



ORIGINALES

Spanish Cultural Adaptation of the Questionnaire for Assessing the Childbirth Experience (QACE)

Proceso de adaptación cultural del "Questionnaire for Assesing the Childbirth Experience (QACE)"

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ABSTRACT:

Background: Negative experiences during delivery are associated with women disempowerment, postpartum depression, post-traumatic stress disorder, and low breastfeeding rates. The Questionnaire for Assessing the Childbirth Experience (QACE) is a 23-item screening tool useful for discovering women with a negative experience in their birth process and avoids future complications in following pregnancies or couple's relationships.

Objective: The general objective is to adapt the Questionnaire for Assessing the Childbirth Experience (QACE) to the Spanish population and to obtain its psychometric characteristics.

Methodology: The cultural adaptation process consisted of forwarding translation and back translation into Spanish, conceptual equivalence evaluation by a committee of judges, comprehensibility evaluation and cognitive interview to a postpartum group. Psychometric characteristics were obtained throughout the factorial analysis, Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity and Cronbach alpha level.

Results: After complete the adaptation process, the committee of judges made several adjustments to achieve a better comprehension in the Spanish population, avoid misunderstandings or offensive words in the target language. 138 participants were needed to calculate factor analysis. The KMO (0.838) and Bartlett test ($p < 0.001$) confirmed the adequacy of factor analysis and the Scree plot showed 6 factors with the predictive power of 73.75% supported total variance. Internal consistency was assured using a Cronbach α of 0.896.

Conclusions: Data from this study demonstrate that the Spanish version of QACE is a valid and reliable measure of childbirth experience in the Spanish population.

Keywords: Screening, cultural adaptation, childbirth, women, questionnaire.

RESUMEN:

Introducción: Las experiencias negativas durante el parto se han asociado con desempoderamiento de la mujer, depresión postparto, trastorno por estrés postraumático y bajas tasas de lactancia materna, entre otros. El Questionnaire for Assessing the Childbirth Experience (QACE) es una herramienta de 23 ítems útil para identificar mujeres que han tenido una mala experiencia en su proceso de parto y evitar así futuras complicaciones en embarazos posteriores o en la relación de pareja.

Objetivo: El objetivo general consiste en adaptar el Questionnaire for Assessing the Childbirth Experience (QACE) a la población española y obtener sus características psicométricas.

Metodología: El proceso de adaptación cultural ha consistido en la traducción y retro traducción al español, evaluación de la equivalencia conceptual por un comité de jueces, evaluación de la comprensibilidad y una entrevista cognitiva a un grupo de mujeres puérperas. Las características psicométricas se han obtenido mediante el análisis factorial, los test de Kaiser-Meyer-Olkin (KMO) y Bartlett y el alfa de Cronbach.

Resultados: Tras el proceso de adaptación transcultural, el grupo de expertos realizó las modificaciones necesarias para conseguir una mayor comprensión del cuestionario en la población española, evitar malentendidos y palabras ofensivas en la lengua de destino. Se necesitaron 138 participantes para obtener el análisis factorial. El KMO (0,838) y el test de Bartlett ($p < 0,001$) confirmaron la adecuación del análisis factorial y el grafico de sedimentación mostró 6 factores con un poder predictivo del 73,75% del total de la varianza. La consistencia interna se obtuvo mediante un alfa de Cronbach de 0,896.

Conclusiones: Los datos obtenidos en este estudio demuestran que la versión española del QACE es una herramienta válida y fiable para medir la experiencia en el nacimiento en la población española.

Palabras clave: Evaluación, adaptación cultural, nacimiento, mujer, cuestionario.

BACKGROUND

The World Health Organization in its last inform ⁽¹⁾ recognizes “a positive childbirth experience” as a very important moment for all women in labour.

Several studies ^(2,3) have described influence factors related to improving the maternal experience of childbirth, such as pregnant personal expectations, safe environment, family, couple and health professional support she receives, health professionals' relationship quality, birth preparedness or births lived as a companion and relaxation and pain management during birth. Therefore, it is necessary to provide good advice on health professionals' behalf to remove fears or doubts and ensuring pregnant security.

