MEASURING WOMEN'S SATISFACTION WITH CHILDBIRTH: A LITERATURE REVIEW OF MEASUREMENT PROPERTIES
MERJENJE ZADOVOLJSTVA ŽENSK S PORODOM: PREGLED LITERATURE O LASTNOSTIH MERJENJA

Kateřina RATISLAVOVÁ [1] , **Jana HOROVÁ** [1*] , **Patrice MAREK** [2]

[1] University of West Bohemia, Faculty of Health Care Studies, Husova street 11, Pilsen, 301 00, Czech Republic
[2] University of West Bohemia, Faculty of Applied Sciences, Technicka street 8, Pilsen, 301 00, Czech Republic

ABSTRACT

Keywords:
Women's satisfaction with birth
Psychometric properties of assessment tools
Systematic reviews

Introduction: Patient satisfaction is an important indicator of the quality of care provided. Evaluating women's satisfaction with childbirth is essential to improving obstetric care and ensuring a positive experience for mothers and newborns. The tools used to measure women's satisfaction with childbirth are very heterogeneous and multidimensional. Assessment tools used in practice should be tested and meet characteristics that are consistently validated.

The aim is to identify currently available instruments measuring women's satisfaction with childbirth and to evaluate their structure, content and psychometric properties.

Methods: A systematic search for sources was carried out according to the criteria set. For the included studies, psychometric properties were assessed in accordance with the principles of the guideline for completing systematic reviews of patient-reported outcome measures, COSMIN.

Results: The review included 31 studies that reported the psychometric properties of six measurement instruments (questionnaires, scales). Content validity, structural validity, internal consistency, reliability and cross-cultural validity were assessed for the included studies. The Childbirth Experience Questionnaire (CEQ/CEQ2) and Birth Satisfaction Scale - Revised (BSS-R) were the most commonly used questionnaires in the studies.

Conclusions: Thorough testing of tools measuring women's satisfaction with childbirth, and adapting them to cultural and social contexts, is still essential. It is crucial that valid and reliable questionnaires are available for midwives in practice, for use in research, to inform clinical practice and for the results to help develop the services offered.

IZVLEČEK

Ključne besede:
zadovoljstvo žensk s porodom
psihometrične lastnosti orodij za ocenjevanje
sistematični pregledi

Uvod: *Zadovoljstvo bolnikov je pomemben kazalnik kakovosti zagotovljene oskrbe. Ocenjevanje zadovoljstva žensk s porodom je bistveno za izboljšanje porodniške oskrbe in zagotavljanje pozitivne izkušnje za matere in novorojenčke. Orodja za merjenje zadovoljstva žensk s porodom so zelo heterogena in večdimenzionalna. Orodja za ocenjevanje, ki se uporabljajo v praksi, bi morala biti preizkušena in imeti lastnosti, ki se dosledno potrjujejo.*

Cilj je opredeliti trenutno razpoložljive instrumente za merjenje zadovoljstva žensk s porodom ter oceniti njihovo strukturo, vsebino in psihometrične lastnosti.

Metode: *Opravljeno je bilo sistematično iskanje virov skladno z določenimi merili. Za vključene študije so bile ocenjene psihometrične lastnosti skladno z načeli smernic za izvajanje sistematičnih pregledov merjenja rezultatov, ki jih sporočajo bolniki COSMIN.*

Rezultati: *Pregled je zajemal 31 študij, ki so poročale o psihometričnih lastnostih šestih merilnih instrumentov (vprašalniki, lestvice). Za vključene študije so bile ocenjene veljavnost vsebine, strukturna veljavnost, notranja usklajenost, zanesljivost in medkulturna veljavnost. Najpogosteje uporabljena vprašalnika v študijah sta o porodni izkušnji (Childbirth Experience Questionnaire - CEQ/CEQ2) in revidirana lestvica zadovoljstva s porodom (Birth Satisfaction Scale - Revised - BSS-R).*

Zaključki: *Temeljito preizkušanje orodij za merjenje zadovoljstva žensk s porodom in njihovo prilagajanje kulturnim in družbenim okoljem je še vedno izjemno pomembno. Ključno je, da so na voljo veljavni in zanesljivi vprašalniki, ki se lahko uporabljajo v babiški praksi, v raziskavah, za podporo klinični praksi in za doseganje rezultatov, ki bodo prispevali k razvoju ponujenih storitev.*

*Correspondence: jhorova@kos.zcu.cz

1 INTRODUCTION

Maternal and child health has been a priority public health issue for decades and is internationally considered one of the best measures for assessing the quality of healthcare. Currently, health systems are moving towards high-value care tailored to each individual patient. Patient satisfaction is generally an important indicator of the quality of care provided. Based on patient satisfaction results, measures can be taken to improve services. One way in which patient satisfaction can be assessed is through the development and application of satisfaction measurement tools (1).

