Acta Scientiarum
http://periodicos.uem.br/ojs/acta
ISSN on-line: 1807-8648
Doi: 10.4025/actascihealthsci.v46i1.66443

From trauma to natural birth: development of natural birth perception scale

Aysel Bülez[1*], Fatma Deniz Sayıner[2] and Duygu Murat Öztürk[3]

[1]Midwifery Department, Faculty of Health Science, Kahramanmaraş Sütçü Imam University, Avsar CampusKahramanmaras, Turkey. [2]Midwifery Department, Faculty of Health Science, Eskisehir Osmangazi University, Eskisehir, Turkey. [3]Midwifery Department, Faculty of Health Science, Amasya University, Amasya, Turkey. *Author for correspondende. E-mail: aysel.bulezz@gmail.com

ABSTRACT. This study was conducted in order to develop a scale regarding 'Natural Birth Perception of the Pregnants in the Last Trimester'. The study was conducted cross-sectionally between March 1 and May 1, 2019. The universe of the study consisted of pregnant women (N: 356) above the age of 18 and in the third trimester. In the study, factor analysis was conducted to determine the construct validity of the Natural Birth Perception Scale. The internal reliability coefficient of the test was found to be quite high (cronbach alpha, 89). As the score obtained from the scale increases, the perception of natural birth increases positively. The Natural Birth Perception Scale can be used safely in measuring the natural birth perception of pregnant women.

Keywords: natural childbirth; childbirth perception; pregnant women; scale; trauma.

Received on December26, 2022.
Accepted on August8, 2023.

Introduction

For women in various cultures, childbirth is a significant and impactful life event, regarded as a rite of passage that offers empowerment and transformation (Crowther et al., 2021). Natural birth is a labor in which a woman actively participates in her own birth under the guidance of her own instincts and without intervention (Rathfisch, 2012; Lothian, Amis, & Crenshaw, 2007).

Women's Fear of Childbirth (FOC) has become an important issue affecting their daily lives, pregnancy experiences, and birth choices (Gutteridge, 2020). Women may feel helpless, unprotected, and may be afraid of harming themselves and their baby (Yalnız, Canan, Ekti Genç, Kuloğlu, & Geçici, 2016). Such situations may cause the perception of traumatic birth in women and delay the mother-infant bonding (Aydın & Yıldız, 2018; Karaman & Yıldız, 2018).

In a natural birth, healthcare professionals should watch and perform health checks and do not intervene unless needed. Because pregnancy and labor are not a disease but a natural, normal and healthy function of the body (Rathfisch, 2012). Active participation of women is the least understood of the critical parts of the natural birth plan. Natural birth does not mean that the woman performs the birth alone. When women decide on the method of delivery, they are affected by previous experiences, the influence of friends and relatives, and most importantly, the guidance of doctors. Therefore, natural birth involves the support, encouragement and comforting of family, friends and healthcare professionals during the birth process (Mansfield, 2008).

The birth process is still seen as a risky situation today, and it is thought that a woman cannot give birth without intervention (Bülbül, Özen, Çopur, & Kayacık, 2016).In a few hospitals, obstructive interventions such as eating and/or drinking restrictions, intravenous catheters, electronic fetal monitoring (EFM), labor acceleration and epidural analgesia are routine and are used in all women without a specific medical reason. In fact, it can be harmful to intervene in the natural birth process unless there is a clear medical reason for the intervention (Lothian et al., 2007). Natural birth is rapidly disappearing among numerous interventions in today's obstetric units.It seems that most of both physicians and patients' perception about delivery methods is that spontaneous delivery is riskier than cesarean section (Lupu et al. 2023). Each unnecessary intervention disrupts the nature of the birth and makes the process riskier. The most common interventions performed are epidural anesthesia and cesarean (Isbir, 2015). When surgical deliveries are made with clinical

reasons, it benefits maternal and perinatal health. However, if women are sent to the procedure without sufficient indication, longer hospital stay and higher maternal and neonatal morbidity may occur (Geller, Wu, Jannelli, Nguyen, & Visco, 2010). Despite all these, cesarean is one of the most common surgical interventions in the world (Souza et al., 2016).