Related to the mental health of women who have given birth, some investigations ^(4,5) shown that mothers with a positive experience of their birth had a great sense of accomplishment, self-esteem, and self-confidence. However, other studies associate a negative birth experience with post-partum depression and post-traumatic stress disorder (PTSD) ^(6,7). Related evidence shows that these mental health problems could have implications in following pregnancies and mother-infant interaction ^(8,9).

Taking into account the consequences of birth experience impact described above, it is necessary to count on tools that allow evaluating pregnant perceptions about their birth and to identify if there are birth negative experiences or not.

First questionnaires for assessing birth experiences like Wijma Delivery Expectancy/ Experience Questionnaire (W-DEQ) or the Childbirth Self-Efficacy Inventory (CBSEI)

are useful instruments for measuring isolated childbirth aspects ^(10,11). A multidimensional full questionnaire has been developed recently; Questionnaire for Assessing Childbirth Experience (QACE) ⁽¹²⁾, assesses four important aspects related to childbirth experience, but at present is only available in English and French. For this reason, we have chosen it for adapting and validating into the Spanish population.

QACE is used to measure the general assessment of the childbirth experience and it has two versions. The full version (23 items) is an index used to analyze each item by itself as a clinimetric scale. It is scored on a 4-point Likert scale ranging from "Totally", "In part", "Not so much", to "Not at all".

It assesses a total of 4 sub-scales to measure the general assessment of the childbirth experience with higher scores per dimension. The four subscales are the following ones: relationship with staff, emotional status, first moments with the newborn and feelings at one month postpartum

To analyze the score data, the answer format of the 4-point Likert scale was coded as follows: 1 (totally), 2 (in part), 3 (not so much), and 4 (not at all). The ratings of negatively worded statements were reverse-scored (items 1, 3, 14, 22, 23 and 24) so that the higher scores more reflected a negative childbirth experience.

In the short version, scores for each of the four dimensions are computed as the mean of the ratings of the included items.

Although there are already different questionnaires specifically designed for describing a birth experience, any of them have a multidimensional assessment like the recently validated QACE questionnaire.

The objective of this paper is to adapt QACE to the Spanish population and to obtain its psychometric characteristics. With a valid and reliable instrument like this one, health professionals could identify women who had a negative birth experience.

METHODOLOGY

Adaptation process

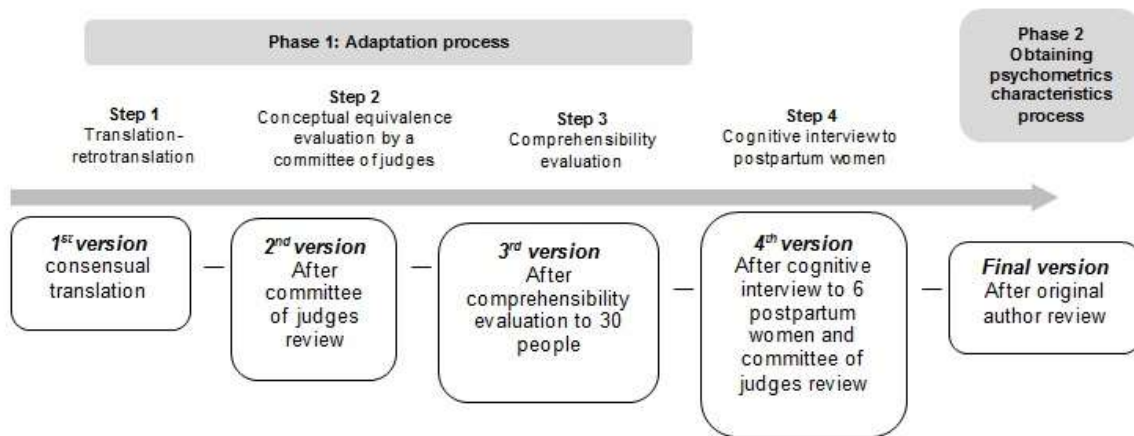
First of all, a literature review was carried out to check if there was a Spanish version of the QACE. Subsequently, one of the authors of the questionnaire (PhD M.J. Guttier) was contacted to ask permission for translating, adapting and validating QACE in the Spanish context.

