistically significant; thus, women after surgical delivery demonstrated a higher degree of satisfaction with childbirth (p = 0.020) (Table 3). We found that gestational week, and education, Oxytocin augmentation did not prove significant in either CEQ domains or total CEQ scores (Table 3).

## **Discussion**

Using the CEQ questionnaire, we examined the experience and the overall satisfaction of women with childbirth in four domains, along with related socio-demographic and obstetric factors. In terms of overall satisfaction with childbirth, the level

**Table 3** Domains of CEQ, overall score of CEQ and its related variables (n = 161)

Characteristics	Own capacity		Professional		Perceived		Participation		CEQ score	
		1		pport		afety				
	X	p-value	X	p-value	X	p-value	X	p-value	X	p-value
Age										
18 to 30 years	2.28	$0.158^{a}$	1.70	$0.394^{a}$	2.60	$0.004^{a}$	2.57	$0.276^{a}$	2.27	$0.533^{a}$
31 years and more	2.19		1.60		2.75		2.45		2.25	
Education										
with secondary and primary school	2.27	$0.428^{a}$	1.69	$0.614^{a}$	2.61	$0.099^{a}$	2.60	$0.233^{a}$	2.28	$0.585^{a}$
education										
with university education	2.22		1.64		2.69		2.46		2.52	
Mode of delivery										
spontaneous vaginal delivery	2.23	$0.437^{a}$	1.59	$0.002^{a}$	2.70	$0.006^{a}$	2.43	$0.001^{a}$	2.23	$0.020^{a}$
operative (Instrumental vaginal	2.28		2.00		2.52		2.91		2.37	
delivery and Cesarean delivery)										
Gestational week										
until 37 <sup>th</sup> week	2.22	$0.563^{b}$	1.62	$0.940^{b}$	2.62	$0.626^{b}$	2.70	$0.148^{b}$	2.26	$0.763^{b}$
38 <sup>th</sup> –40 <sup>th</sup> weeks	2.23	0.000	1.67		2.68		2.44		2.25	
41th week and more	2.30		1.68		2.64		2.61		2.30	
Labor duration										
less than 12 hours	2.21	$0.034^{a}$	1.64	$0.462^{a}$	2.67	$0.474^{a}$	2.53	$0.826^{a}$	2.25	$0.276^{a}$
more than 12 hours	2.36		1.74		2.62		2.49		2.31	
Oxytocin augmentation during										
labor										
yes	2.25	0.641a	1.67	$0.892^{a}$	2.65	$0.715^{a}$	2.58	$0.372^{a}$	2.27	$0.624^{a}$
no	2.24		1.65		2.67		2.47		2.25	
Maternal childbirth injuries										
no	2.34	$0.091^{b}$	1.66	$0.285^{b}$	2.62	$0.024^{b}$	2.46	$0.000^{b}$	2.27	$0.650^{b}$
episiotomy, perineal rupture	2.22		1.62		2.51		2.37		2.25	
caesarean – section wound	2.14		1.88		2.71		3.10		2.31	

x – mean scale score; <sup>a</sup>Student's t-test; <sup>b</sup>ANOVA; p-value – significance  $p \le 0.05$ 

of overall satisfaction with childbirth was 56.56%, which is lower than in a study carried out in Spain (Coll et al., 2021).

One aspect of satisfaction with childbirth is satisfaction with one's own behavior during the process (Kodyššová, 2013). Satisfaction with one's own behavior depends on how much a woman retains control over her behavior. This control mainly refers to the management of labor pain. Many women report concerns about uncontrollable reactions during particularly in response to childbirth. The degree to which a woman can manage different degrees of pain during childbirth can ultimately affect a woman's self-confidence, self-control over childbirth, and overall satisfaction with childbirth (Bertucci et al., 2012; Dencker et al., 2010; Nilsson et al., 2013). Some studies have shown that women's satisfaction with childbirth increases as the intensity of labor pain decreases (Jafari et al., 2017; Mohammad et al., 2014; Schytt et al., 2008; Waldenström et al., 2006). In our study, women reported high intensity of labor pains (Table 2).

