

Translation and Cultural Adaptation of the Childbirth Experience Questionnaire (CEQ) in Iran

Abstract

Background: A standardized method to measure and quantify women's birth experiences is required to study satisfaction of childbirth care. Therefore, this study aimed to translate and culturally adapt the Childbirth Experience Questionnaire (CEQ) for use in Iran. **Materials and Methods:** This was a cross-sectional study including 203 women who attended 2 hospitals and 2 health centers and met the inclusion criteria in Ahvaz city, between February 2013 and June 2014. After forward and backward translation of the Swedish CEQ into Persian language, content validity was assessed by an expert panel. Scale reliability (internal consistency and test-retest reliability) was assessed with respect to the psychometric properties of the scale. **Results:** Minor cultural differences were identified and resolved during the translation process. One item was excluded. The intraclass correlation coefficient ranging from 0.63 to 0.90 was satisfactory. **Conclusions:** The Persian version of the CEQ appears to be valid and reliable; hence, it can be an effective tool in designing childbirth experience interventions and also childbirth care and education interventions for the promotion of positive childbirth experience in Iranian women.

Keywords: Childbirth experience questionnaire, Iran, Natural Childbirth

Introduction

A good childbirth experience may have positive effects on women's well-being and health, immediately postpartum and also in a long-term perspective. Childbirth experience is highly personalized and what consists of a positive and satisfying experience varies among women.^[1] Women with a positive experience report gaining a sense of mastery, personal strength, competency,^[2] and enhanced maternal attachment.^[3] In contrast, a negative birth experience may have a negative effect on women's self-esteem, self-efficacy, and mental health.^[2] Women with a negative experience are also at increased risk of feeling anger, guilt, disappointment, and loss of control.^[4] Furthermore, a negative childbirth experience may increase the risk of postpartum depression,^[5] post-traumatic stress disorder and problems with attachment with the baby,^[6] fear of a subsequent birth,^[7] the likelihood of not having another baby,^[8] and women report more negative childbirth experience after an emergency cesarean section.^[9] The reasons behind maternal request for cesarean

delivery are complex and multifactorial and cultural factors, including previous experience, are likely to have led to the increase in cesarean delivery.^[10]

In Iran, the frequency of Cesarean Section (CS) is rising and the overall rate is 54%^[11] in governmental and 90--100% in private hospitals.^[12] Sociocultural, religious, and economical norms^[13] and fear of birth are shown as the most important factors in choosing CS by women.^[14,15] A health challenge in Iran is the reduced population growth and a reduction in the total fertility rate to 1.8% in 2011. After implementation of natural childbirth packages, the rate of CS has dropped by 6.5%, but the rate of CS in Iran is still more than three times higher than the WHO have recommended.^[16]

New population policies have been provided by Iran Ministry of Health for the various reasons, including increased CS rate based on the women requests and a desire to have only one child among new mothers (35%).^[12] Therefore, having a positive birth experience and satisfaction of childbirth care is a main goal of new health policies aiming at decreasing CS rates,

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Zahra Abbaspoor^{1,2},
Lida Moghaddam-
Banaem²,
Shabnam Ronaghi³,
Anna Dencker⁴

¹Department of Midwifery, Reproductive Health Promotion Research Center, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran, ²Faculty of Medical Sciences, Department of Midwifery and Reproductive Health, Tarbiat Modares University, Tehran, Iran, ³Department of Obstetrics and Gynecology, Perinatal Center, Sahlgrenska University Hospital, Gothenburg, Sweden, ⁴Centre for Person-Centred Care, Institute of Health and Care Sciences, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden

Address for correspondence:
Prof. Zahra Abbaspoor,
Department of Midwifery,
Reproductive Health Promotion
Research Center, Ahvaz
Jundishapur University of
Medical Sciences, Ahvaz, Iran.
E-mail: Abbaspoor_z762@
yahoo.com

Access this article online

Website: www.ijnmrjournal.net

DOI: 10.4103/ijnmr.IJNMR_103_18

Quick Response Code:



How to cite this article: Abbaspoor Z, Moghaddam-Banaem L, Ronaghi S, Dencker A. Translation and cultural adaptation of the childbirth experience questionnaire (CEQ) in Iran. Iranian J Nursing Midwifery Res 2019;24:296-300.