To develop QACE Spanish version, it was followed by International guidelines proposed by Guillemin and cols ⁽¹³⁾, which consists of translation-retro translation of the QACE into Spanish by two English-Spanish bilingual translators. The first Spanish QACE version was created. Conceptual equivalence evaluation of the first Spanish translation by a committee of judges. The second Spanish QACE version was created. Comprehensibility evaluation of the second Spanish translation by a group of 30 persons. The third Spanish QACE version was created. Cognitive interview with a postpartum group to test comprehensibility and legibility of the third Spanish QACE

version and analysis and discussion of the results. A final version of 23 items was developed.

The different steps for the QACE Spanish version development are summarized in Figure 1.

Figure 1: QACE Spanish version development process



Obtaining psychometric characteristics

To obtain questionnaire factorial analysis, it is needed a sample size enough to achieve precise estimations, so between 5 and 10 participants per questionnaire item. QACE has 23 items and considering a loss percentage of 10%, a minimum sample of 138 participants was needed.

The study sample was recruited in the Vall D’Hebron Barcelona Hospital Campus and the Hospital de Mollet of Barcelona, Spain. Recruitment was continuous throughout different time periods on all days of the week during the period April 2019 to August 2019 by the main investigator and collaborating researchers from both hospitals who were responsible for the recruitment, registration in the database and follow-up of the recruited participants. The inclusion criteria for this study were the following ones: a) legal age women (>18 years old); b) women with no Spanish language barrier and considered literate and c) women with a computer minimum knowledge to answer an online questionnaire.

Participants were informed of the nature of the study and assured that the confidentiality of their personal data would be maintained and recruited in the obstetric consultant, delivery room or hospitalization ward. All subjects gave their written informed consent.

Ethics committees of both hospitals reviewed and approved the study, identification numbers: PR (AMI) 413/2018 approved 19/11/2018 and PR 220/2018 approved 01/12/2018 respectively.

Statistics and data analysis

QACE construct validity was studied by a factorial analysis to extract the main components. The Orthogonal (varimax) rotation was conducted. Factors higher than

one were rotated. Factorial analysis relevance was evaluated with Kaiser-Meyer-Olkin proof and Bartle sphericity proof.

The reliability of the QACE Spanish version (CEEP) was evaluated by estimating the Cronbach alpha level (internal consistency). If the Cronbach alpha level were bigger than 0.07, It was considered good reliability.

Statistical analyses were conducted using SPSS V.21.0 for MAC.

RESULTS

Phase 1: Adaptation process

Step 1: Translation- retrotraslation process

Two English-Spanish bilingual translators separately translated the original 23-item-questionnaire into Spanish. Later, these two translations were unified in one only consensual translation. This version was translated back into English and was also reviewed by the author to confirm equivalence with the original English text.

After the original author comments, some translated items were changed for better comprehension.

Step 2: Committee of judges

In the next step, it was created an expert group formed by 6 midwives, 4 gynecologists and 1 psychologist; they evaluated the conceptual equivalence of the Spanish translation.

The average age of the committee of judges was 50 years old (range 34-70y; SD \pm 12.82), and 80% of participants were women. Related to years of experience: 45.5% committee of judges' members have more than 20 years of working experience, 45.5% have between 10 and 15 years of experience and 9% have between 5 and 10 years.

According to the committee of judges, 70.38 % of the items were classified as type A (fully equivalent), 24.23% as type B (contains questionable wording) and only 3.46 % as type C (Doubts about the equivalence). The items in categories B and C were re-examined by the expert group and 5 items from the QACE were changed to achieve a better comprehension in the Spanish population. In Table 1 are described items classified as type C with first translator proposals and definitive proposals after the committee of judges' reunion.