As in other disciplines, perinatal care can benefit from systematic evaluation of patient-reported experience measures to improve the quality of care. Assessing women's satisfaction with childbirth is a complex task that is increasingly important for healthcare providers, administrators and policy makers. It is essential to take into account women's views and experiences in order to make improvements in midwifery care and ensure a positive experience for mothers and newborns. The most common way of assessing women's satisfaction with childbirth is through the use of questionnaires (2). Questionnaires provide an effective way of obtaining information about patient experience and allow for comparison.

As birth satisfaction is a multidimensional construct, the instruments used to measure it are also very heterogeneous. The inconsistent approach to assessing women's satisfaction with childbirth complicates the possibilities of comparison, both within a health system in one country and internationally. Authors of birth satisfaction questionnaires often focus only on some aspects of satisfaction, rather than on satisfaction as a whole. Moreover, it is evident that many questionnaires used to measure satisfaction with maternity care have not been thoroughly developed or tested (3, 4).

In 2017, two systematic reviews on instruments measuring women's satisfaction with childbirth were published by Nilvér et al. (5) and Blazquez et al. (2). The authors focused on assessing instruments used to measure women's satisfaction with care during childbirth related to the construction, reliability and validity of these instruments. The first review (5) analysed and evaluated thirty-six measurement tools and the second review (2) presented seventeen tools. The recommendations arising from these two studies are broadly similar. Both review studies (5, 2) emphasise the importance of identifying and assessing women's experiences and satisfaction with childbirth. Knowing and respecting the needs of patients (birth mothers) plays a very important role in the process of improving maternal and child care. They point out that despite the fact that there is a wide range of tools available to measure women's satisfaction with their birthing experience, there is great variation in their quality. Given the large number of instruments used in the literature and the lack of complete testing of many of them, the authors of the review studies recommend that researchers should not continue to develop new instruments but should seek to thoroughly test, adapt and improve those that already exist. When different instruments are used to measure the same construct of interest, it can be difficult to compare results in systematic reviews.

The aim of the literature review is:

a) to identify currently available instruments measuring women's satisfaction with childbirth;

b) to evaluate, compare and summarise their structure, content and psychometric properties.

2 METHODS

The design of the literature review was adopted. The conduct of this literature review followed the COnsensus-based Standards for the selection of health Measurement INstruments (COSMIN) guidance for completing systematic reviews of patient-reported outcome measures (6), adapted as necessary to suit this review.

2.1 Study inclusion criteria

Construct of interest
• Women's satisfaction with childbirth

Research participants
• This review includes all studies in which women participated after childbirth, regardless of weeks of pregnancy, mode of delivery or number of children.
• Studies in which participants were partners of women or health professionals were excluded.

Types of results
• This review includes full text articles in English.

Types of studies
• This review includes validation studies.
• Included are studies that reported psychometric properties related to the development, validity and reliability of instruments (questionnaires, scales) used to measure women's satisfaction with childbirth.
• Excluded studies were: case report or series, systematic review, meta-analysis, if an instrument was being used within a randomised trial or alternative study, or if the instrument was being used as part of the validation process of an alternative instrument.
• Studies reporting instruments measuring women's satisfaction with a specific birth situation (women's satisfaction in preterm birth, after caesarean section,

etc.) not related to the phenomenon of 'satisfaction' (instruments developed solely to measure specific concepts such as fear, anxiety, self-efficacy, etc.) were excluded. Studies using unidimensional instruments were also excluded.

2.2 Methods of study selection

A systematic search for studies was conducted to identify and locate relevant sources. All screening was completed by two reviewers independently (KR and JH; midwives with >15 years' experience and also researchers with >10 years' experience) and disagreements resolved through face to face discussion. Searches were conducted in Web of Science, Medline/PubMed, EBSCOhost, Science Direct, CINAHL, Wiley, Springer and ProQuest databases. Studies published in Czech or English in the period 2018-2022 were searched: "delivery" OR "lab*r" OR "birth" OR "childbirth" AND "validation" AND "questionnaire" OR "scale" OR "instrument" AND "women's satisfaction" OR "experience" OR "perception".

The identification and selection of research studies for this review are described in the PRISMA flow chart (Figure 1).

