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Original Article

Construction and validation of a scale for measuring obstetric violence in Colombia

Construcción y validación de una escala de medición de violencia obstétrica en Colombia

Construção e validação de uma escala de medição da violência obstétrica na Colômbia

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ABSTRACT

Introduction. Obstetric violence is a phenomenon that consists of the over-medicalization of the process of delivery. This is still ongoing but invisible in different countries in Latin America. Hence, this research aimed to develop and validate an instrument capable of measuring obstetric violence contextualized to the Colombian scenario. **Methodology.** The items were constructed from previous qualitative research. The items were constructed from previous qualitative research. The scale was validated through classical test theory, evaluating internal consistency and appearance and content validity, and through item response theory, using the Rasch model to assess the discrimination capacity of the scale, the adjustment of the items to the measurement process, the information functions and the distribution of people and items throughout the construct with a

Author Contributions

LAAB. *Conceptualization, Methodology, data collection, data analysis, and article writing.* ***MLOG.*** *Conceptualization, Writing of the article.* ***FASM.*** *Methodological advice and data analysis.*

sample of 250 women with experience of institutionalized childbirth. **Results.** Factor analysis allowed us to find a three-factor structure. The internal consistency coefficients were between 0.79 and 0.87. All items were adjusted to the measurement process, covering various constructs. **Discussion.** In the literature, other Latin American scales address the construct with classical test theory; however, HUMANITY has shown favorable coefficients that measure the construct based on previous qualitative research. **Conclusions.** HUMANITY is a valid and reliable scale to quantitatively measure obstetric violence in the Colombian context.

Keywords:
Gender-Based Violence; Birth Setting; Maternal Health; Maternal Health Services; Delivery, Obstetric; Violence

RESUMEN

Introducción. La violencia obstétrica es un fenómeno que consiste en la sobremedicalización del proceso del parto. Este fenómeno es latente pero aún invisible en varios países de Latinoamérica, por lo que el objetivo de esta investigación fue elaborar y validar un instrumento capaz de medir la violencia obstétrica contextualizada al escenario colombiano. **Métodología.** Los ítems se construyeron a partir de una investigación cualitativa previa. La escala se validó mediante teoría clásica del test, evaluando la consistencia interna y la validez de apariencia y contenido, y mediante teoría de respuesta al ítem usando el modelo de Rasch, para evaluar la capacidad de discriminación de la escala, el ajuste de los ítems al proceso de medición, las funciones de información y la distribución de las personas e ítems a lo largo del constructo con una muestra de 250 mujeres con experiencia de parto institucionalizado. **Resultados.** El análisis factorial permitió encontrar una estructura de tres factores; los coeficientes de consistencia interna estuvieron entre 0.79 y 0.87. Todos los ítems se ajustaron al proceso de medición, abarcando un amplio rango del constructo. **Discusión.** En la literatura se encuentran otras escalas latinoamericanas que abordan el constructo con teoría clásica del test; sin embargo, HUMANITY ha mostrado coeficientes favorables que miden el constructo basadas en investigación cualitativa previa. **Conclusiones.** HUMANITY es una escala válida y confiable para medir cuantitativamente la violencia obstétrica en el contexto colombiano.

Palabras clave:
Violencia de Género; Entorno del Parto; Salud materna; Servicios de Salud Materna; Parto Obstétrico; Violencia

RESUMO

Introdução. A violência obstétrica é um fenómeno que consiste na medicalização excessiva do processo de parto. Este fenómeno é latente, mas ainda invisível em vários países da América Latina, pelo que o objetivo desta pesquisa foi desenvolver e validar um instrumento capaz de medir a violência obstétrica contextualizada no contexto colombiano. **Metodologias.** Os itens da escala foram construídos com base em pesquisas qualitativas prévias. A escala foi validada através da teoria clássica dos testes, avaliando a consistência interna e a validade de face e de conteúdo, e através da teoria da resposta ao item, utilizando o modelo de Rasch, para avaliar a capacidade discriminatória da escala, a adequação dos items ao processo de medição, as funções de informação e a distribuição das pessoas e dos itens ao longo do constructo, com uma amostra de 250 mulheres com experiência de parto institucionalizado. **Resultados.** A análise fatorial revelou uma estrutura de três factores; os coeficientes de consistência interna variaram entre 0.79 e 0.87. Todos os itens se ajustaram ao processo de medição, cobrindo uma vasta gama do constructo. **Discussão.** Na literatura, existem outras escalas latino-americanas que abordam o constructo com a teoria clássica dos testes; no entanto, a escala HUMANITY apresentou coeficientes favoráveis à medição do constructo com base em investigação qualitativa anterior. **Conclusões.** A escala HUMANITY é um instrumento válido e fiável para medir quantitativamente a violência obstétrica no contexto colombiano.