Received: July, 2018. **Accepted:** May, 2019.

increasing normal vaginal births, and as an additional result increase the birth rate in Iran.

Currently, in Iran, most studies regarding birth experience is done by researcher-made questionnaires without psychometric validation. Therefore, a standardized method to measure and quantify women's birth experiences is required to study maternal satisfaction with childbirth care. The Childbirth Experience Questionnaire (CEQ) is validated in Sweden,^[17] England,^[18] and Spain.^[19]

To the best of our knowledge, no study on childbirth experience questionnaire topic has been conducted in Iran; therefore, this study aimed to evaluate the psychometric properties of the Iranian version of CEQ. Such research have the potential to contribute to the existing knowledge on the topic and will provide an instrument for use by midwives and obstetricians in clinical settings as well as by researchers to evaluate the effects of interventions during childbirth on the childbirth experience of women in Iran. Therefore, this study aimed to translate and culturally adapt the CEQ for use in Iran.

Materials and Methods

This was a cross-sectional study including 203 postpartum women who were hospitalized in 2 postpartum wards or were referred to 2 health centers to do the postnatal screening tests for their babies, in Ahvaz city, Iran, from February 2013 to June 2014. This group was selected because they had an experience of a normal vaginal delivery and hospitalized in the first day after the childbirth or after discharge when they referred to health centers to do the thyroid and hearing tests for their babies during 40 days after delivery. Women were eligible if they met each of the following criteria: uncomplicated pregnancy, an uncomplicated vaginal birth managed by a midwife, and speaking/reading Persian language. There were no exclusion criteria. The research questionnaire was completed by participants at a separate location in the hospital and clinic.

CEQ originally consists of 22 statements to assess four domains of childbirth experience: own capacity (8 items), professional support (5 items), perceived safety (6 items), and participation (3 items). Response format is a 4-point Likert scale (totally agree, mostly agree, mostly disagree, and totally disagree) for 19 items and a visual analogue scale (VAS) with anchors for 3 items. Negatively worded items (including the pain item) are reversed in scoring. Scoring range is 1-4 where higher ratings reflect experiences that are more positive. For the scoring, the VAS responses are transformed to categorical values as follows: VAS score 0-40 = 1, 41-60 = 2, 61-80 = 3, 81-100 = 4.^[17]

A forward-backward procedure was applied to translate the Swedish version of the CEQ into Persian.^[20,21] Two independent professional translators produced two forward translations. Both translators were asked to aim for a

conceptual rather than a literal translation and to give comments on the translation of items. The research group (including persons with knowledge of childbirth care in Iran, experience in psychometric validation methods, one of the Swedish CEQ team, and one person fluent in both Swedish and Persian) evaluated both translations and in contact with one translator resolved differences and ambiguities. Agreement in terms of semantic, idiomatic, and conceptual equivalence was reached and the research group agreed on a preliminary Persian version of the questionnaire. A native Persian speaker and practicing midwife in Sweden, blind to the original version, back-translated this agreed version into Swedish. The back-translation was very close to the original with only minor differences in wording. Consequently, a test of face validity was performed to provide a pre-final version of the questionnaire. Finally, an agreement in terms of semantic, idiomatic, conceptual, and cultural equivalence was reached and the final version of the questionnaire was provided.

The establishment of face validity can improve the assistance of respondents in completing a questionnaire, identify any ambiguities in the wording of items, and identify any inappropriate items.^[22] To establish the qualitative face validity and to determine how long the questionnaire takes to complete, the CEQ was completed through interview with 10 women to ensure the linguistic and conceptual equivalence of the translations. On the basis of the results of the pilot study and research team opinions, necessary changes were made, the CEQ was modified as appropriate and the final questionnaire was obtained.

To assess the qualitative content validity, 10 experts in the fields of childbirth and reproductive health who were familiar with the psychometric process were asked to provide their views on the accuracy of item content in written form. They also checked item position, grammar, and the use of appropriate words in phrases.