The international health community predicted that ideal cesarean rates should be 10-15% among all deliveries since 1985 (World Health Organization [WHO], 2015). Today, the frequency of cesarean deliveries is increasing rapidly worldwide, especially in middle- and high-income countries (Betran et al., 2016). Turkish National data showed that 52% of all births occured by cesarean section and 38% of them were planned before the labor pains (Hacettepe University Institute of Population Studies [HUIPS], 2018). The Organisation for Economic Cooperation and Development (OECDiLibrary, 2023) cesarean rates report shows that Turkey ranks first among OECD member countries with 2021 cesarean section data (58.4%).

Fear of childbirth (FOC), having a problematic birth experience before, clinical or obstetric complications are effective in the process of deciding on the method of delivery (Nilsson, Lundgren, Karlström, & Hildingsson, 2012). It is stated that elective cesarean rates increased due to the fear of birth. Another important role in the increase of cesarean rate is maternal request (Miller & Danoy-Monet, 2021).

In Brazil, another of the countries with the highest cesarean section rates, such as Turkey, the rate was found to be 57% in 2014. Entringer, Pinto and Gomes (2018) conducted a cost-effectiveness analysis of natural birth and elective cesarean section. It was found that the unit cost of natural birth procedure is higher than elective cesarean delivery, but when maternal and neonatal health results are considered after birth, natural birth is more cost-effective than cesarean delivery for primiparous pregnant women with normal risk. Cesarean section increases the risk of admission to the intensive care unit for the mother and baby. In today's world where cesarean rates and unnecessary interventions are increasing, we think that raising awareness about natural birth is especially important for pregnant women so that they rely on their own bodies and take responsibility to reduce cesarean rates.

There are measurement tools in the literature that evaluate the birth experience from different aspects. The Perceptions of Labor and Delivery Scale (Czarnocka & Slade, 2000), Childbirth Experience Questionnaire (Dencker, Taft, Bergqvist, Lilja, & Berg, 2010), The Labour Agentry Scale (Hodnett & Simmons-Tropea, 1987), Birth Expectation/Experience Scale (W-DEQ) (Wijma, Wijma, & Zar, 1998), Perception of Birth Scale (ADAO) (Fawcett & Knauth 1996), Birth Self-Efficacy Scale (CBSEI) (Ip, Chan, & Chien, 2005) were adapted to Turkish. Due to the lack of an adequate measurement tool to measure women's perception of natural birth, there are difficulties in researching natural birth perception. For these reasons, in this study, a measurement tool was developed to determine women's perception of natural birth.

Materials and methods

This study is methodological research conducted with the aim of developing the Natural Birth Perception Scale (NBPS).

The study was carried out in 3 sections. In the first section of the study, the natural birth perception scale was drafted, in the second section, this draft was presented to expert opinion, and in the third section, data were collected from the participants.

Section 1. Scale Development

In order to determine the tentative items of the Birth Perception Scale, the relevant literature was examined. Making a point of that the scale questions are understandable and relevant, a question pool of 22 items was prepared.

Section 2. Expert's Opinion

Expert opinions were obtained through the expert evaluation form prepared by the researchers in order to determine whether the items of the measurement tool were suitable for the purpose of measurement and represent the area to be measured. The Davis Technique, which is one of the most preferred methods in content validity studies, was used while obtaining expert opinions (Davis, 1992). The scale form was submitted to 10 experts (6 faculty members from the Midwifery Department, 1 Turkish Language specialist, 1 statistician, and 2 clinician midwives) for evaluation. In line with the opinions of the experts, the scale form was ended with 14 items with 3 sub-dimensions scored between 0-2.

Section 3. Application of the scale

For the study sample, consent was obtained from the ethics committee of a University Medical Faculty. The pregnant women were informed about the purpose and duration of the study and their voluntary consent was obtained. During the data collection phase, the rules of Helsinki declaration were observed.

