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ORIGINAL ARTICLE

Cultural adaptation and psychometric properties of the Chilean-Spanish version of the Family Satisfaction in the Intensive Care Unit - 24 questionnaire

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Abstract
Objective: To adapt and validate the Spanish version of the Family Satisfaction in the Intensive Care Unit - 24 (FS ICU-24) questionnaire among relatives of critically ill patients in a teaching hospital in Chile.
Design: Prospective observational study aimed to validate a measuring instrument.
Setting: Medical-surgical intensive care unit (ICU) of a teaching hospital in Chile.
Patients or participants: Two hundred and forty relatives of critically ill patients with at least48 h in the ICU, older than 18 years, and with at least one visit to the patient.
Interventions: None.
Main variables of interest: Content validity, construct validity, and reliability analysis of the Spanish version of the FS ICU-24 were evaluated.
Results: The Spanish version of the FS ICU-24 was adapted, improving its understanding and clarity. The factor analysis showed an optimal solution of 3 factors for the Chilean-Spanish version of the FS ICU-24, which explain 51% of the total variance. Reliability was adequate for the global scale ($\alpha = 0.93$) and the dimensions of satisfaction with patient and family care ($\alpha = 0.82$), satisfaction with communication ($\alpha = 0.91$) and satisfaction with decision-making ($\alpha = 0.71$).
Conclusions: The Chilean-Spanish version of the FS ICU-24 proved to be valid and reliable for the evaluation of family satisfaction in the ICU. Having a valid instrument will allow health institutions to accurately identify areas for improvement in the care of the family members and the critically ill patient.

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PALABRAS CLAVE
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Adaptación cultural y propiedades psicométricas de la versión en español-chileno del cuestionario *Family Satisfaction in the Intensive Care Unit – 24*

Resumen
Objetivo: Adaptar y validar la versión en español del cuestionario *Family Satisfaction in the Intensive Care Unit* - 24 (FS ICU-24) en familiares de pacientes críticos en un hospital universitario en Chile.
Diseño: Estudio observacional, prospectivo, de adaptación y validación de un instrumento de medición.
Ámbito: Unidad de Cuidados Intensivos (UCI) medico-quirúrgica de un hospital universitario en Chile.
Pacientes o participantes: Doscientos cuarenta familiares de pacientes críticos con estadía superior a 48 h, mayores de 18 años y con al menos una visita al paciente.
Intervenciones: Ninguna.
Variables de interés principales: Se evaluó la validez de contenido, validez de constructo, y análisis de confiabilidad de la versión en español del FS ICU-24.
Resultados: La versión en español del FS ICU-24 fue adaptada, mejorando su comprensión y claridad. El análisis factorial de la versión español-chilena del FS ICU-24 mostró una solución óptima de 3 factores, los cuales explican un 51% de la varianza total. La confiabilidad fue adecuada para la escala global ($\alpha = 0.93$) y las dimensiones de satisfacción con el cuidado del paciente y familia ($\alpha = 0.82$), satisfacción con la comunicación ($\alpha = 0.91$) y satisfacción con toma de decisiones ($\alpha = 0.71$).
Conclusiones: La versión español-chilena del FS ICU-24 demostró ser válida y confiable para la evaluación de la satisfacción familiar en UCI. El contar con un instrumento válido permitirá a las instituciones de salud objetivar e identificar posibles áreas de mejora en el cuidado de la familia y el paciente crítico.

Introduction

The concept of quality of healthcare has several dimensions, with user satisfaction being an indicator of the quality of patient's evaluation of care.[1] However, what we understand as user satisfaction may vary depending on the characteristics of the user and the healthcare context involved. Specifically, the Intensive Care Unit (ICU) differs from other clinical settings, since patients in the ICU are often limited in their capacity to express their wishes or to evaluate the care received, because of their disease condition.[2,3]

In the context of the ICU, the relatives should become involved in decision-making and in the evaluation of the care and attention received by both themselves and the patient. These new roles are often played by relatives in the context of physical, psychological and social problems that can have a negative impact on their quality of life.[4] In particular, the evidence points to a high prevalence of anxiety, stress, depression and posttraumatic stress syndrome in relatives from the time of patient admission to the ICU and for as long as one year after hospital discharge.[5] In this scenario, the literature has described family satisfaction as a quality indicator in the ICU,[6] allowing assessment of the degree to which the ICU care team can know and satisfy the needs and expectations of the relatives.[7] Among the characteristics that influence family satisfaction in the ICU, mention must be made of the quality of communication, emotional support, participation in decision making, closeness to the patient, the ICU environment, and the quality of the nursing care received by the patient.[8]

At present, the 24-item version of the Family Satisfaction in the Intensive Care Unit (FS ICU-24) is the most widely used questionnaire and the tool offering the best psychometric properties.[9,10] The FS ICU-24 has been adapted and validated in languages such as Chinese,[11] Hebrew,[12] Norwegian,[13] British English,[14] Thai,[15] Portuguese[16] and Turkish.[17] Although the FS ICU-24 has been used in research in Spanish-speaking populations,[18,19] it has not been formally validated in Spanish – a fact that limits the possibility of precisely assessing the opinion of the relatives regarding the care they and the patient receive during ICU stay. The present study aimed to adapt and validate the Spanish version of the FS ICU-24 in relatives of critical patients in a teaching hospital in Chile.