Palvras-chave:
Violência de Gênero; Entorno do Parto; Saúde Materna; Serviços de Saúde Materna; Parto Obstétrico; Violência

Introduction

Obstetric violence (OV) is defined as "an intersection between institutional violence and gender violence that has to do with the appropriation of the woman's body and reproductive processes by health personnel," which translates into dehumanized treatment, pathologization, and medicalization of natural processes such as the birth process (1).

This is a phenomenon with little quantitative description in Colombia due to the invisibility of the existence of this problem at the constitutional level since it is an attempt to recognize the OV. Bill 147 of 2017 was created, but it

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did not have a successful ending due to the controversy generated in the medical union (2). However, other countries that have already appropriated the concept have some prevalence measures. In countries on the African continent, values that reach 98% are reported (3), followed by Mexico, where 58% of mothers suffer from OV, in general, general, of which 79% is physical violence and 36% is psychological (4). The countries that report the lowest values are the European ones, with 38% (5).

The recent COVID-19 pandemic provided alarming information regarding the violation of women's sexual and reproductive rights, as well as the omission of the recommendations announced by the World Health Organization (WHO) to have a positive birth experience and contribute to the eradication of abuse in institutions (6,7), since in countries such as the United States and China, there was an increase in instrumental births and unjustified cesarean sections, as well as the separation of the couple without evidence to support such a decision (8).

In order to contribute to the problem, initially a previous qualitative study was carried out (9), which investigated the experience of postpartum women in the childbirth process in a clinic in Colombia through in-depth interviews with semi-structured questions focused on the mother's feelings and the behavior of health professionals at different moments of childbirth. Their results were the fundamental input for the construction of the scale items.

Three broad categories were found regarding the manifestations of violence: 1. The behaviors that health personnel have when providing care, 2, the procedures that they sometimes carry out unnecessarily and without consent, and 3, what these behaviors make the mother feel. These categories were triangulated with theorists who talk about the exercise of power (10), *the authoritarian habitus* (11), and the importance of human individuality in care (12), which gave the study sufficient evidence to conclude that the birth process is an excessively medicalized and generalized process that is violent and dehumanized.

Unfortunately, the OV is a phenomenon that has become invisible and normalized. In a qualitative study carried out in Boa Vista, Roraima, on hospitalized postpartum women, it was found that more than half of the interviewees did not know what obstetric violence meant, but as they answered the questionnaires they acknowledged having suffered from abuse, not previously identifying it as this type of violence. In another study in Paraiba, Brazil, it was revealed that 83% of women had suffered some form of obstetric violence; However, of these, 39% began the interview denying having suffered from this phenomenon (13).

Hospital obstetric care features high interventionism and environmental influences, such as lack of privacy and intimacy, which can have an adverse effect on the progress of labor and the development of feelings of confidence and competence. In turn, these defects can impair adaptation to motherhood and the establishment of breastfeeding, in addition to increasing the risk of depression (14). Pregnancy and childbirth should be a period of positive experiences for the woman and her family. However, for many women, it has been a risky event with a perception of fear, generating dissatisfaction with care during the current pregnancy. The desire for a less interventionist birth, the loss of autonomy, and the fear of not having control of the birth give way to the need for women to seek strategies to experience pregnancy and childbirth in a more humanized way (15). For this reason, it is considered necessary to have a reliable and valid instrument to objectively and rigorously measure OV adapted to the country.

As significant antecedents related to the instruments that measure the phenomenon, there is the validation of two Latin American scales, one of which was carried out in Chile (16). The items of this scale were constructed from a blog that created a list of situations that constituted OV so that women could learn to identify them. This scale measures appropriate aspects for said country, but some do not apply to Colombia and exclude some other essential elements obtained in the qualitative study that was previously carried out. Within their factor structure, they mention that the OV as a variable, it is unidimensional and would be covered by its 14 response items on a Likert-type scale. Likewise, in Ecuador, there is the EPREVO scale, which, like the previous one, measures constructs that are not common in the country of interest, such as genital shaving and enemas. In its structure, they manifest three dimensions: structural negligence, right to information, and right to the presence of a supportive caregiver. Finally, the scale had 30 dichotomous response items (17).

This study aimed to develop and validate an instrument capable of measuring obstetric violence contextualized to the Colombian scenario, using the exploration of structural alternatives through factor analysis.

Methodology

Validation study of the HUMANITY instrument using the methodology of classical test theory (CTT) and item response theory (IRT).