The population of this study was consisted by pregnant women (n = 356) enrolled at a Obstetrics and Gynecology Polyclinic of Training and Research Hospital in Amasya, Turkey between March 2019 and May 2019. Individuals with a high-risk pregnancy, chronic illness, psychiatric problems, and communication issues, 1st. and 2nd. Trimester pregnancies and adolescent pregnancies were not included in the study. While determining the sample, Nunnally (1978) stated that there should be 10 participants for each item in the scale. For factor analysis, a study was conducted with 257 participant groups.

The scale was applied during admission to the polyclinic room before any intervention was required. A draft of the scale was applied to 20 individuals in a pilot study and then evaluated for comprehensibility and amended to include any necessary revisions.

Data analysis

Data was transferred to the IBM SPSS Statistics 20 program. In an evaluation of the study data, the distribution of the sample mean approached normal distribution for $n \to \infty$ in numeric variables according to the Law of Large Numbers (İnal & Günay, 2002). Descriptive statistics (number and percentage) were provided for the categorical variables. Expert's opinions were evaluated with the Kendall's W test. The suitability of factor analysis was inspected using the Kaiser–Meyer–Olkin (KMO) test (Kaiser, 1974) and Bartlett's test of sphericity (Tobias & Carlson, 1969). For all analyses, $p < 0.05$ was considered statistically significant.

Results

The research results were analyzed under three titles. The first includes the personal information of the participants, the second is the opinions of women on birth, and the third is the analysis of the scale items.

Demographic features

The minimum age of the participants was 18 and the maximum was 43, the average age was 27.81 ± 5.23, the week of gestation was minimum 24 and the maximum 41, and their average was 36.23 ± 2.34. In the study, 39.3% of them had their first pregnancy and their average number of pregnancies was 2.07 ± 1.09.

Table 1. Descriptive data for the scale questions (n:257).

Demographic features		n	%
Age	18-22	34	13.1
	23-28	113	44.0
	29-34	79	31.0
	35-39	26	10.0
	40 and over	5	1.9
Working status	Working	44	17.1
	Not working	213	82.9
Education	Primary school	27	10.5
	Secondary school	73	28.4
	High school	84	32.7
	Associate degree	33	12.8
	Graduate	37	14.4
	Postgraduate	3	1.2
Number of pregnancies	1	101	39.3
	2	72	28.0
	3	53	20.6
	4	26	10.1
	5	5	2.0
Total		257	100

Opinions on birth

When the pregnant women were asked what the word 'birth' mean to them, the first three answers were found to be having a baby/child (19.8%), being a mother (11.7%), and fear (10.9%) (Table 2). Among the participants, 51.8% of them stated that they had heard the term natural birth (Table 2).

Table 2. Participants' thoughts on birth.

Expression		n	%
The first word that comes to mind when you think of birth	Baby/child	51	19.8
	Being a mother	30	11.7
	Fear	28	10.9
	Pain	20	7.8
	Excitement	18	7
	Happiness	12	4.7
	Miracle	10	3.9
	Natural birth	8	3.1
	New beginning-life	7	2.7
	Stress	5	1.9
	Other	17	6.6
	No answer	51	19.8
Your birth preference	Natural birth	188	73.2
	Cesarean section	63	24.5
	Epidural normal birth	6	2.3
The person you want to be with you at the time of birth?	Partner	136	52.9
	Mom	88	34.2
	Older sister/sister	6	2.3
	Parten and mom	12	4.7
	No answer	15	5.9
Did you hear the term natural birth before?	Yes	134	52.1
	No	123	47.9
What information came closest to you in terms of natural birth?	Painless delivery method	48	18.7
	Cause maternal death	10	3.9
	Covers home birth	51	19.8
	No answer *	148	57.6

Natural birth perception scale evaluation

Item analysis

The scale pool was composed of 22 items. Those with a item loading below 0.4 were taken. In this case, 14 items were obtained. As can be seen in the table below, the Kaiser Meyer Olkin coefficient was 0.917 and the Bartlett test result was found to be p = 0,001 (Table 3). Consequently, it can be said that the final version of the scale, which was reduced to 14 items, is sufficiently reliable.

Table 3. KMO and Barlett Test Values.