2.3 Data analysis

The psychometric properties of the measurement instruments were assessed according to the principles of the COSMIN methodology (6). Content validity, structural validity, internal consistency, reliability and cross-cultural validity were assessed. Three reviewers (KR, JH, PM – statistician and analyst) were involved in assessing the psychometric properties of the questionnaires. Results were evaluated once by each rater and inter-rater agreement was observed; any differences were resolved by discussion. Inter-rater reliability was ensured by strict adherence to the COSMIN manual for systematic reviews of PROMs (6, p. 28-32).

3 RESULTS

Thirty-one studies were included in the review (Table 1), reporting the psychometric properties of six measurement instruments (questionnaires, scales). Only one study (7) aimed to develop and validate a new measurement instrument of satisfaction with childbirth. Most researchers focused on existing instruments measuring women's satisfaction with childbirth, which is consistent with the recommendations of the authors of previous review studies (2, 5). The aim of the studies was to translate, adapt and validate the already existing instruments in a new cultural and social setting. Five original measurement tools were adapted and validated in 21 countries.

3.1 Characteristics of included instruments

All adaptations of measurement tools into a foreign language were done according to standards, most often by back-translation, expert review and pre-test (N=10-50). The structure and content of the questionnaires varied. They contain 3 to 10 different dimensions/factors and 10 to 52 items (Table 1). The items in the questionnaires were rated on a four to seven point Likert scale. The CEQ/CEQ2 questionnaire has some items rated on a visual analogue scale (12, 23).

The most frequently reported dimension was satisfaction with healthcare providers (perception of midwifery care and professional support, satisfaction with midwife, obstetrician, relationship with staff, quality of care provided). Other frequent dimensions reported were satisfaction focused on the woman herself (her emotions, perceptions of pain, feelings of safety, control, expectations, ability to participate in decision-making), support from loved ones (partner or other person present), the baby (contact, bonding) and the environment (Table 2).

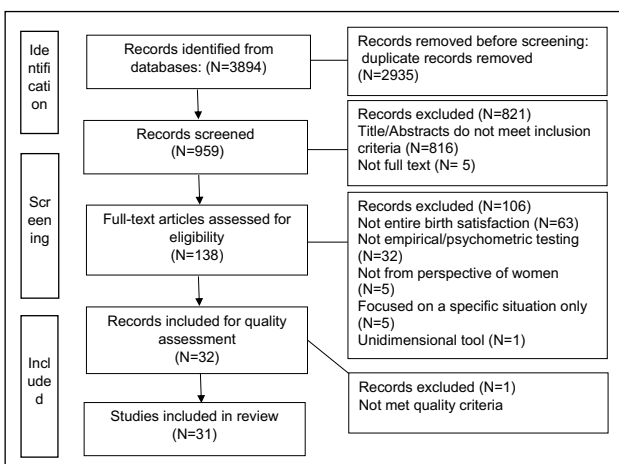Most studies have focused on women a few days to a few months postpartum, up to 5 years postpartum (37).

Figure 1. PRISMA flow diagram.

Table 1. Characteristics of included instruments.

Instrument/ abbreviation/origin	Authors	Country	Number of respondents	Number of domains/ items
Iranian women childbirth experience questionnaire IWCBEQ original	Hosseini Tabaghdehi et al., 2020 (7)	Iran	781	7 domains 52 items
Women's Views of Birth Labor Satisfaction Questionnaire Original **WOMBLSQ,** Smith, 2001 (8)	Pozo-Cano et al., 2020 (9)	Spain	385	9 domains 32 items
Questionnaire for Assessing Childbirth Experience Original **QACE,** Carquillat et al., 2017 (10)	Rodríguez Coll et al., 2021 (11)	Spain	268	4 domains 23 items
Childbirth Experience Questionnaire Original **CEQ,** Dencker, 2010 (12)	Abbaspoor et al., 2019 (13)	Iran	203	4 domains 21 items
	Mamuk et al., 2019 (14)	Turkey	250	4 domains 22 items
	Kazemi et al., 2020 (15)	Iran	250	4 domains 22 items
	Patabendige et al., 2020 (16)	Sri Lanka	309	4 domains 22 items
	da Silva Vieira et al., 2020 (17)	Brazil	308	4 domains 22 items
	Boie et al., 2020 (18)	Denmark	377	3 domains 22 items
	Parchaa et al., 2021 (19)	Mongolia	761	4 domains 20 items
	Kalok et al., 2022 (20)	Malaysia	246	4 domains 21 items
	Marques et al., 2022 (21)	Portugal	161	4 domains 20 items
	Zhu et al., 2019 (22)	China	1747	4 domains 19 items
Childbirth Experience Questionnaire 2 Original **CEQ2,** Dencker et al., 2020 (23)	Dencker et al., 2020 (23)	Sweden	682	4 domains 22 items
	Ghanbari-Homayi et al., 2019 (24)	Iran	500	4 domains 23 items
	Walker et al., 2019 (25)	United Kingdom	263	4 domains 22 items
Birth Satisfaction Scale-Revised Original **BSS-R,** Hollins Martin and Martin, 2014 (26)	Jefford et al., 2018 (27)	Australia	198	3 domains 10 items
	Škodová et al., 2019 (28)	Slovak Republic	506	3 domains 10 items
	Romero-Gonzalez et al., 2019 (29)	Spain	202	3 domains 10 items
	Skvirsky et al., 2020 (30)	Israel	288	3 domains 10 items
	Martin et al., 2020 (31)	Australia	445	3 domains 10 items
	Nasiri et al., 2021 (32)	Iran	212	3 domains 10 items
	Nespoli et al., 2021 (33)	Italy	297	3 domains 10 items