Instrument

The HUMANITY scale was elaborated and conceptually structured through a previous qualitative study (9) that was carried out using semi-structured interviews with postpartum women. The categories and subcategories resulting from the analysis of the narratives and the triangulation of the information became the factors and items of the scale. Taking these dimensions into account, a group of experts composed of a gynecologist, a psychiatrist, and a maternal-perinatal nurse was selected to analyze the items for sufficiency, coherence, relevance, and clarity. The experts scored each item on a Likert scale from 1 to 4, and any item scored less than 3 was submitted for discussion to define its permanence within the scale. A specific number of items per dimension was not specified a priori until the Factorial Analysis was performed (18). Subsequently, a pilot test was conducted on a group of 15 non-institutionalized women who had experienced uncomplicated vaginal childbirth in Colombia, which contributed to the adjustment of the questions of the scale in terms of ambiguous, confusing, or offensive terms before the application of the validation. The instrument comprises 20 items and 3 domains with dichotomous responses (yes/no).

Participants

For the validation of the scale, 250 post-care patients were included, who met the following eligibility criteria:

Inclusion criteria

- Colombian women who had given birth in a hospital or clinic in the country.
- Over 18 years of age.
- With experience of vaginal delivery.

Exclusion criteria

- Women who did not have a live newborn, since perinatal death must be approached under specific psychological parameters that vary according to the stage of grief in which the mother is (19).
- Women users of voluntary termination of pregnancy.
- Women who stated that they had some cognitive alteration that prevented them from answering the scale.

Scale application procedure

The scale was applied to 250 participants using non-probabilistic sampling, who met the inclusion criteria and agreed to sign the informed consent form. This sample was considered taking into account that sample sizes of at least 200 have been suggested for Exploratory factor analysis (EFA) in a 20-item scale, at least 10 subjects per item for confirmatory factor analysis (CFA) and 200 for Item Response Theory (IRT) using a one-parameter model for dichotomous items (20). The average time for application, training required, and degree of difficulty in scoring were considered to assess usefulness. The scale was administered by a nurse practitioner and a general practitioner. Subsequently, the data were entered into a Microsoft Excel database and a cross-check was carried out to guarantee the quality of the information. Adequate data entry was ensured by training the interviewers.

Statistical analysis

First, the sample of participants was characterized, based on the sociodemographic variables in the validation study, by means of measures of central tendency and dispersion, relative frequencies and absolute frequencies. Then, the evaluation of each of the psychometric properties was carried out by means of CTT and IRT, as explained below.

Validation according to classical test theory (CTT)

The analysis of the internal structure of the scale (evidence of content validity) was evaluated by means of exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). The EFA was used to determine whether the items could be organized in a structure (number of domains and items measuring them) different from the one proposed when the scale was constructed. The CFA was used to determine which of the structures best fit the data: the theoretically proposed model or those found in the FEA after the rotations (21).

Exploratory factor analysis

The statistical software STATA ® (22) was used to perform the FEA. First, we considered whether the matrix was factorizable by calculating the determinant of the inter-item correlation matrix, Bartlett's test of sphericity and the Kaiser-Meyer-Olkin measure of sampling adequacy. For the matrix determinant, values close to zero were taken as the existence of correlations between variables. For Bartlett's test of sphericity, the null hypothesis was that the correlation matrix is an identity matrix (the variables are not inter-correlated). The Kaiser-Meyer-Olkin measure is an index that compares the observed correlations with partial correlations; and high values (>0.80) suggest the extraction of factors, given the existence of correlations between the variables.

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Once the previous step was determined, we proceeded to the extraction of factors by means of the principal factor method. Subsequently, it was determined how many factors should be chosen by means of the eigenvalue method. Then, it was determined how many factors loaded on each item and, according to the results, orthogonal and oblique rotations were made to the matrix, to improve the interpretation of the result of the EFA.

Confirmatory factor analysis

The Lavaan library of the R programming environment (23) was used to perform the CFA. The tetrachoric matrix was used and the corresponding method (free asymptotic estimation) was selected to estimate the parameters. Three models were compared: the model proposed theoretically when constructing the scale, the empirical model obtained in the AFE with orthogonal rotation and another with oblique rotation (Figures 1- 3). To determine which of the models had a better fit to the data and to select it as the final structure of the scale, the following measures were calculated and considered a good fit: Chi-square/ degrees of freedom less than or equal to 3, RMSEA < 0.05, SRMR < 0.08 and fit indices (> 0.90): CFI, TLI, NNFI, NFI, AGFI.

Validation according to item response theory (IRT)

For the analysis of this section, the statistical software R and WINSTEPS ® were used, together with the eRm and ltm libraries (24,25).