Methodology

Design and participants

The present study involved the adaptation and validation of a measurement instrument in a non-randomized sample of relatives of patients admitted to a 32-bed medical-surgical ICU pertaining to a private teaching hospital in Santiago (Chile). The Unit had a regular 6-h visiting period, with the added possibility of visiting the patient outside that time interval. The nurse-to-patient ratio was 1:2–3. Between

October 2017 and December 2018, the relatives of patients with an ICU stay of $\geq$ 48 h and $\geq$ 18 years of age, and who had visited the patient at least once in the ICU, were invited to participate. The study considered the relative in charge of the patient and the visiting persons (direct relatives or not of the patient) authorized by him or her. Up to three relatives per patient were included. Relatives of patients with limitation of therapeutic effort or receiving end-of-life care were not considered.

Instruments and data collection

Data collection was carried out using a sociodemographic characteristics registry form for relatives and the version in Spanish of the FS ICU-24.[20] The FS ICU-24 was developed by Wall et al.[9] and consists of 24 items with responses scored using a 5-point Likert scale and divided into two dimensions: satisfaction with care (14 items) and satisfaction with decision making (10 items). The FS ICU-24 uses a scoring system in which the Likert scores are transformed into a numerical scale (0–100), with higher mean scores indicating greater satisfaction. The original version of the FS ICU-24 reported high internal consistency.[9] On the other hand, we recorded sociodemographic variables of the relatives, as well as basic clinical variables of the patient. In all the stages, the questionnaires were administered during the visiting times by research assistants previously trained in the use of the instrument and in managing the impact of ICU stay upon the relatives.

Adaptation and validation of the FS ICU-24

The adaptation and validation of the FS ICU-24 comprised the following stages: 1) content validity; 2) construct validity; and 3) reliability analysis.[21,22]

Content validity

The version in Spanish of the FS ICU-24 was examined by a group of 10 experts composed of two physicians (specialized in intensive care and family medicine), 7 nurses specialized in intensive care, and a nurse with a Master specializing in family issues. The experts evaluated coherence between the items of the FS ICU-24 and the evaluated construct. Likewise, content validity was assessed using the Lynn index (> 0.8) and the coefficient of content validity, with a value of > 0.7 being considered adequate.[23] The suggestions and modifications in this stage gave rise to the second version of the FS ICU-24.

In the language adaptation stage, the second version of the FS ICU-24 was administered to 10 relatives of patients who recently moved outside the ICU. Based on a semistructured interview, clarity, drafting and understanding of the items were evaluated. The suggestions made by these relatives in turn gave rise to the third version of the FS ICU-24, which was applied in the pilot stage to 10 relatives of patients admitted to the ICU.

Construct validity

The study sample consisted of 240 relatives of critical patients, established using a criterion of 10 subjects per item.[24] A descriptive statistical analysis was made of the sociodemographic characteristics and items of the relatives and the patients. Data asymmetry and normality were assessed using the Shapiro-Wilk test. The items in turn were subjected to multivariate normality testing using the Mardia test to determine the extraction method to be used in the exploratory factor analysis. Since multivariate normality was not met, we used the principle axes extraction method.[25]

The choice of type of rotation (Oblimin or oblique) was determined establishing a cut-off point of 0.5 for the correlation between the factors and the factor solution.[21] To identify the optimum number of factors, use was made of the Kaiser criterion,[26] the scree plot[27] and Horn's parallel analysis.[28] To incorporate an item in a certain factor, we considered factor loading $\geq$ 0.3.[21] Lastly, we evaluated the discrimination of the items by analyzing the correlations between each item and its factor and the homogeneity of the factor solution on analyzing the differences between the factor loadings of one same item in the different factors.

Reliability analysis

The reliability of the version in Spanish of the FS ICU-24, in the same way as its dimensions, was evaluated using Cronbach's alpha, with a value > 0.7 being considered adequate.

Data analysis

The statistical and psychometric analyses were made using R software.[29] Statistical significance in hypothesis testing was considered for $p < 0.05$.

Ethical considerations

The study was approved by the Scientific Ethics Committee of the Faculty of Medicine of Pontificia Universidad Católica de Chile (Ref.: 170708001). All the relatives signed an informed consent document before participating in the study. Authorization was also obtained from the creator of the FS ICU-24 (Dr. Daren Heyland) for use of the instrument.

Results

Content validity

In the phase of evaluation by experts, all the items of the version in Spanish of the FS ICU-24 were classified as adequate. Nevertheless, suggestions were made regarding the semantics of some items and the structure of the questionnaire. With regard to the Lynn index, all the items scored well (>0.8), while in the evaluation of the coefficient of content validity, three items (7, 10 and 12) obtained a value < 0.7. These items were analyzed by the research team, with incorporation of the suggestions of the experts. In this stage, none of the items were eliminated. Subsequently, in

Table 1 Sociodemographic characteristics of the relatives.