Instrument/ abbreviation/origin	Authors	Country	Number of respondents	Number of domains/ items
	Omani-Samani et al., 2021 (34)	Iran	396	2 domains 6 items
	Mortazavi et al., 2021 (35)	Iran	784	3 domains 10 items
	Zafar et al., 2021 (36)	Pakistan	200	3 domains 10 items
	Emmens et al., 2021 (37)	Netherlands	244	3 domains 10 items
	Radoš et al., 2022 (38)	Croatia	552	3 domains 10 items
	Anikwe et al., 2022 (39)	Nigeria	500	3 domains 9 items
	Özdemir Gökmen et al., 2022 (40)	Turkey	219	3 domains 10 items
	Ratislavová et al., 2022 (41)	Czech Republic	461	3 domains 10 items

Table 2. Dimensions of measurement instruments of women's satisfaction with childbirth.

Dimensions	BSS-R	CEQ	CEQ2	WOMBLSQ	QACE	IWCBEQ
Professional support and care	✓	✓	✓	✓	✓	✓
Partner support				✓		✓
Self-assessment		✓	✓		✓	
Personal attributes	✓					
Baby, bonding				✓		✓
Preparation,				✓		✓
expectations				✓		
Pain		✓	✓		✓	
Feeling safe	✓					✓
Fear, anxiety, distress						✓
Positive feelings, emotional well-being		✓	✓	✓	✓	✓
Sense of control, participation				✓		
Environment				✓		
Overall satisfaction with the childbirth						

3.2 Psychometric properties of measuring instruments

Content validity is the most important property of measurement tools. The content validity of measurement tools was assessed according to the COSMIN methodology (6). Clarity is one of the components of content validity. All the translated tools used in our review were pilot tested on the target population, which is a condition for inclusion of a study in the review (6). Face validity was performed for all studies. We report the assessment of the psychometric properties of each measurement tool according to the COSMIN manual for systematic reviews of PROMs (6, p. 28–29) in Table 3.

Table 3. Evaluation of psychometric properties of measuring instruments.

PROM	Study	Structural validity	Internal consistency		Cross-cultural validity	Reliability
			Total	Subscale		
IWCBEQ	(7)	?*	+	-	?	?
WOMBLSQ4	(9)	?	?	-	+	?
QACE	(11)	+	+	-	+	+
CEQ	(13)	?	+	-	+	+
	(14)	-	+	-	+	?
	(15)	+	+	-	+	+
	(16)	?*	+	-	+	+
	(17)	?	+	-	?	+
	(18)	?*	+	+	+	+
	(19)	-	+	-	+	?
	(20)	-	+	-	+	?
	(21)	?	+	-	+	-
CEQ 2	(22)	+	+	?	+	?
	(23)	+	+	+	+	?
	(24)	-	+	-	+	+
	(25)	?	?	-	+	-
BSS-R	(27)	-	+	-	+	?
	(28)	+	+	-	+	?
	(29)	-	+	-	+	?
	(30)	-	+	+	+	?
	(31)	+	+	+	+	?
	(32)	+	+	+	?	+
	(33)	+	-	-	+	?
	(34)	?*	-	-	+	?
	(35)	-	+	-	+	?
	(36)	-	-	-	+	?
	(37)	-	+	+	+	?
	(38)	+	+	+	+	?
	(39)	?*	+	?	?	?
	(40)	-	+	+	?	?
	(41)	+	+	+	+	?

Legend: "+" = sufficient, "-" = insufficient, "?" = indeterminate
?* only EFA (Exploratory Factor Analysis) is listed, not CFA (Confirmatory Factor Analysis)

4 DISCUSSION

The aim of this review was to identify, describe and evaluate instruments measuring women's satisfaction with childbirth. The World Health Organization (WHO) emphasized the importance of women's positive experience of childbirth in its recent document "Intrapartum care for a positive childbirth experience" (42). The importance of woman-centred care, whereby the quality of perinatal care is optimized through a holistic, human rights-based approach, is emphasised. Measuring women's satisfaction with childbirth requires valid, reliable and multidimensional tools (31).