The professional approach of the midwife is an important factor influencing how a woman experiences childbirth (Larkin et al., 2009; Škodová, 2018), and can be the cause of negatively perceived childbirth in women (Nilsson et al., 2010). Our results demonstrate that the women did not feel sufficiently cared for by the midwife. This may be influenced by the fact that midwives typically spend more time with women in Slovakia than, for example, doctors, and are thus more likely to be monitored and criticized. Likewise, the level of autonomy of midwives in Slovakia is low (Maskálová et al., 2020). Our study did not specify the concept of good care; however, it would be helpful to particularize it in further research. In a study by Mazúchová et al. (2020), women reported feeling distrust towards midwives, criticizing their impersonal approach and failure to provide sufficient emotional support. Our results from Slovakia do not correspond to the findings of other studies in which midwives provided adequate support for mothers during childbirth (Nilsson et al., 2013; Rijnders et al., 2008).

Childbirth is a highly intimate matter, and it is important that women are accompanied by familiar people whom they fully trust, and with whom they feel safe (Uherková, 2016). Many factors influence perceived safety during childbirth. In a study, Iravani et al. (2015) point to high levels of fear about the child's health, which can significantly disrupt the feeling of safety. In some countries, perceptions of safety are also influenced by the place

of childbirth, with births outside medical facilities becoming more common. In a study in Scotland, women explicitly opted for a hospital as the safest place for childbirth. On the other hand, a survey conducted in the USA found that a feeling of safety was cited as one of the main reasons for choosing a home birth (Hadjigeorgiou et al., 2012). In our study, item 9: "Some of my memories from childbirth make me feel depressed" received the lowest score in the *Perceived safety* domain, a finding consistent with the study by Coll et al. (2021).

Studies indicate that freedom of movement throughout labor is an attribute that can be used for assessing care during childbirth and women's satisfaction with childbirth (Lawrence et al., 2009; Shilling et al., 2007). In our results, women reported dissatisfaction with the choice of position during childbirth within the Participation domain. Similar results were reported by Takács and Seidlerová (2013). Midwives have a unique opportunity to provide evidence-based care, such as advice on maternal positions during labor to support natural delivery (Mazúchová et al., 2020). In their literature review, Ondeck et al. (2014) state that no studies have yet proved maternal movement to be detrimental to physiological childbirth; thus supporting the concept of freedom of movement and self-choice of birth position during labor (Ondeck et al., 2014). According to Nieuwenhuijze et al. (2014), the possibility of free movement and choice of different positions during labor help support the physiological processes of childbirth. Moreover, it is also a significant predictor of women's satisfaction with childbirth. Kongnyuy et al. (2008) found a significant improvement in mothers' overall satisfaction with childbirth when they were informed of different positions during childbirth and were able to decide which position was best for themselves.

Our study also focused on socio-demographic and obstetric factors affecting overall satisfaction with childbirth. Studies indicate that older mothers are associated with higher birth satisfaction (Kabo et al., 2019; Srivastava et al., 2015; Waldenström et al., 2006). However, Aston et al. (2010) and Tocchioni et al. (2018) found that younger women reported higher satisfaction with childbirth. Our research demonstrated age as significant only in the *Perceived* safety domain, in which younger women reported lower satisfaction scores compared to older women. Satisfaction with childbirth may also depend on the final mode of delivery. Some studies report that cesarean or instrumental delivery contribute to a negative birth experience and thus lower childbirth satisfaction (Fleming et al., 2016; Hollins et al., 2015; Hildingsson et al., 2013; Karlström et al., 2015). On the other hand, some studies suggest that women undergoing instrumental or cesarean delivery may receive more support from medical staff, and therefore their experience of childbirth is more positive, which also contributes to overall childbirth satisfaction (Fenaroli et al., 2019). In our results, the final mode of delivery proved to be significant in the domains of Professional support, Perceived safety, Participation, and overall CEQ score. Women with spontaneous vaginal delivery reported lower satisfaction, which differs from the results of Boie et al. (2020), and Dencker et al. (2010), who found that women with spontaneous delivery were more satisfied with childbirth. In our study, the final mode of childbirth was significant in the Perceived safety domain in women after surgical delivery, who reported lower satisfaction with childbirth. Our results are consistent with the study by Walker et al. (2015).