Table 1: Items classified as type C

Item	Original Version	Translation into Spanish	Definitive translation
2	I felt secure	Me sentí segura	Me sentí en buenas manos
8	I felt I could express myself and give my opinion about decisions about me	Sentí que podía expresarme y dar mi opinión sobre las decisiones que me afectaban	Sentí que podía expresar y opinar sobre las decisiones referentes a mi persona

4	I felt confident	Me sentí segura	Me sentí segura de mí misma
12	My pain was relieved when I asked for it to be	Se alivió mi dolor cuando lo pedí	Me calmaron el dolor cuando lo pedí
16	I was able to see my baby for the first time in a satisfactory way	Pude ver a mi bebé por primera vez de forma satisfactoria	Pude ver a mi bebé por primera vez de manera satisfactoria

The mean difficulty translating of the original questionnaire items into Spanish was with item 2 (“I felt secure”) and item 4 (“I felt confident”) because the Spanish meaning was very similar, so it was decided to use 2 adjectival phrases (“en buenas manos” and “segura de mí misma”, respectively) to maintain greater accuracy with the original questionnaire and in line with some authors have carried out when developing some Spanish questionnaires ⁽¹⁴⁾.

The English expression “decisions about me” in item 8 was translated as “referentes a mi persona” adding some explanation to about misunderstandings.

In item 12, the expression “my pain was relieved when I asked for it to be” was translated as “me calmaron el dolor cuando lo pedí” since literally translation “se alivió mi dolor cuando pedí que así fuese” sounded very unnatural in the Spanish language. Finally, in item 17 “satisfactory way” was translated as “manera satisfactoria” instead of “forma satisfactoria” for stylistic reasons, i.e., to avoid translating repetitions.

The rest of the translated items were very similar to the original, conceptually and semantically, so the committee of judges decided to maintain reviewed first translation.

Step 3: Comprehensibility evaluation

The definitive Spanish version was then tested for comprehensibility and interpretation in a group of 30 persons.

The average age of participants was 40.76 years old (range, 20-60 y; SD ± 8,40) and 86.6% of participants were women. Concerning education level, 77% have a university education, 16.6% have secondary education and 10% of participants were doctorates.

In terms of font size and type, 20% considered font size and was too little for reading it, so after the committee of judges’ review, it was decided to increase font size by 1 point, from 11 to 12 and maintain Times New Roman font type. About general presentation, only 10% considered not adequate, so the committee of judges did not change anything.

Related to comprehensibility, 97% of persons understood easily questionnaire items and for 93.4% of participants, questionnaire items have been easy to answer. On the other hand, only a 13.3% considered items were not well explained, especially in a part of item 15, which was changed by expert group modifying negative sentences into positive ones for better comprehension. The third Spanish QACE version was created. Changes in item 15 are shown in Table 2.

Table 2: Changes realized in a part of item 15

Item	Original Version	Translation into Spanish	Definitive translation
15	A) My partner was not present during labor	A) Mi pareja no estuvo presente durante el trabajo de parto	A) Mi pareja estuvo presente durante el trabajo de parto
	B) My partner was not present during delivery	B) Mi pareja no estuvo presente durante el expulsivo	B) Mi pareja estuvo presente durante el expulsivo

Step 4: Cognitive interview

Finally, to know more deeply construct is being measured and to identify possible invalidity aspects a cognitive interview was conducted with 6 postpartum women to test comprehensibility and legibility of the third Spanish version. Throughout the paraphrasing technique questionnaire words and phrases were reviewed to see if they were understandable and also if they were not offensive to questionnaires target people. The group consisted of three primiparous women and three multiparous women with an average age of 43 years old; SD \pm 11,36. All women had a low or middle socioeconomic level. They understood all questionnaire items easily and no one found any item offensive. Furthermore, one of the women interviewed suggested changing 15-item-word 'partner' by 'companion' due to most pregnant women are single mothers or they just preferred to be accompanied by someone different from her couple, someone who gives them more security and peace. The women were also asked to underline words they did not understand or caused them to hesitate. There were no words underlined.