The most commonly used questionnaires in research studies have been the Childbirth Experience Questionnaire (CEQ/CEQ2) and the Birth Satisfaction Scale-Revised (BSS-R).

The CEQ2 shows excellent psychometric properties in the study by Walker et al. (25). It contains 22 items that are rated on a 4-point Likert Scale, and three items are rated on a visual analogue scale. The CEQ2 is easy to understand and easy to complete. Items in the questionnaire focus on, for example, the woman's feelings during labour, particularly her sense of security, the midwife's behaviour, memories of the birth and the opportunity for shared decision-making during labour. The results of the questionnaire differ significantly between groups of women with different birth experiences (e.g., lower satisfaction among women with operative delivery, delivery longer than 12 hours, delivery with oxytocin augmentation) (23).

The BSS-R is a valid, reliable instrument to measure women's satisfaction after childbirth, which can be easily and quickly completed by women, with only ten items rated on a 5-point Likert Scale. The content of the questionnaire focuses on, for example, feelings of anxiety and stress during childbirth, support from staff, co-decision making, sense of control, as well as the birth itself (length, injuries). In studies by Martin et al. (31), Nasiri et al. (32), Radoš et al. (38) and Ratislavová et al. (41), the scale has excellent psychometric results. Future studies need to focus on testing the stability and reliability of an instrument over time.

The BSS-R scale is currently recommended by the International Consortium for Health Outcomes Measurement (ICHOM) as the main tool for measuring women's experiences of childbirth (43). ICHOM recommends that all obstetric care providers worldwide begin to measure satisfaction with childbirth using the BSS-R to better understand how to improve the lives of their clients. The BSS-R has been used in 39 countries and 134 sites worldwide in 2020 (44). Hollins Martin and Martin founded the Birth Satisfaction Consortium, which brings together researchers and professionals who work in perinatal care research and delivery. The consortium aims to (45): Translate and validate the BSS-R for use in different populations and cultures and make these versions available for use; Collecting data from around the world on women's experiences and satisfaction with childbirth to improve the delivery of maternity care; Identifying risk (negative) and protective (positive) factors associated with the experience of childbirth in different cultural contexts; Opportunities to consult on preventive strategies to minimize the impact of psychological trauma during childbirth in different cultural contexts; Dissemination and sharing of research findings to maternity care professionals and the general public.

In terms of the limitations affecting this review, it should be noted that only studies published in English were assessed, relatively strict inclusion criteria were applied, and additional tools may have been validated during the time we were conducting the review. Therefore, some instruments may not have been identified. In the process of assessing the psychometric properties of the questionnaires, the selection of raters/reviewers should be mentioned. Evaluating the relevance, comprehensiveness and clarity of the included studies with respect to the construct of interest and the study population requires very good expertise. Assessing the validity of measurement instruments requires knowledge of statistical methods and procedures, as well as the subjective judgment of reviewers. The erudition of the reviewers is important and should always be mentioned when presenting results for individual studies (46). We assembled our review team with an awareness of the importance of the expert erudition of the reviewers.

5 CONCLUSIONS

Thorough testing of instruments measuring women's satisfaction with childbirth, and adapting them to cultural and social contexts, is essential. Our study highlights two important and high-quality instruments that have been adapted and translated into a number of languages. This allows us to assess the quality of care provided in different countries, but also to identify cultural differences and the impact of different healthcare delivery systems on women's satisfaction with childbirth. Research suggests that monitoring women's satisfaction with childbirth gives women the opportunity to engage in perinatal care, contributes to improving the quality of care provided, and may play a role in avoiding litigation and maintaining competitive advantages for healthcare facilities whose clients are satisfied (47). It is essential that valid and reliable questionnaires are available for midwives in practice, for use in research, to inform clinical sites, and that the results help to develop the services offered.

CONFLICTS OF INTEREST

The authors have no conflict of interest to declare.

FUNDING

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

ETHICAL APPROVAL

Not applicable as the article is not based on any human data.

AVAILABILITY OF DATA AND MATERIALS

Data sharing is not applicable to this article as no datasets were generated or analysed during the current study.

ORCID

Kateřina Ratislavová:
https://orcid.org/0000-0002-3598-7322

Jana Horová:
https://orcid.org/0000-0001-9594-6066

Patrice Marek:
https://orcid.org/0000-0002-4552-9018

REFERENCES

1. Fowler G, Patterson D. Use of maternity surveys in improving the care experience – a review of the evidence. Br J Midwifery. 2013;21(6):410-415. doi: 10.12968/bjom.2013.21.6.410.