Kaiser- Meyer-Olkin Measure of sampling Adequacy		0.917
Barlett's Test of Sphericity	Aprox. Chi Square	1471.867
	Sig.	0.001

Scale validity

After being evaluated by experts, factor analysis was applied to the remaining 14 items as a result of content validity analysis. In order to perform factor analysis, it should be decided whether the data structure is suitable for factor analysis or not. Bartlett test and Kaiser Meyer Olkin (KMO) test methods were used for this. As a result of the factor analysis, the Kaiser Meyer Olkin (KMO) coefficient was found to be ,917 and the Bartlett test result was found to be statistically significant (X2 = 1471.869 p = 0,001). The KMO value being close to 1 indicates that the sample size is at an appropriate level for factor analysis (Tavşancıl, 2014).

In our study, KMO's being, 917 showed that sample adequacy was suitable for factor analysis. The significance of the Barlett test shows that the correlation matrix of the items in the scale is suitable for factor analysis.

Factor analysis

As a result of the factor analysis, it was seen that the items were grouped under three factors. The eigenvalue of each factor was above 1. The total variance formed by these three factors was 58.9%.

As seen in Figure 1, when Screen Plot is examined, the falling point of the graph is the 3rd factor. It is seen that the items in three sub-dimensions are grouped in a logical way. Table 4 shows the variance amounts of each sub-dimension.

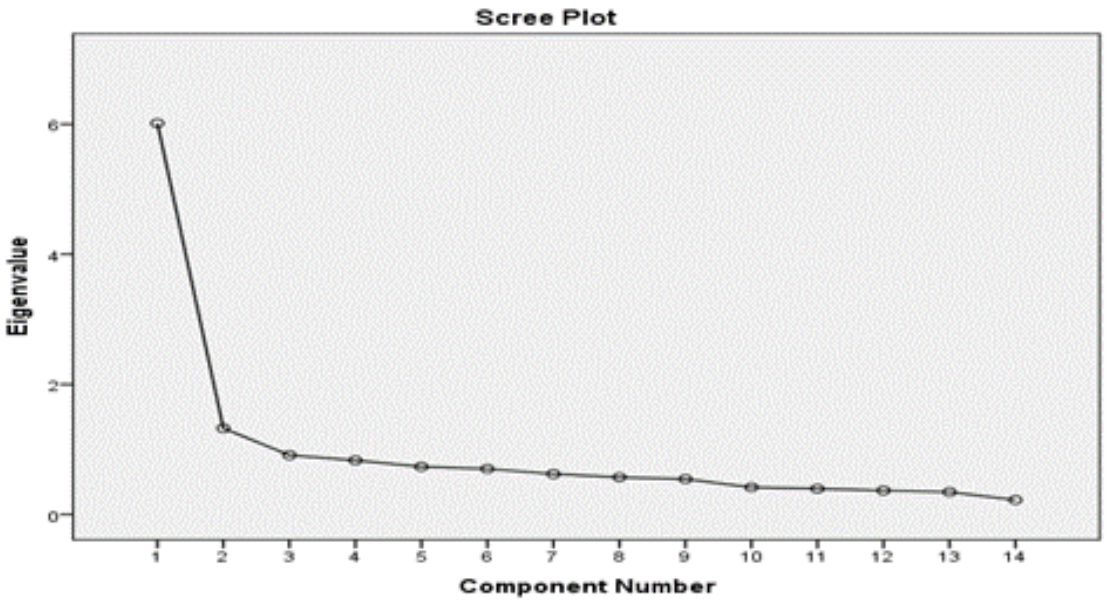

Figure 1. Scree Plot.

Table 4. Variance Amounts of the Factors.

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.011	42.939	42.939	6.011	42.939	42.939	4.152	29.659	29.659
2	1.325	9.462	52.401	1.325	9.462	52.401	2.165	15.466	45.126
3	.912	6.512	58.913	.912	6.512	58.913	1.930	13.787	58.913
4	.831	5.938	64.851						
5	.733	5.234	70.085						
6	.701	5.009	75.094						
7	.622	4.445	79.539						
8	.571	4.080	83.618						
9	.544	3.887	87.505						
10	.417	2.980	90.485						
11	.395	2.824	93.309						
12	.369	2.635	95.944						
13	.345	2.463	98.406						
14	.223	1.594	100.000						

Extraction Method: Principal Component Analysis.