The feedback received was used for the committee of judges to create a definitive version of the questionnaire.

The English version, first translations, and definitive Spanish QACE version are shown in Table 3.

Table 3: English version, first translations, and definitive Spanish QACE version

Item	Original Version	First translations	Definitive translation
1	I felt worried	Me sentí preocupada	Me sentí preocupada
2	I felt secure	Me sentí segura	Me sentí en buenas manos
3	I felt strange sensations	Tuve sensaciones extrañas	Tuve sensaciones extrañas
4	I felt confident	Me sentí segura	Me sentí segura de mí misma
5	The staff understood and fulfilled my wishes in a satisfactory manner	El personal entendió y atendió mis deseos de una forma satisfactoria	El personal entendió y atendió mis deseos de una forma satisfactoria
6	I felt emotionally supported by the staff who took care of me	Me sentí emocionalmente apoyada por el personal que me cuidó	Me sentí emocionalmente apoyada por el personal que cuidó de mí

7	The staff kept me informed of what was happening	El personal me mantuvo informada de lo que estaba pasando	El personal me mantuvo informada de lo que estaba pasando
8	I felt I could express myself and give my opinion about decisions about me	Sentí que podía expresarme y dar mi opinión sobre las decisiones que me afectaban	Sentí que podía expresar y opinar sobre las decisiones referentes a mi persona
9	I am satisfied with the way the events unfolded	Estoy satisfecha por la forma en la que se desarrollaron los hechos	Estoy satisfecha por la forma en la que se desarrollaron las cosas
10	I managed to successfully use relaxation techniques to help me during womb contractions	Pude utilizar con éxito las técnicas de relajación que me ayudaron durante las contracciones uterinas	Pude utilizar con éxito las técnicas de relajación que me ayudaron durante las contracciones de parto
11	I managed to successfully move or choose my posture freely	Pude moverme con libertad o elegir mi postura libremente	Pude moverme con libertad o elegir mi postura libremente
12	My pain was relieved when I asked for it to be	Se alivió mi dolor cuando lo pedí	Me calmaron el dolor cuando lo pedí
13	Every event unfolded as I had imagined it	Todo ocurrió como había imaginado	Todo ocurrió como había imaginado
14	I felt like I was losing control	Sentí que estaba perdiendo el control	Sentí que estaba perdiendo el control
15	The support of my partner helped me	El apoyo de mi pareja me ayudó	El apoyo de mi acompañante me ayudó
16	I was able to see my baby for the first time in a satisfactory manner	Pude ver a mi bebé por primera vez de forma satisfactoria	Pude ver a mi bebé por primera vez de manera satisfactoria
17	I held my baby for the first time when I felt like it	Puede coger a mi bebé por primera vez cuando quise	Puede coger a mi bebé por primera vez cuando quise
18	The first moments with my baby corresponded with what I had imagined prior to giving birth	Los primeros momentos con mi bebé fueron como lo había imaginado antes de dar a luz	Los primeros momentos con mi bebé fueron como lo había imaginado antes de dar a luz
19	I understood everything that happened during childbirth	Entendí todo lo que ocurrió durante el parto	Entendí todo lo que pasó durante el parto
20	I am proud of myself	Estoy orgullosa de mí misma	Estoy orgullosa de mí misma
21	I feel regret	Estoy arrepentida	Estoy arrepentida
22	I have a feeling of failure	Siento que he fracasado	Siento que he fracasado
23	Imagine a subsequent delivery scares me	La idea de otro parto me asusta	La idea de otro parto me asusta

Phase 2: Obtaining psychometrics characteristics

Descriptive Statistics of the sample

Participants were recruited from 2 different hospitals in the region of Barcelona in 2019. All participants were aged over 18 years old and were able to read and write in Spanish.