A Rasch model was performed, which allowed the following properties to be evaluated:

- Item fits to the measurement process: unstandardized and standardized INFIT and OUTFIT statistics were calculated. The raw values (MNSQ) were reviewed and values of 0.5-1.5 were taken as a good fit (26).
- Ability to discriminate levels of violence between patients: indices of separation of persons and items and the reliability coefficient according to item response theory were calculated.
- Information functions: these were used to determine at which levels (low, medium or high) the scale yields estimates with lower measurement error. Information values were calculated and complemented with information curves, both by item and by the complete scale.
- Map of persons and items: the map of persons and items (or Wright's map) was constructed to determine whether the scale has items to assess different levels of obstetric violence.

The Martin-Loef-Test was used to evaluate the assumptions of unidimensionality and the T2 procedure implemented in the eRm library (24) was used to evaluate the assumption of local independence.

Analysis of the scale's internal structure: internal consistency

The internal consistency of the scale was evaluated by means of several libraries (25-30) using McDonald's Omega coefficient for ordinal data for each of the proposed domains (31). This coefficient was chosen because, unlike Cronbach's or Kuder Richardson's alpha coefficient, it does not depend on the number of scale items, works with factor loadings, and reflects the true level of reliability (31,32). However, to analyze changes with other coefficients, the Kuder Richardson and ordinal alpha were also evaluated.

Ethical responsibilities

This study was considered of minimal risk since no invasive intervention was performed that would generate additional risk for the patients (33).

The study followed the ethical principles and the orientation of the Belmont principles created in the U.S.A. on April 18, 1979 for the protection of all patients who took part in this study (34).

The protocol of the present study was submitted to the review of the ethics and research committees of the Fundación Universitaria Ciencias de la Salud, which was approved with registration number 0330-2022. To maintain these ethical criteria, an informed consent form was designed and implemented, the interviewers were trained to maintain neutrality during the directed survey, mothers with deceased newborns were not taken into account to avoid dealing with sensitive topics that could generate emotional outbursts for which the personnel were not trained, and the confidentiality of each participant's information was maintained.

Results

Patient characteristics

It was found that the most predominant marital status among the participating women was union with 39.7% (n=100), followed by single, which corresponds to 31% (n=77). In terms of educational level, the most frequent was technical/technologist, representing 41% of the sample (n=104), followed by professional and bachelor's

degree, which together represent 40%. The socioeconomic stratum to which most of the sample belonged was stratum 2 with 39% (n=99), followed by stratum 3 with 38% (n=96), finally, the regime to which 80% (n=202) of the sample belonged was contributory. Due to the abnormal behavior of the quantitative variables, the median and interquartile range (IQR) were calculated for each variable. The median age was 31 years (IQR=9), the median labor time was 8 hours (IQR=8) and the median years since delivery was 5 years (IQR=8). (Table 1).

Table 1. Sociodemographic characteristics of the participants

Variable	Description	Freq.	%
Marital status	Married	63	25.30
	Divorced	9	3.61
	Single	77	30.92
	Common Law Marriage	100	39.76
	Widowed	1	0.40
Educational level	Bachelor's degree	49	19.60
	Postgraduate	37	14.80
	Elementary school	7	2.80
	Professional	53	21.20
	Technician/technologist	104	41.60
Socioeconomic stratum	1	26	10.44
	2	99	39.36
	3	96	38.55
	4	20	8.03
	5	8	3.21
	6	1	0.40
Regime	Contributory	202	80.80
	Subsidized	48	19.20
Variable	Description	Average	IQR
Age	Years	31	9
Time of last delivery	Years	5	8
Time of labor	Hours	8	8

Source: prepared by authors.

Exploratory factor analysis

To verify that the matrix was factorizable, the determinant of the matrix was checked, which yielded a value of 0.020, Bartlett's test of sphericity Chi2 943.441 p= 0.000 and KMO 0.82. Using the tetrachoric matrix, the first extraction yielded three factors according to the criterion of eigenvalues >1 and the sedimentation graph, explaining 76% of the variance; it was defined to perform an oblique rotation taking into account that correlation between factors was assumed. To determine which items are included in each factor, the criterion of a factorial loading > 0.3 was considered.

Factor 1 refers to staff behaviors that may be reflected throughout the labor process (labor, delivery and puerperium), and included questions 8, 9, 12, 13, 14, 15, 16, 17 and 18, explaining 37% of the variance. Factor 2 contains the questions on staff behaviors that occur specifically in labor and delivery, which included questions 7, 10, 11, 19 and 20, explaining 24% of the variance. Factor 3 refers to the generalized routine

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procedures performed on the mothers, and contains items 1, 2, 3, 4, 5 and 6, explaining 14% of the variance.