2. Blazquez AR, Corchon S, Ferrandiz FE. Validity of instruments for measuring the satisfaction of a woman and her partner with care received during labour and childbirth: Systematic review. Midwifery. 2017;55:103-112. doi: 10.1016/j.midw.2017.09.014.

3. Perriman N, Davis D. Measuring maternal satisfaction with maternity care: A systematic integrative review. Women Birth. 2016;29(3):293-299. doi: 10.1016/j.wombi.2015.12.004.

4. Sawyer A, Ayers S, Abbott J, Gyte G, Rabe H, Duley L. Measures of satisfaction with care during labour and birth: A comparative review. BMC Pregnancy Childbirth. 2013;13(1). doi: 10.1186/1471-2393-13-108.

5. Nilvér H, Begley C, Berg M. Measuring women's childbirth experiences: A systematic review for identification and analysis of validated instruments. BMC Pregnancy Childbirth. 2017;17(1). doi: 10.1186/s12884-017-1356-y.

6. Mokkink LB, Prinsen CAC, Patrick DL, Alonso J, Bouter LM, De Vet HCW, Terwee CB. COSMIN methodology for systematic reviews of Patient-Reported Outcome Measures (PROMs) user manual Version 1.0 [Internet]. 2018 [cited 2023 Jan 10]. Available from: https://cosmin.nl/wp-content/uploads/COSMIN-syst-review-for-PROMs-manual_version-1_feb-2018.pdf

7. Hosseini Tabaghdehi M, Keramat A, Shahhosseini Z, Kolahdozan S, Moosazadeh M, Motaghi Z. Development and psychometric properties of Iranian women childbirth experience questionnaire. Nursing Open. 2021;8(3):1360-1368. doi: 10.1002/nop2.752.

8. Smith LFP. Development of a multidimensional labour satisfaction questionnaire: Dimensions, validity, and internal reliability. Quality Health Care. 2001;10:17-22.

9. Pozo-Cano MD, Martín-Salvador A, Pérez-Morente MÁ, Martínez-García E, Luna del Castillo JD, Gázquez-López M, et al. Validation of the Women's Views of Birth Labor Satisfaction Questionnaire (WOMBLSQ4) in the Spanish population. Int J Environ Res Publ Health. 2020;17(15). doi: 10.3390/ijerph17155582.

10. Carquillat P, Vendittelli F, Perneger T, Guittier MJ. Development of a Questionnaire for Assessing the Childbirth Experience (QACE). BMC Pregnancy Childbirth. 2017;17(1). doi: 10.1186/s12884-017-1462-x.

11. Rodríguez Coll P, Casañas R, Collado Palomares A, Maldonado Aubian G, Salgado Poveda MI, Espada-Trespalacios X, et al. Validation and psychometric properties of the Spanish version of the Questionnaire for Assessing the Childbirth Experience (QACE). Sexual. 2021;27. doi: 10.1016/j.srhc.2020.100584.

12. Dencker A, Taft C, Bergqvist L, Lilja H, Berg M. Childbirth experience questionnaire (CEQ): Development and evaluation of a multidimensional instrument. BMC Pregnancy Childbirth. 2010;10(1). doi: 10.1186/1471-2393-10-81.

13. Abbaspoor Z, Moghaddam Banaem L, Ronaghi S, Dencker A. Translation and cultural adaptation of the Childbirth Experience Questionnaire (CEQ) in Iran. Iran J Nurs Midwifery Res. 2019;24(4):296-300. doi: 10.4103/ijnmr.IJNMR_103_18.

14. Mamuk R, Şahin N, Dişsiz M. The Turkish Version of the Childbirth Experience Questionnaire (CEQ): Reliability and validity assessment. Bakırköy Tıp Dergisi. 2019;15(4):265-271. doi: 10.4274/BTDMJB.galenos.2019.20190123082356.

15. Kazemi S, Dencker A, Pazandeh F, Montazeri A, Sedigh-Mobarakabadi S, Hajian S. Psychometric evaluation of the Persian version of the Childbirth Experience Questionnaire (CEQ). Biomed Res Int. 2020;6879283. doi: 10.1155/2020/6879283.S.

16. Patabendige M, Palihawadana TS, Herath RP, Wijesinghe PS. Childbirth Experience Questionnaire (CEQ) in the Sri Lankan setting: Translation, cultural adaptation and validation into the Sinhala language. BMC Res Notes. 2020;13(1). doi: 10.1186/s13104-020-05380-z.