Reliability has two common forms: internal consistency and test-retest reliability methods. In this study, the internal consistency was assessed using the coefficient Cronbach's alpha, which ranges from 0 to 1, and values equal to or >0.70 for the scale was regarded as satisfactory.^[23] Test-retest reliability measures stability over time by administering the same test to the same subjects at two points in time. For evaluating the test-retest reliability, using convenience sampling, 25 postpartum women randomly were selected in the same manner as the initial subject recruitment, completed the Persian CEQ twice, at a first visit and again 2 weeks later during the postpartum period. The proportion of agreement was estimated by intraclass correlation coefficient (ICC). The following category was selected for the interpretation of agreement levels: 0.0-0.2 as small, 0.21-0.40 as fair, 0.41-0.60 as moderate, 0.61-0.80 as substantial, and 0.81-1 as almost perfect.^[24] Statistical analyses were performed using

Statistical Package for the Social Sciences (SPSS v 23.0, Inc., Chicago, IL, USA).

p values <0.05 were considered to indicate significant results.

Ethical consideration

The ethical approval for this study was obtained from the ethics Committee of the Tarbiat Modares University (52/1144, Iran, 2012). The study was conducted in compliance with the requirements of the Declaration of Helsinki and all participating women gave written informed consent.

Results

Regarding the sample size, some rules specify the ratio of the items to the respondents, which is a ratio of 3--4 people per item, and can be up to 10 people per item.^[25] In all, 218 women (almost 10 times the number of items) were asked to take part in the study. The mean (SD) age of the women was 26.70 (6 years). Response rate was 93% (*n* = 203). Reasons for declining participation were: uninterested to participate (*n* = 7), caring for the baby hindered (*n* = 5), or lack of time (*n* = 3). Characteristics of study participants are shown in Table 1.

Face validity

Ten women gave their comments of relevance of and easiness to understand the items in a face-to-face interview. The items were easy to understand and completion time was less than 10 min.

Content validity

Ten experts indicated the necessity and importance of the presence of relevant items in the scale. One item (My midwife devoted enough time to my partner) was not found relevant to answer due to the partner not being allowed in the delivery room in Iran and midwives not being directly relating to partners. Therefore, this item was deleted and there remained 21 items in the adjusted Persian CEQ [Table 2]. All other items were found relevant and easy to answer.

Reliability

Cronbach’s alpha for the total scale was 0.82, indicating good reliability, and for the subscales: own capacity 0.71; professional support 0.78; perceived safety 0.69; and for participation 0.58. The ICC for the CEQ was 0.76 for the total scale and for the subscales: own capacity 0.63; professional support 0.90; perceived safety 0.89; and for participation 0.82 [Table 3] suggesting high reliability.

Discussion

The purpose of the present study was to translate, culturally adapt, test, and analyze the psychometric properties of the CEQ in an Iranian sample. We followed the guidelines for

Table 1: Characteristics of participants, *n*=203

Characteristic	Mean (SD) <i>n</i> (%)
Maternal age, years	26.70 (06)
Course of labour	
Onset of spontaneous labour	105 (52)
Oxytocin augmentation, no induction	41 (20)
Induction of labour	57 (28)
Time after childbirth	
1-7 days	143 (70)
8-30	51 (25)
>30 days	09 (04)
Ethnicity	
Persian	54 (27)
Arab	139 (68)
Others	11 (05)

Table 2: Childbirth Experience Questionnaire Persian version with four domains and 21 items

Domain	Items
Own capacity	Labor and birth went as I had expected
	I felt strong during labor and birth
	I felt capable during labor and birth
	I was tired during labor and birth*
	I felt happy during labor and birth
	I felt that I handled the situation well
Professional support	As a whole, how painful did you feel childbirth was? (VAS)*
	As a whole, how much control did you feel you had during childbirth? (VAS)
	My midwife devoted enough time to me
	My midwife kept me informed about what was happening during labor and birth
	My midwife understood my needs
	I felt very well cared for by my midwife
Perceived safety	I felt scared during labor and birth*
	I have many positive memories from childbirth
	I have many negative memories from childbirth*
	Some of my memories from childbirth make me feel depressed*
	My impression of the team’s medical skills made me feel secure
	As a whole, how secure did you feel during childbirth? (VAS)
Participation	I felt I could have a say whether I could be up and about or lie down
	I felt I could have a say in deciding my birthing position
	I felt I could have a say in the choice of pain relief