Confirmatory factor analysis

For this component of the validation, three models were evaluated (Table 2), model 1 which is the original theoretical model (Figure 1), model 2 (Figure 2) which corresponds to the empirical model with orthogonal rotation, and model 3 which corresponds to the empirical model with oblique rotation (Figure 3). Adequate values were found in the goodness-of-fit indicators of model 1 and 3: RMSEA <0.08; SRMR <0.05; CFI; IFI, and Tucker-Lewis index (TLI) >0.9, with model 3 being the best fit, since theoretically the item contents and the dimension they measure are related, in addition, from the statistical point of view the RMSEA and SRMR indexes were the lowest in model 3 and the CFI IFI were the highest.

Table 2. Fit coefficients of the factorial models tested

Coeficiente	Modelo 1	Modelo 2	Modelo 3
chisq	248.78	899.453	150.652
df	167.000	170.000	167.000
rmsea	0.044	0.131	0.000
srmr	0.107	0.201	0.085
cfi	0.967	0.705	1.000
tli	0.962	0.670	1.008
nfi	0.906	0.662	0.943
nnfi	0.962	0.670	1.008
pnfi	0.797	0.592	0.829
ifi	0.967	0.707	1.007
rfi	0.894	0.622	0.936
agfi	0.908	0.675	0.945
pgfi	0.737	0.596	0.760

*Model 1: Original theoretical model.
*Model 2: Empirical model with orthogonal rotation
*Model 3: Empirical model with oblique rotation
Source: prepared by authors.

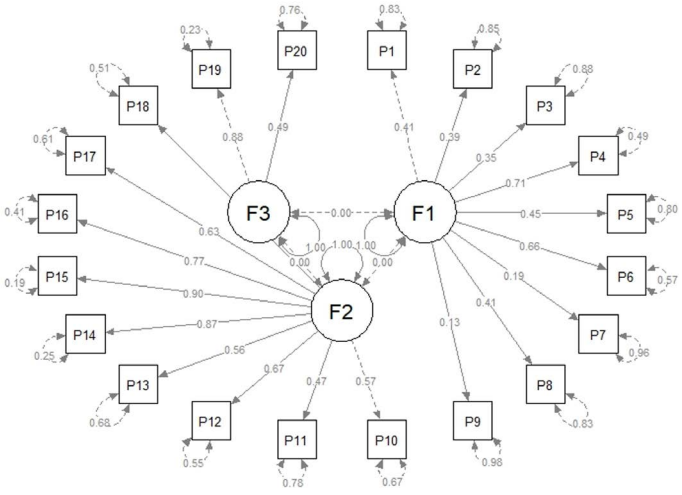

Figure 1. Model No. 1 of the original structure theoretically proposed.
Source: prepared by authors, Software R.

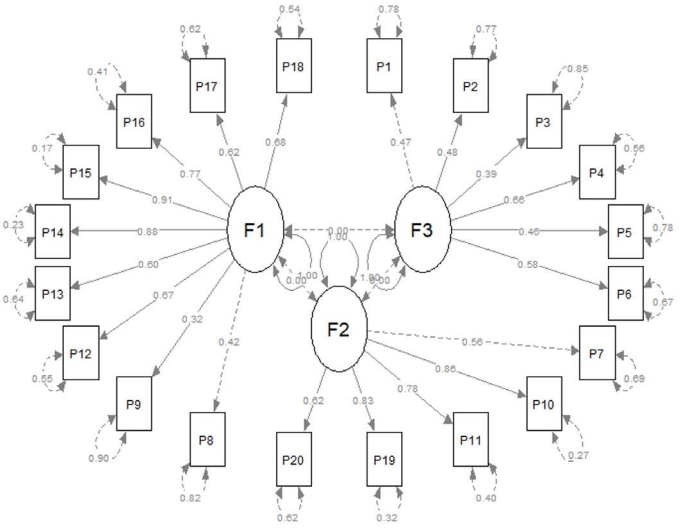

Figure 2. Structure model No. 2 of structure with orthogonal rotation.
Source: prepared by authors, Software R.

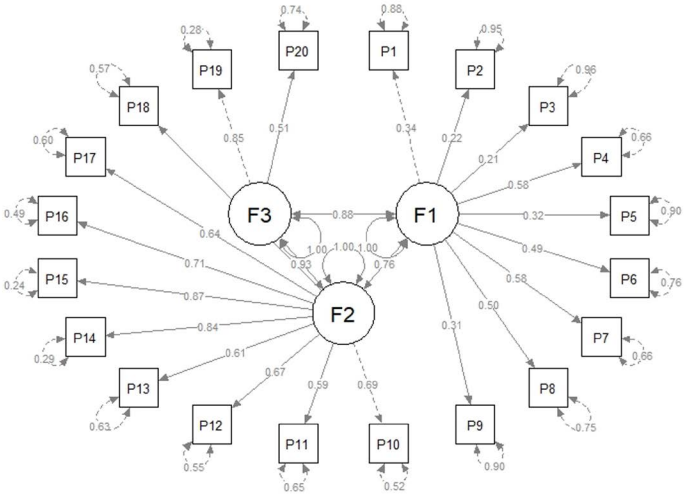

Figure 3. Structure model No. 3 of structure with orthogonal rotation.
Source: prepared by authors, Software R.