17. da Silva Vieira RCM., Ferreira CHJ, de Carvalho Cavalli R, do Prado MLR, Beleza ACS, Driusso P. Cross-cultural adaptation and psychometric evaluation of the Brazilian Portuguese version of the Childbirth Experience Questionnaire. BMC Pregnancy Childbirth. 2020; 20:477. doi: 10.1186/s12884-020-03163-9.

18. Boie S, Lauridsen HH, Glavind J, Smed MK, Uldbjerg N, Bor P. The Childbirth Experience Questionnaire (CEQ)—validation of its use in a Danish-speaking population of new mothers stimulated with oxytocin during labour. PLoS ONE 2020;15(5):e0233122. doi: 10.1371/journal.pone.0233122.

19. Parchaa T, Togoobaatar G, Fukuzawa RK, Chunagsuren B, Tseleejav B, Nyam N, Katsumata AT. Translation and validation of the Mongolian version of the Childbirth Experience Questionnaire. J Patient Exp. 2021; 8:23743735211060636. doi: 10.1177/23743735211060636.

20. Kalok A, Nordin N, Sharip S, Abdul Rahman R, Shah SA, Abdullah Mahdy Z, Kamisan Atan I. Psychometric evaluation of the Malay version of the Childbirth Experience Questionnaire (CEQ-My). Int J Environ Res Public Health. 2022;19(13):7644. doi: 10.3390/ijerph19137644.

21. Marques MJP, Zangão O, Miranda L, Sim-Sim M. Childbirth Experience Questionnaire: Cross-cultural validation and psychometric evaluation for European Portuguese. Womens Health (Lond). 2022;18:17455057221128121. doi: 10.1177/17455057221128121.

22. Zhu X, Wang Y, Zhou H, Qiu L, Pang R. Adaptation of the Childbirth Experience Questionnaire (CEQ) in China: A multisite crosssectional study. PLoS ONE. 2019;14(4):e0215373. doi: 10.1371/journal.pone.0215373.

23. Dencker A, Bergqvist L, Berg M, Greenbrook JTV, Nilsson C, Lundgren I. Measuring women's experiences of decision-making and aspects of midwifery support: A confirmatory factor analysis of the revised Childbirth Experience Questionnaire. BMC Pregnancy Childbirth. 2020;20(1). doi: 10.1186/s12884-020-02869-0.

24. Ghanbari-Homayi S, Dencker A, Fardiazar Z, Jafarabadi MA, Mohammad-Alizadeh-Charandabi S, Meedya S, et al. Validation of the Iranian version of the childbirth experience questionnaire 2.0. BMC Pregnancy Childbirth. 2019;19(1). doi: 10.1186/s12884-019-2606-y.

25. Walker KF, Dencker A, Thornton JG. Childbirth experience questionnaire 2: Validating its use in the United Kingdom. Eur J Obstet Gynecol Reprod Biol X. 2019;5:100097. doi: 10.1016/j.eurox.2019.100097.

26. Hollins Martin CJ, Martin CR. Development and psychometric properties of the Birth Satisfaction Scale-Revised (BSS-R). Midwifery. 2014;30(6):610-619. doi: 10.1016/j.midw.2013.10.006.

27. Jefford E, Hollins Martin CJ, Martin CR. Development and validation of the Australian version of the Birth Satisfaction Scale-Revised (BSS-R). J Reprod Infant Psychol. 2018;36(1):42-58. doi: 10.1080/02646838.2017.1396302.

28. Škodová Z, Nepelová Z, Grendár M, Bašková M. Psychometric properties of the Slovak version of the Birth Satisfaction Scale (BSS) and Birth Satisfaction Scale-Revised (BSS-R). Midwifery. 2019;79. doi: 10.1016/j.midw.2019.102550.

29. Romero-Gonzalez B, Peralta-Ramirez MI, Caparros-Gonzalez RA, Cambil-Ledesma A, Hollins Martin CJ, Martin CR. Spanish validation and factor structure of the Birth Satisfaction Scale-Revised (BSS-R). Midwifery. 2019;70:31-37. doi: 10.1016/j.midw.2018.12.009.

30. Skvirsky V, Taubman-ben-ari O, Hollins Martin CJ, Martin CR. Validation of the Hebrew Birth Satisfaction Scale – Revised (BSS-R) and its relationship to perceived traumatic labour. J Reprod Infant Psychol. 2020;38(2):214-220. doi: 10.1080/02646838.2019.1600666.

31. Martin CR, Jefford E, Hollins Martin CJ. Crisis, what crisis? Replicability of the key measurement characteristics of the Australian version of the Birth Satisfaction Scale—Revised. Int J Childbirth. 2020;10(3):140-150. doi: 10.1891/IJCBIRTH-D-20-00006.