Of the 160 eligible women that met the inclusion criteria and signed consent inform, 138 (80%) completed Spanish QACE version via online between 1 and 3 months postpartum.

The average age of participants was 32.74 (SD \pm 4.80). Almost 80% of participants were Spanish women. The predominant marital status was single (53.6 %). Planned pregnancies accounted for 77.5 % of cases, and 50.7 % of participants were multiparous. Around 20% of the sample had one or more abortions in their reproductive age. Only 45.7% of the participants had attended maternal education. 80.4% of participants gave birth between 37 and 41 pregnancy weeks. Nearly all participants (98.6 %) were accompanied during birth. In 57.2 % of cases, the onset of labor was spontaneous, followed by induction in 37.7% of the sample. 77.7 % were attended by the same midwife in their birth process. Epidural analgesia was the most commonly used pain relief method (72.5%).

The termination mode of delivery in the sample was: 60.1% eutocic, 31.9% cesarean, and 8% instrumental delivery 8 %. Related to birth duration, 40.6% of participants were between 0 and 5 hours of delivery, followed by 24.6% of the sample who finished birth between 5 and 10 hours.

Concerning perineum, 16.6% of participants had an episiotomy and 55.8% had entire perineum after birth.

A great number of participants (87%) decided breastfeeding as their baby feeding method. Furthermore, 80.4% of the sample initiated skin-to-skin contact in the delivery room.

Statistical results

Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity were used to analyze the sampling adequacy, the magnitude of intercorrelation and the number of factors. According to Pallant ⁽¹⁵⁾, values higher than 0.6 confirm the adequacy of the exploratory factor analysis. Moreover, the Eigenvalues and Scree Plot were used to determine the number of tool factors.

The factor analysis was calculated with 138 participants; thus, the selected sample size was enough for performing factor analysis. The KMO (0.838) and Bartlett test ($p < 0.001$) confirmed the adequacy of factor analysis. All items had factor loadings of higher than 0.4 and therefore they remained unchanged (Table 4).

Scree plot (Figure 2) showed that 6 factors with the predictive power of 73.75% supported the total variance of childbirth experience (Table 4). The 0.4 was considered the least factor loading to keep the items. A total of 23 items in the form of 6 factors were found for the 23-item questionnaire (Table 5). Internal consistency was assured using Cronbach α of 0.896 for the questionnaire.

Table 4: Varimax Factor Loading of Items of Spanish QACE version Using Principal Components and Varimax Analysis Methods

Item Number	Factor					
	1	2	3	4	5	6
6. I felt emotionally supported by the staff who took care of me	0.890					
5. The staff understood and fulfilled my wishes in a satisfactory manner	0.875					
9. I am satisfied with the way the events unfolded	0.822					
2. I felt secure (buenas manos)	0.803					
8. I felt I could express myself and give my opinion about decisions about me	0.784					
7. The staff kept me informed of what was happening	0.765					
10. I managed to successfully use relaxation techniques to help me during womb contractions		0.850				
12. My pain was relieved when I asked for it to be		0.836				
13. Every event unfolded as I had imagined it		0.826				
15. The support of my partner helped me		0.803				
11. I managed to successfully move or choose my posture freely		0.773				
14. I felt like I was losing control		0.511				
16. I was able to see my baby for the first time in a satisfactory manner			0.893			
18. The first moments with my baby corresponded with what I had imagined prior to giving birth			0.866			
17. I held my baby for the first time when I felt like it			0.854			
1. I felt worried				0.771		
3. I felt strange sensations				0.766		

23. Imagine a subsequent delivery scares me				0.634		
22. I have a feeling of failure					0.931	
21. I feel regret					0.837	
20. I am proud of myself					-0.490	
4. I felt confident						0.741
19. I understood everything that happened during childbirth	0.469					

Figure 2: Scree Plot of Factors explaining Factor Construct of Spanish QACE version