Each item and the factors they entered were examined, and the first factor was named "Birth and coping methods", the second factor "Movement, position, waiting", and the third factor "Team". Items did not rate high on more than one factor. Factor loadings were between .463 and .846. (Table 5).

Spearmen correlation analysis was performed to look at the relationship between the scale and its sub-dimensions. A statistically positive significant relationship was found between the scale and its sub-dimensions after correlation analysis (Table 6).

Table 5. Component Matrix after Factor Analysis.

Items	Sub-dimensions		
	1 Birth and coping methods	2 Movement, position, waiting	3 Team
Item 13 Emotional support should be given at birth.	.764		
Item 10 Taking a bath relaxes the woman.	.755		
Item 17 The baby is given to the mother as soon as it is born.	.694		
Item 9 Woman is often encouraged.	.654		
Item 8 The woman should receive prenatal education.	.652		
Item 19 The baby is breastfed within the first half an hour after birth.	.641		
Item 11 Practicing massage techniques relaxes the woman.	.633		
Item 14 Contractions should start on their own.	.599		

Item 15 Spouse takes an active role.	.463		
Item 5 Different positions are used such as standing, walking, squatting.		0.789	
Item 3 The woman has freedom of movement.		0.789	
Item 4 No time limit, patiently waited.		0.659	
Item 22 Birth is a team work in which the woman is put at the center.			0.609
Item 16 Only medical personnel and supporters are present at the place of delivery.			0.846
Cronbach alpha values	0.89	0.68	0.57

Table 6. Correlations.

			Factor1	Facto2	Facto3	Total score
Spearman's rho	Factor1	Correlation Coefficient	1.000	.227**	.319**	.741**
		Sig. (2-tailed)	.	.000	.000	.000
		N	257	257	257	257
	Factor2	Correlation Coefficient	.227**	1.000	.232**	.685**
		Sig. (2-tailed)	.000	.	.000	.000
		N	257	257	257	257
	Factor3	Correlation Coefficient	.319**	.232**	1.000	.569**
		Sig. (2-tailed)	.000	.000	.	.000
		N	257	257	257	257
	Total score	Correlation Coefficient	.741**	.685**	.569**	1.000
		Sig. (2-tailed)	.000	.000	.000	.
		N	257	257	257	257

**Correlation is significant at the 0.01 level (2-tailed).

The repeated test for the invariance of the scale with respect to time could not be performed because the study was applied to pregnant women in the last trimester. The scale is scored as 2 ‘agree’, 1 ‘undecided’, 0 ‘disagree’. Negative items are not included. As the score obtained from the scale increases, the perception of natural birth increases positively.

Scale reliability

The Cronbach alpha coefficient is frequently used in the reliability analysis of Likert-type scales and is a measure of the internal consistency (homogeneity) of the items in the measurement tool (Tavşancıl, 2014). The fact that this coefficient is between, 60 and, 79 indicates that the measuring tool is quite reliable, and between, 80 and, 100 shows that it is highly reliable. In addition, the Cronbach alpha reliability coefficient should be, 70 and above in newly created measurement tools (Tavşancıl, 2014). Cronbach's Alpha reliability coefficient was found as, 89 in the internal consistency analysis conducted to determine the reliability of the Natural Birth Scale (Table 5).

The scale score is minimum 0 and maximum 28 points, and as the score obtained from the scale increases, the natural birth perception increases positively. In the study, it is seen that the mean scale score was 24.12 ± 5.15.

Discussion

According to the results of our study, the Natural Birth Perception Scale, which we developed for the first time, was found to be valid and reliable in pregnant women in the last trimester. The final version of the scale consists of 14 items and 3 sub-dimensions. The first of the sub-dimensions was determined as birth and coping methods, the second as movement, position, waiting and the third as team, and as the score on the scale increases, the level of natural perception of birth also increases positively. The Natural Birth Perception Scale, which we think will be an important measurement tool for women, healthcare professionals and midwives, is an unprecedented scale as far as we know.

Conclusion

It has been determined that the Natural Birth Perception Scale is a measurement tool that can be used safely in the centers where pregnant women go to perinatal services, in obstetrics clinics, delivery rooms and delivery services to detect pregnant women with a negative perception of birth.