Internal consistency

The internal consistency evaluation of the scale allowed finding coefficients between 0.79 and 0.87 for the complete scale (Table 3). If items are removed from the scale these values do not change significantly.

Table 3. Coefficients of the complete scale and by factors

Parts of the scale	Explained variance	Kuder Richardson	Omega	Alpha ordinal
Factor 1	37%	0.75	0.78	0.86
Factor 2	24%	0.69	0.71	0.84
Factor 3	14%	0.51	0.53	0.66
All Scale	76%	0.79	0.82	0.87

Source: prepared by authors.

Item response theory

The Rasch model analyzed met the assumptions of unidimensionality and local independence.

Item fit statistics

According to the raw and standardized INFIT and OUTFIT statistics all items have a good fit to the measurement process (Table 4).

Table 4. Sociodemographic data of the participating mothers

Item	Outfit MSQ	Infit MSQ	Outfit t	Infit t
P1	1.136	1.161	1.602	2.626
P2	1.408	1.239	4.011	3.629
P3	1.398	1.238	3.460	3.394
P4	0.897	0.964	-0.676	-0.423
P5	1.180	1.167	1.752	2.492
P6	1.014	1.063	0.172	0.964
P7	1.045	1.033	0.568	0.587
P8	1.070	1.025	0.579	0.368
P9	1.233	1.179	1.818	2.384
P10	0.867	0.892	-1.152	-1.570
P11	1.147	0.920	0.782	-0.789
P12	0.886	0.902	-1.154	-1.546
P13	0.888	0.922	-1.200	-1.292
P14	0.742	0.816	-3.088	-3.166
P15	0.735	0.791	-3.481	-3.799
P16	0.804	0.881	-1.310	-1.462
P17	0.913	0.911	-0.660	-1.227
P18	0.752	0.899	-1.624	-1.187
P19	0.688	0.762	-3.318	-3.927
P20	0.761	0.944	-0.923	-0.398

Source: prepared by authors.

Information function of the items

It can be observed that the items present a wide range of coverage ranging from -6 logits to 6 logits, with question 8 being the least difficult and question 20 the most difficult. In this range, the information function of the test is 99.21%. (Figure 4, 5)

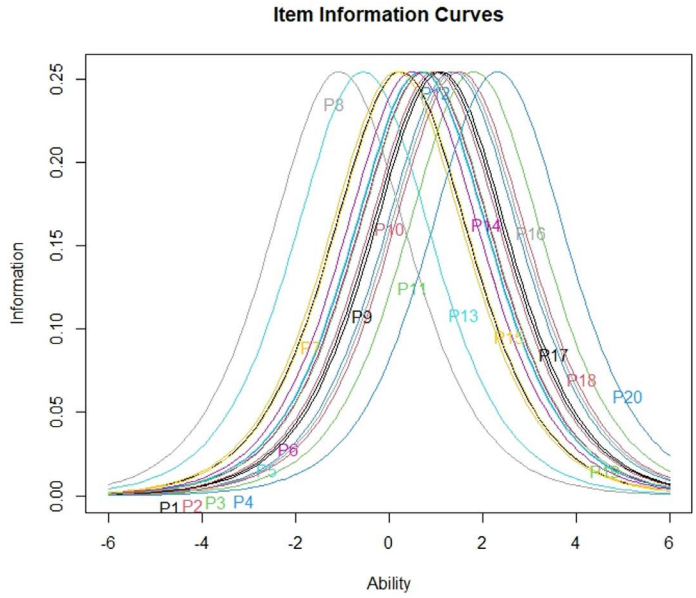

Figure 4. Information function of the items.
Source: prepared by authors, Software R.

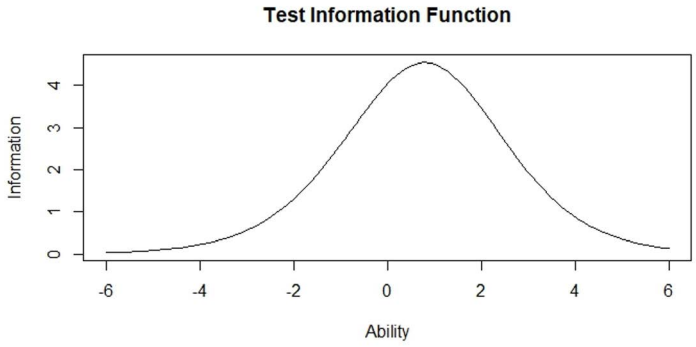

Figure 5. Test information function
Source: prepared by authors, Software R.