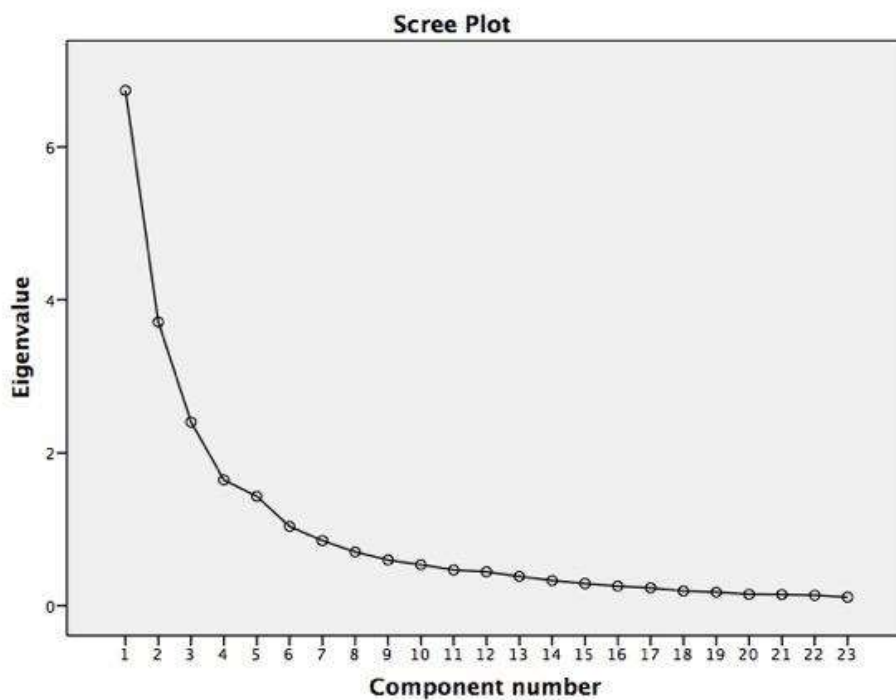


Table 5: Percentage of Variance of the First 6 Factors of Spanish QACE version

Factor	Percentage Variance of Factor	Accumulative Percentage of Overall Variance
1	29.28	29.28
2	16.12	45.41
3	10.44	55.85
4	7.15	63

5	6.22	69.23
6	4.51	73.75

DISCUSSION

The present article describes QACE Spanish cultural adaptation, where a Spanish analogous version to the English one has been obtained.

International guidelines followed in this article, not only ensure to the target population that this is not a literal translation but also takes into account cultural aspects of every questionnaire item to avoid misunderstandings.

Scientific literature in validating measuring instruments is rich and varied ⁽¹⁶⁾, but all guidelines share a point in common: translation, retro-translation and comprehensibility evaluation should be necessary included. Furthermore, some authors like Sousa ⁽¹⁷⁾ demonstrate that mixing quantitative and qualitative methodologies in adapting questionnaires provides satisfactory results. For this reason, in this article, we have conducted a cognitive interview with postpartum women to know if they understood what the questionnaire was asking for. As a result, we change a word that could be offensive to some women for another more appropriate, providing us with a new outlook of the questionnaire.

It should be announced that questionnaire items of the Spanish QACE version have been not difficult to adapt and the target population easily understood most of them. However, some changes commented before have been conducted for achieving better comprehension and avoiding offensive words. With all these procedures performed it has also been improved the naturalness and correctness of the Spanish translation.

For a correct cultural adaptation of questionnaires ⁽¹⁸⁾, original authors should be contacted to obtain adaptation and validation permission of the instrument and to solve doubts what can result in wrong interpretations of important nuances. In our case, we request permission for adapting and validating QACE into the Spanish population and we sent the definitive Spanish version to the author to be reviewed. After the authors' commentaries, Spanish definitive version was created. This version has been called CEEP (Cuestionario de la Evaluación de la Experiencia en el Parto).

Despite the inconveniences of using an online questionnaire, it was achieved a final sample size of 138 women, with a response rate of 80%.