32. Nasiri S, Kariman N, Ozgoli G. Psychometric properties of the Iranian version of Birth Satisfaction Scale-Revised. J Res Med Sci. 2020;25:90. doi: 10.4103/jrms.JRMS_248_19.

33. Nespoli A, Colciago E, Fumagalli S, Locatelli A, Hollins Martin CJ, Martin CR. Validation and factor structure of the Italian version of the Birth Satisfaction Scale-Revised (BSS-R). J Reprod Infant Psychol. 2021;39(5):516-531. doi: 10.1080/02646838.2020.1836333.

34. Omani-Samani R, Hollins Martin CJ, Martin CR, Maroufizadeh S, Ghaheri A, Navid B. The Birth Satisfaction Scale-Revised Indicator (BSS-RI): A validation study in Iranian mothers. J Matern Fetal Neonatal Med. 2021;34(11):1827-1831. doi: 10.1080/14767058.2019.1651265.

35. Mortazavi F, Mehrabadi M, Hollins Martin CJ, Martin CR. Psychometric properties of the birth satisfaction scale-revised (BSS-R) in a sample of postpartum Iranian women. Health Care Women Int. 2021;42(4-6):836-851. doi: 10.1080/07399332.2020.1802464.

36. Zafar S, Tayyab F, Liaqat A, Sikander S, Hollins Martin CJ, Martin CR. Translation and validation of the Birth Satisfaction Scale-Revised in Urdu for use in Pakistan. Int J Childbirth. 2021;11(2):72-83. doi: 10.1891/IJCBIRTH-D-21-00001.

37. Emmens B, Hollins Martin CJ, Martin CR. Translation and validation of the Dutch version of the Birth Satisfaction Scale-Revised (BSS-R). J Reprod Infant Psychol. 2021;1-15. doi: 10.1080/02646838.2021.1979200.

38. Radoš NS, Matijaš M, Brekalo M, Hollins Martin CJ, Martin CR. Further validation of the Birth Satisfaction Scale-Revised: Factor structure, validity, and reliability. Curr Psychol. 2022; 42:13693-13702. doi: 10.1007/s12144-021-02688-2.

39. Anikwe Ch, Osita US, Mbanefo OP, Asiegbu OGK, Nnadozie UU, Eleje GU, et al. The Birth Satisfaction Scale: Igbo adaptation, validation, and reliability study. Qeios ID: GOVO55, 2022. doi:10.32388/GOVO55.2.

40. Özdemir Gökmen Ö, Erbil N, Demirbağ B. Adaptation of Birth Satisfaction Scale-Revised to Turkish society. Middle Black Sea J Health Scien. 2022;8(4):490-505. doi: 10.19127/mbsjohs.1080337.

41. Ratislavová K, Hendrych Lorenzová E, Hollins Martin CJ, Martin CR. Translation and validation of the Czech Republic version of the Birth Satisfaction Scale-Revised (BSS-R). J Reprod Infant Psychol. 2022;1-17. doi: 10.1080/02646838.2022.2067837.

42. WHO. Intrapartum care for a positive childbirth experience: WHO recommendations. Geneva: World Health Organization [Internet]. 2018 [cited 2023 July 20]. Available from: https://www.who.int/publications/i/item/9789241550215

43. Nijagal MA, Wissig S, Stowell C, Olson E, Amer-Wahlin I, Bonsel G, et al. Standardized outcome measures for pregnancy and childbirth, ICHOM proposal. BMC Health Serv Res. 2018;18(1). doi: 10.1186/s12913-018-3732-3.

44. Hollins Martin CJ, Martinez LJ, Martin CR. Measuring women's experiences of childbirth using the Birth Satisfaction Scale-Revised (BSS-R). Br J Midwifery. 2020;28(5):306-312. doi: 10.12968/bjom.2020.28.5.306.

45. Hollins Martin CJ, Martin CR. The Birth Satisfaction Consortium [Internet]. 2023 [cited 2023 July 20]. Available from: https://www.bss-r.co.uk/about/

46. Prinsen CAC, Mokkink LB, Bouter LM, Alonso J, Patrick DL, de Vet HCW, Terwee CB. COSMIN guideline for systematic reviews of patient-reported outcome measures. Qual Life Res. 2018;27(5):1147-1157. doi: 10.1007/s11136-018-1798-3.

47. Kahalon R, Preis H, Benyamini Y. Who benefits most from skin-to-skin mother-infant contact after birth? Survey findings on skin-to-skin and birth satisfaction by mode of birth. Midwifery. 2021;92. doi: 10.1016/j.midw.2020.102862.