The persons and items have a wide range of coverage from -3 logits to 2 logits (Figure 6). There are missing questions in the easier levels of the scale as there is a gap in this space, i.e., for people who are at -2 logits and below, questions measuring them were observed. And most of the participants were located in the middle ranges of levels of the construct.

Reliability has values of 0.75 for persons and for items of 0.96. The separation indices show moderate values for persons, but adequate values for items. A low separation and reliability index for persons and a high separation and reliability index for items suggest that the sample had a narrow range for ranking the items.

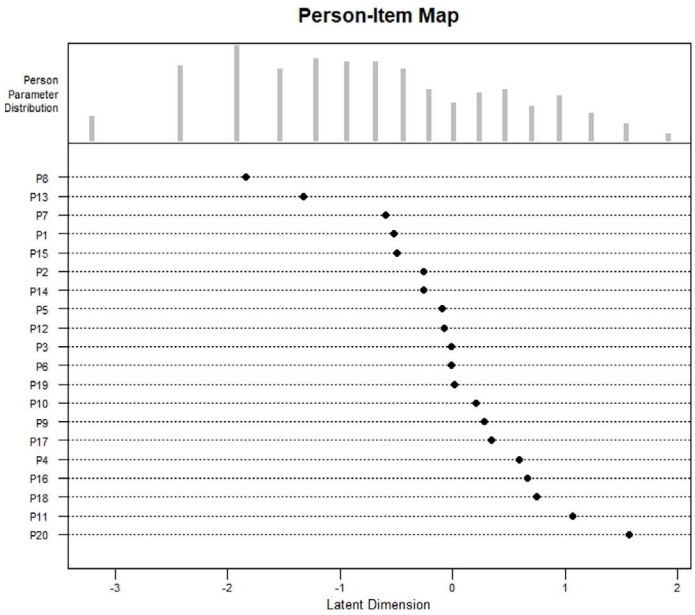

Figure 6. People-items map.
Source: prepared by authors, Software R.

Discussion

Although OV is already recognized in several Latin American countries, very few have validated a scale to measure it. The purpose of this study was to validate a scale of OV (HUMANITY) in the Colombian context. In the validation of HUMANITY favorable results were obtained, finding the internal consistency of the instrument, measured at a general level and for each of the subscales, appropriate to explain 99% of the construct with the items proposed, with satisfactory values in the three coefficients used Kuder Richardson (0.79), McDonald's Omega (0.82) and ordinal Alpha (0.87) for the entire scale (20 items) and also for the three factors that compose it. One of the main strengths of HUMANITY is the methodological rigor in the process and the use of the two theories (classical test and item response) for the development and validation of instruments.

There are other Latin American scales in the literature that address the construct with classical test theory. The first one recorded was developed in a group of 367 Chilean women, with an average age of 45 years. The items of this scale were constructed from a test created by an activist group so that women could recognize obstetric violence, unlike HUMANITY, which bases its constructs on qualitative research conducted directly in the population. This Chilean scale has 14 Likert-type items with an application time of 15 to 20 minutes and a Cronbach's Alpha of 0.83 and an Omega of 0.88, which measure, in addition to the aspects

of HUMANITY, cesarean section, and curettage, aspects that are not comparable with vaginal delivery even though they are within the same construct since the population is exposed to proportionally exclusive situations (16).

Another of the scales found is EPREVO, carried out in a sample of 405 Ecuadorian women with an average age of 26 years, which measures the OV construct with three factors in its structure and 30 questions with dichotomous answers, which makes it similar to HUMANITY. In this study they report the Kuder-Richardson coefficient, which, for the whole scale had a value of 0.80 and for its three factors 0.71, 0.84 and 0.33 respectively (17). Like the Chilean scale, they measure cesarean section and vaginal delivery on the same scale; additionally, they measure the application of enemas and genital shaving, aspects that are not very common in Colombia.

Clinical and research implications

The clinical implications of using this scale lie in the possibility of identifying the construct in the users and consequently generating improvement plans both with the health personnel and with the patients and their families. For the research, the scale will provide absolute frequencies to identify the most common manifestations of OV in the study site and thus adequately direct interventions in the affected population.

The scale can be used in both institutionalized and non-institutionalized mothers at any time of their lives, with the only condition of having had at least one obstetric experience with vaginal delivery.