In future studies, it will be appropriate to re-evaluate the psychometric properties of the Natural Birth Perception Scale in larger sample samples and at different stages of the birth process.

References

Aydın, N., & Yıldız, H. (2018). Effects of traumatic birth experience and transmission intergenerational.*Journal of Human Sciences, 15*(1), 604-618.

Betran, A. P., Ye, J., Moller, A.-B., Zhang, J., Gulmezoglu, A. M., & Torloni, M. R. (2016). The Increasing Trend in Caesarean Section Rates: Global, Regional and National Estimates: 1990-2014. *PLoS One, 11*(2), e0148343. DOI: https://doi.org/10.1371/journal.pone.0148343.

Bülbül, T., Özen, B., Çopur, A., & Kayacık, F. (2016). Investigation the fear of labor and decision making about delivery type in pregnant. *Journal of Health Sciences, 25*(3), 126-130. DOI: https://doi.org/10.34108/eujhs.552894.

Crowther, S. A., Hall, J., Balabanoff, D., Baranowska, B., Kay, L., Menage, D., & Fry, J. (2021). Spirituality and childbirth: An international virtual co–operative inquiry. *Women and Birth*, *34*(2), e135-e145.https://doi.org/10.1016/j.wombi.2020.02.004

Czarnocka, J., & Slade, P. (2000). Prevalence and predictors of post-traumatic stress symptoms following childbirth. *British Journal of Clinical Psychology, 39*(1), 35-51. DOI: https://doi.org/10.1348/014466500163095.

Davis, L. L. (1992). Instrument review: Getting the most from a panel of experts. *Applied Nursing Research, 5*(4), 194-197. DOI: https://doi.org/10.1016/S0897-1897(05)80008-4.

Dencker, A., Taft, C., Bergqvist, L., Lilja, H., & Berg, M. (2010). Childbirth experience questionnaire (CEQ): development and evaluation of a multidimensional instrument. *BMC Pregnancy and Childbirth, 10*(81). DOI: https://doi.org/10.1186/1471-2393-10-81.

Entringer, A. P., Pinto, M., & Gomes, M. A. S. M. (2018). Cost-effectiveness analysis of natural birth and elective C-section in supplemental health. *Revista de Saude Publica, 52*. DOI: https://doi.org/10.11606/S1518-8787.2018052000373.

Fawcett, J., & Knauth, D. (1966). The factor structure of the perception of birth scale. *Nursing Research, 45*(2), 83-86. DOI: https://doi.org/10.1097/00006199-199603000-00005.

Geller, E. J., Wu, J. M., Jannelli, M. L., Nguyen, T. V., & Visco, A. G. (2010). Maternal outcomes associated with planned vaginal versus planned primary cesarean delivery. *American Journal of Perinatology, 27*(9), 675-683. DOI: https://doi.org/10.1055/s-0030-1249765.

Gutteridge, K. (2020). Understanding fear, physiology and finding an explanation of how the mind influences us during childbearing. In E. K. Gutteridge (Ed.), *Understanding anxiety, worry and fear in childbearing*: *A resource for midwives and clinicians* (pp. 31–52). Springer International Publishing. https://doi.org/10.1007/978-3-030-21063-2_3

Hacettepe University Institute of Population Studies [HUIPS]. (2018). *Turkey Demographic and Health Survey*. Ankara, Turkey: Elma Technic Printing Limited Company. Retrieved fromwww.TDHS2018_mainReport_compressed.pdf

Hodnett, E. D., & Simmons-Tropea, D. A. (1987). The labour agentry scale. Psychometric properties of an instrument measuring control during childbirth. *Research in Nursing & Health, 10*(5), 301-310. DOI: https://doi.org/10.1002/nur.4770100503.

Inal, H. C., & Günay, S. (2002). *Probability and mathematical statistics*. Ankara: TR: Hacettepe University Press.

Ip, W.-Y., Chan, D., & Chien, W.-T. (2005). Chinese version of the childbirth self-efficacy inventory. *Journal of Advanced Nursing, 51*(6), 625-633. DOI: https://doi.org/10.1111/j.1365-2648.2005.03548.x.