*Reversed in scoring

cross-cultural adjustment of psychometric measurement and obtained cultural and conceptual equivalence.^[21] Therefore, like the original version, the Persian version of the CEQ was culturally acceptable to the Iranian women to measure childbirth experience after a spontaneous vaginal birth. No

Table 3: Number of items, Cronbach's alpha, and ICC for subscales and total scale

	Number of items	Cronbach's alpha	Cronbach's alpha from English validation	Cronbach's alpha from Swedish validation	(ICC) ^b
Own capacity	8	0.71	0.79	0.82	0.63 ^a
Professional support	4*	0.78	0.94	0.88	0.90 ^a
Perceived safety	6	0.69	0.83	0.78	0.89 ^a
Participation	3	0.58	0.72	0.62	0.82 ^a
Total scale	21**	0.82	0.90	-	0.76 ^a

*5 items in Swedish, English and Spanish CEQ, **22 items in Swedish, English and Spanish CEQ, ^a $p < 0.05$, ^bIntraclass Correlation Coefficient

other existing questionnaires measuring birth experience has been validated in an Iranian population.

Qualitative method was used to assess face and content validity in order to take advantage of this combination in evaluating construct validity.^[26] In the process of face validity, there were no major changes compared with the original version and for improving upon the women's understanding, only minor changes in wording or more descriptions of some items were made. In content validity process, the item "My midwife devoted enough time to my partner" was not found relevant to respond to because in Iran, the partner/husband is not being allowed in the labor and delivery room and therefore the midwives do not relate directly to partners. Still, presence of the partner in the labor room is found to be important in Iranian couples^[27] and partner's presence during childbirth still needs to be evaluated also in Iran.

Test--retest reliability of both the total scale and the subscales was found to be high [Table 3], indicating that the questionnaire produces constant results from subjects at different times, when no evidence of change in health status exists,^[24] similar to the validation study of the English CEQ.^[18]

There was a small difference in CEQ scores between women with induction and spontaneous onset of labor (data not shown). This may be due to a relationship between the level of education of mothers and induction of labor in Iran, and in a group with a high level of education more women will decide to have a medical induction of labor of their own choice.^[28,29] It would be interesting to use the Persian CEQ to compare experiences between groups of women who had a spontaneous vaginal birth and cesarean birth. In other countries, women with a spontaneous vaginal birth report more positive experiences^[30] and if that would be the case also in Iran such results could be used to encourage Iranian women to choose a vaginal delivery and help reduce the high rate of CSs in Iran.^[11,12] The barriers in Iran to choose vaginal birth could also depend on quality of care and how continuous support and access to pain relief is offered to women during childbirth in Iranian labor wards.^[13,27,31] In future studies, the Persian CEQ may be used to compare different labour managements of, for example, continuous support and/or the possibility to get epidural analgesia during labor and birth.

There are some limitations for this study. First, psychometric properties, including specificity and sensitivity of the Persian CEQ need to be further explored. All women had a spontaneous vaginal birth and therefore known-groups validation could not be explored between women with different mode of birth.

Conclusion

Psychometric properties of the Persian version of the CEQ were approved through qualitative face and content validity, reliability for measuring of childbirth experience in Iranian women after a spontaneous vaginal birth. Using the Persian version of CEQ should be done with caution because sensitivity of the scale still needs to be tested in groups known to differ in childbirth experience. After further testing, the Persian CEQ may be used to evaluate different management of childbirth and to identify women with a prior negative birth experience in need of support and counseling.

Acknowledgements

We wish to thank the participating women, hospitals, health centers, and screening clinics related to Ahvaz Jundishapur University of medical sciences. We would also like to thank our colleague Nimtaj Pirjani for back-translating the CEQ from Persian language into Swedish.

Financial support and sponsorship

Tarbiat Modares University of Tehran

Conflicts of interest

Nothing to declare.

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