Limitations

According to the result of this validation study, the HUMANITY scale is a measure of a three-factor construct of obstetric violence in Colombia. However, it should be taken into account that the OV is not constitutionally recognized and is naturalized within health institutions; therefore, it was not possible to collect the sample randomly within a healthcare service provider institution, so the information was collected non-probabilistically outside the institutions at different times after childbirth. however, it was considered that this aspect does not introduce a bias, since studies on post-traumatic stress generated by childbirth (35,36) show that the perception of the positive and negative aspects that occur during childbirth are not forgotten for years. Additionally, not being in a subordinate position ensured that the women participants responded truthfully. Another limitation due to the difficulty in accessing the sample was to use the same sample for the AFE and AFC.

It is concluded that the HUMANITY scale (Table 5) is a valid and reliable instrument for measuring OV in Colombia. The average application time of the scale was 19 minutes, and it can be the input to calculate absolute frequencies of each of the aspects that make up the construct of OV, or for each of the factors that make up the scale.

Table 5. HUMANITY scale for the measurement of OV in Colombia

N.º	Items	Yes	No
Factor 1: Staff behaviors in the labor and delivery process (antepartum, labor and postpartum)			
1	During your stay in the labor or delivery room, were you allowed to ambulate or adopt positions other than lying on the stretcher?	0	1
2	Once the baby was born (if the baby did not have any complications, APGAR 8/10, or condition that justifies keeping the baby away), were you allowed to stay with the baby all the time?	0	1
3	Did the health personnel provide you with companionship and support when you needed it?	0	1
4	Were you allowed to be accompanied by a family member?	0	1
5	Did the health personnel provide food when you needed it and you had no contraindication to do so?	0	1
6	Did health personnel provide hydration when needed?	0	1
7	Did health personnel shelter you to keep your temperature stable when needed?	0	1
8	Did the health personnel give you clear instructions on how to breathe, push, or breastfeed, among others, that would facilitate the delivery process?	0	1
9	Did the health and administrative staff provide you and your family with pertinent information about your and your baby's health status?	0	1

Factor 2: Staff behaviors during labor and delivery			
10	During the dilatation process, were you subjected to rough or repeated vaginal examinations or by different people? If yes, please answer yes.	1	0
11	Did health personnel make unpleasant comments about your behavior (crying, screaming) during labor?	1	0
12	Did the health personnel behave inappropriately during your delivery process, such as taking pictures, videos, mocking comments among colleagues, among others?	1	0
13	Did you feel violated as a woman and patient by the health personnel during delivery care?	1	0
14	Do you have feelings of guilt for your behavior (crying, screaming, asking for help) during labor?	1	0
Factor 3: Routine procedures			
15	Were you given any pain medication when you asked for it during labor and/or puerperium?	0	1
16	If you were given any medication to speed up labor (Oxytocin) (Misoprostol), were the reasons explained to you beforehand?	0	1
17	Were you persuaded repeatedly (more than twice) to choose a contraceptive method, even if you did not agree?	1	0
18	At any time during the labor process, were any instruments used to rupture the membranes without your consent or prior explanation?	1	0
19	At any time during labor was a compression maneuver performed on the upper abdomen with downward force (Kristeller) to accelerate expulsion?	1	0
20	During labor, were any cuts made in the birth canal (episiotomy) to facilitate expulsion without prior explanation?	1	0

Source: prepared by authors.

The questions have dichotomous answer options (Yes/No) and each of the answers has a specific value depending on whether the answer is Yes or No, as follows:

- Questions 1, 2, 3, 4, 5, 6, 7, 8, 9, 15 and 16: "Yes" equals 0 points, "No" equals 1 point.
- Questions 10, 11, 12, 13, 14, 14, 17, 18, 19 and 20: "Yes" equals 1 point, "No" equals 0 points.

To facilitate the calculation of frequencies, all those who mark the number 1 indicate the presence of this sign of violence.

Conclusion

By structuring the items through the qualitative research method, being evaluated through expert opinion, and taking into account the suggestions of the mothers, it is evident that the items effectively measure the construct they are intended to measure. Psychometrically, HUMANITY is a valid and reliable scale to quantitatively measure the manifestations of OV in the Colombian context.

Conflicts of interest

The authors declare that they have no conflicts of interest.

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Ethical responsibilities

Protection of people and animals: This study was considered of minimal risk since no invasive intervention was performed that would generate additional risk for the patients (33). It was approved by the Institutional Ethics Committee.

Data confidentiality: the participants' information was used only for this study and no sensitive information was collected about them.

Right to privacy and informed consent: informed consent was obtained from the participants after

answering the questions that arose at the beginning of the interview.

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