The relationship between spontaneous onset/induction of labor and satisfaction with childbirth is unclear. Some studies report that women who have undergone labor induction are less satisfied, while other studies indicate that women are satisfied and have a positive experience of childbirth if they have had an induced labor. Induction of labor is associated with stronger contractions and a higher need for labor pain relief. On the other hand, during induced labor, a woman may experience more support from medical staff, which may be more important to her than the pain itself. In our study, spontaneous onset of labor and oxytocin-induced labor did not differ significantly in any domain, or in the total CEQ scores.

Kempe & Vikström-Bolin (2020) found that women whose childbirth lasted a shorter time reported significantly higher satisfaction with the childbirth experience. In our research, the duration of childbirth in relation to overall satisfaction with childbirth did not prove significant, although we found a significant difference in the *Own capacity* domain, in which higher satisfaction was reported by women with childbirth duration of more than 12 hours. Our results are consistent with a Danish study (Boie et al., 2020). In contrast, in a Spanish study by Soriano-Vidal et al. (2016), an English study by Walker et al. (2015), and a Swedish study by Dencker et al. (2010), women with shorter childbirth duration (less than 12 hours) demonstrated higher satisfaction scores.

Some maternal childbirth injuries are childbirth complications occurring in 85% of childbirths (Frohlich & Kettle, 2015). They are associated with pain, which can negatively affect the childbirth experience and overall satisfaction with childbirth

(Crookal et al., 2018). In our study, we observed significant differences in the CEQ scores in the *Perceived safety* domain and in the *Participation* domain, in which women after episiotomy reported lower satisfaction compared to other groups (Table 3).

#### Limitation of study

A methodological weak point of the study was the opportunistic method of selecting the research sample and the non-representativeness of the sample in terms of the number of respondents participating in the research. Another limit is that the validity and reliability of the translated questionnaire have not been verified in our socio-cultural environment. Therefore, we cannot be certain that the tool was used as the author of the questionnaire intended or whether it was sufficiently accurate and reliable in the Slovakian context. The modified version of the questionnaire was used only for the purposes our pilot study. We aim to validate the questionnaire in the near future. Finally, in the study, women completed the questionnaire almost immediately after delivery; however, it would also be appropriate for women to complete the questionnaire a longer time postpartum (e.g., six weeks), as certain attributes may be perceived differently after the passage of time.

Despite its limitations, we believe that the study emphasizes the importance of investigating women's childbirth experiences, and that the continuation of this partial research may make possible the identification of further, undiscovered factors influencing women's experience of childbirth.

## Conclusion

The overall level of women's satisfaction with childbirth in our research was relatively low at 56.56%. In terms of overall satisfaction with childbirth, the mode of delivery proved to be related factor, with women demonstrating significantly higher degrees of satisfaction following surgical delivery. Based on the results in the given domains of the CEQ questionnaire, we found that in order to create a positive experience, and thus overall satisfaction with childbirth, it is necessary to raise awareness of the importance of the management of labor pain relief, of improving professional support provided by midwives (i.e., through a more sensitive approach to mothers), of promoting the active participation of the mother during childbirth, and of supporting spontaneous vaginal delivery. It is also necessary to conduct further research to determine women's experiences

and overall satisfaction with childbirth, and any related factors that can contribute to the development of evidence-based maternal care which can be implemented in the Slovakian healthcare system.

# Ethical aspects and conflict of interest

The study was approved by the Ethics Committees of both hospitals. The authors declare no potential conflicts of interest – financial or otherwise.

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#### **Author contributions**

The concept and study design (EM, JS, LK), data analysis and interpretation (EM, JS, LK), processing the draft of the manuscript (EM, LM), critical revision of the manuscript (EM, LM, SK), article finalization (EM, LM).

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