In the original article, the full QACE version was developed following a strict protocol⁽¹⁹⁾, however, the factor analysis was not satisfactory due to identified incompatibilities and some factors were excluded reducing questionnaire to the short version of 13 items commented above.

In our study, factor analysis structure differs from the original one moderately. From the six factors identified, only one subscale, "first moments with the newborn" was identified in the original scale. Nevertheless, other original QACE subscales are very similar in our study but considering some modifications.

Our findings show that the first identified factor or subscale includes items 5,6,7,8 that compose the original QACE “relationship with staff” subscale, however, it is also included items 2, 9 and 19 in our first factor identified. It could be explained because the Spanish translation of item 2 (I felt secure) as “me sentí en buenas manos” unavoidably implies health professionals in Spanish culture. Same occurs with item 9 (I am satisfied with the way the events unfolded) translation into “Estoy satisfecha por la forma en la que se desarrollaron las cosas” and item 19 (I understood everything that happened during childbirth) translation into “Entendí todo lo que pasó durante el parto”. In those cases, when responding to these questionnaire items, you have to remember how did healthcare professionals treat you during childbirth. Some studies revealed that the fear of childbirth, the sense of control and the pain-reducing techniques during childbirth are usually described as very important in the childbirth process, which is in line with the data obtained in our research ⁽²⁰⁻²²⁾.

Secondly, items 10 to 15 composed factor 2 in our factor analysis. All these items show situations related to the birth process in which pregnant women are involved in the decision making process. Therefore, this factor was named “mother’s empowerment in the birth process”. Studies have shown that involving mothers and families in decision making progress about their birth, provide emotional support and give clear and comprehensible information are aspects positively assessed by pregnant women ^(23,24), which is in line with our study results. Original QACE factor analysis did not include these items. In our study, the factors one “relationship with staff” and two “mother’s empowerment in the birth process” accounted for 55.85% of the whole questionnaire variance

Factors four and five have been named as the original QACE subscales “emotional status” and “feelings at one month postpartum” respectively, however, in our study, they have a different composition.

After our group of expert’s factor analysis review, it was decided to compose the subscale “emotional status” by items 1,3,4, and 23. The decision to reunite all these items in one subscale was made due to all these items are related to feelings during the birth process. Thus, it was needed to restructure the factor’s composition and reduce the Spanish QACE structure from six to five factors. This study used exploratory analysis to examine the structure of the questionnaire in accordance with results obtained in measuring instrument fields ⁽²⁵⁾.

Finally, the last factor obtained was named the same as the original QACE questionnaire “feelings at one month postpartum” which contains items 20,21,22. According to our results, item 20 (I am proud of myself) belongs to this subscale and therefore should not be excluded as happened in the originals authors’ results.

Although data obtained in this study shows that the QACE Spanish version (CEEP) could be used as a reliable tool to identify women with negative childbirth experience, some limitations have to be mentioned.

Despite following a correct methodology for adapting and validating this questionnaire, further research is required to re-evaluate the psychometric properties of the CEEP including test-retest reliability and convergent validity. Another limiting factor is the method used for data collection, as this questionnaire was sent via email after a minimum of one month postpartum, in some participants, it was needed more than two recalls to include them in our research. Some authors stated that time lapses between

birth and study survey could have a negative influence on the results obtained ⁽²⁶⁾, as happens in some other validation of health questionnaires study ⁽²⁷⁾.

In 2018, 369,302 births were recorded in Spain, according to the Spanish National Statistics Institute (INE) ⁽²⁸⁾, 3,516 of those births were attended in the hospitals' participants in this paper ⁽²⁹⁾, but there is no information related to postpartum women's satisfaction or their birth experience in both hospitals. To address accurately this phenomenon, it is necessary to count on measuring instruments like QACE to allow health professionals to identify women with negative birth experience and thus adapting care provided to these women according to their circumstances and needs.

CONCLUSION

Data from this study demonstrate that Cuestionario para la Evaluación de la Experiencia en el Parto (CEEP) is a valid and reliable measure of childbirth experience in the Spanish population.

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