Isbir, G. G. (2015). Roles of hormones in birth: natural birth. İn H. Okumuş (Ed.). *Natural birth* (p. 101-107). İstanbul, TR: Deomed Publishing.

Kaiser, H. F. (1974). An index of f|actorial simplicity. *Psychometrika, 39*, 31-36. DOI: https://doi.org/10.1007/BF02291575.

Karaman, Ö. E., & Yıldız, H. (2018). Freedom of movement during labor: how? what does it provide? what is the role of obstetrics and gynecology nurses? *Turkiye Klinikleri Journal of Nursing Sciences, 10*(1), 78-87. DOI: https://doi.org/10.5336/nurses.2017-57080.

Lothian, J. A., Amis, D., & Crenshaw, J. (2007). Care Practice #4: No Routine İnterventions. *Journal of Perinatal Education, 16*(3), 29-34. DOI: https://doi.org/10.1624/105812407X217129.

Lupu VV, Miron IC, Raileanu AA, Starcea IM, Lupu A, Tarca E, Mocanu A, Buga AML, Lupu V, Fotea S (2023). Difficulties in Adaptation of the Mother and Newborn via Cesarean Section versus Natural Birth—A Narrative Review. *Life*; 13(2):300. https://doi.org/10.3390/life13020300

Mansfield, B. (2008). Social nature of natural childbirth. *Social Science & Medicine, 66*(5), 1084-1094. DOI: https://doi.org/10.1016/j.socscimed.2007.11.025.

Miller, Y.D., Danoy-Monet, M. Reproducing fear: the effect of birth stories on nulligravid women's birth preferences (2021). *BMC Pregnancy Childbirth, 21*, 451. https://doi.org/10.1186/s12884-021-03944-w

Nilsson, C., Lundgren, I., Karlström, A., & Hildingsson, I. (2012). Self reported fear of childbirth and its association with women's birth experience and mode of delivery: A longitudinal population-based study. *Women and Birth, 25*(3), 114-121. DOI: https://doi.org/10.1016/j.wombi.2011.06.001.

Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York, NY: McGraw-Hill.

Organisation for Economic Cooperation and Development [OECDiLibrary] (2023). Health care use. Caesarean sections (indicator). DOİ: https://doi.org/10.1787/adc3c39f-en.

Rathfisch, G. (2012). *Natural birth philosophy*. İstanbul, TR: Turkey Nobel Medical Bookstore.

Souza, J. P., Betran, A. P., Dumont, A., Mucio, B., Gibbs Pickens, C. M., Deneux-Tharaux, C., ... Gülmezoglu, A. M. (2016). A global reference for caesarean sectionrates (C-Model): a multi country cross-sectional study. *BJOG – An International Journal of Obstetrics & Gynaecology, 123*(3), 427-436. DOİ: https://doi.org/10.1111/1471-0528.13509.

Tavşancıl, E. (2014). *Measuring attitudes and data analysis with SPSS* (5th ed.). Ankara, TR: Nobel Publication Distribution.

Tobias, S., & Carlson, J. E. (1969). Brief report: Bartlett's test of sphericity and chance findings in factor analysis. *MultivariateBehavioral Research, 4*(3), 375-377. DOI: https://doi.org/10.1207/s15327906mbr0403_8.

Wijma, K., Wijma, B., & Zar, M. (1998). Psychosomatic aspects of W-DEQ: A new questionnaire for measurement of fear of childbirth. *Journal of Psychosomatic Obstetrics & Gynecology, 19*(2), 84-97. DOI: https://doi.org/10.3109/01674829809048501.

World Health Organization [WHO]. (2015). *WHO statement on cesarean birth rates*. Retrieved on November 20, 2022 fromhttp://apps.who.int/iris/bitstream/10665/161442/11/WHO_RHR_15.02_tur.pdf?ua=1

Yalnız, H., Canan, F., Ekti Genç, R., Kuloğlu, M. M., & Geçici, Ö. (2016). Development of a scale of traumatic childbirth perception. *Turkish Medical Student Journal*, *8*(3), 81-88.