Variable	n	%
Gender		
Female	170	70.8
Male	70	29.2
Age (years)[a]	46	15.6
18–29	47	19.6
30–49	91	37.9
50–69	83	34.6
≥70	19	7.9
Educational level		
Elementary school	12	5
High school	68	28.3
Associate degree	57	23.8
College degree	103	42.9
Previous experience in ICU (yes)	163	67.9
Relation to patient		
Spouse/significant other	43	17.9
Adult child	89	37.1
Parent	35	14.6
Sibling	23	9.6
Other	50	20.8
Lives with the patient[b]		
Yes	120	50.2
No	119	49.8
Makes decisions regarding patient health		
Yes	116	48.5
No	66	27.6
Sometimes	57	23.8

ICU: Intensive Care Unit.
[a] Mean and standard deviation.
[b] n = 239.

the language adaptation stage, the relatives ($n = 10$) rated the items as being clear and easy to understand. In the pilot stage, the instrument administration time was found to be ≤ 10 min, with no additional comments being reported by the relatives.

Construct validity

Characteristics of the sample

In this stage we selected 240 relatives, of which 70.8% were women, with a mean age of 46 years (standard deviation [SD] = 15.6). In turn, 67.9% had previous experience as a relative in the ICU, and 58.6% reported having participated in decision making. The sociodemographic characteristics of the relatives are shown in Table 1. The sample of relatives corresponded to a total of 214 patients (89.3% with one relative, 7.9% with 2 relatives and 2.3% with 3 relatives), of which 51.4% were males, with a median age of 59 years (interquartile range [IQR] = 30), a median stay of 5 days (P25–P75, 3–9), and with 29% ($n = 62$) on invasive mechanical ventilation.

Factor analysis

The descriptive analysis of the items is shown in Table 2. The mean for the items was 86.4 (SD = 4.1), with a minimum of 76.9 (item 13) and a maximum of 92.2 (item 9). All the items exhibited a non-normal distribution, as well as negative asymmetry, reflected by multivariate normal behavior ($p < 0.001$) with the Mardia test in asymmetry and kurtosis. In turn, the KMO statistic for the matrix of correlations was 0.93, with rejection of the null hypothesis in the sphericity test ($\chi^2 = 2518$; $p < 0.001$), showing the matrix to be optimum for factor analysis. Oblique rotation was used, since the correlation between the factors and the factor solution was 0.5, presenting lesser complexity (oblique rotation = 1.3 versus orthogonal rotation = 1.7).

For the analysis of principal axes, the Kaiser criterion showed a solution of 2 factors, while the scree plot (Fig. 1) and Horn's parallel analysis evidenced a solution of 3 factors. We tested the solutions with 2 and 3 factors, and chose the solution of 3 factors since it presents greater statistical evidence and is more consistent with the literature and the conceptual analysis of the solutions. The analysis of principal axes showed that the three factors globally explained 51% of the total variance of the items of the instrument under study (eigenvalue factor 1 = 9.78; variance explained = 41%; eigenvalue factor 2 = 1.49; variance explained = 6%; eigenvalue factor 3 = 1.2; variance explained = 4%).

Regarding the factor loadings (Table 2), factor 1 was composed of items 1–9, 12 and 14, which mostly incorporated elements associated to patient care, and was referred to as the «satisfaction with care of patient and family» (SCPF) dimension. In the case of factor 2, we included items 10, 11, 15–20, which were related to the process of communication with the ICU staff, referred to as the «satisfaction with communication» (SC) dimension. Lastly, factor 3 was composed of items 21–23, related to decision making, and was referred to as the «satisfaction with decision making» (SDM) dimension. Item 13 (waiting room environment) did not fit adequately in any of the dimensions, and item 24 (adequate time in decision making) fit the SC dimension with the minimum acceptable value (0.3) and the SDM dimension with a fit of 0.05 points less; nevertheless, we decided to maintain both items, incorporating item 13 to the SCPF dimension and item 24 to the SDM dimension (Table 3).

Reliability analysis

With regard to the internal consistency of the FS ICU-24, adequate values were obtained for both the global scale ($\alpha = 0.93$) and for the dimensions SCPF ($\alpha = 0.82$), SC ($\alpha = 0.91$) and SDM ($\alpha = 0.71$).

Discussion

The psychometric analyses showed a factorial structure of three dimensions, similar to that reported in the adaptations to British English,[14] Thai,[15] Chinese[15] and Turkish.[17] The names assigned to the three dimensions of the FS ICU-24 in this study represent the predominant elements of the items conforming it. For example, the dimension SCPF not only includes aspects referred to patient-related care and treat-

Table 2 Descriptive data of the items of the FS ICU-24.

Item	Description	n	Minimum	Maximum	Mean	SD	Asymmetry
1	Kindness, respect and support received by your family member	240	0	75	91.9	14.7	−1.8
2	Management of pain of the relative (your family member)	234	0	75	89.9	16.1	−1.6
3	Management of dyspnea (breathing difficulty) of the relative (your family member)	198	0	75	90.5	15.0	−1.5
4	Management of agitation (restlessness) of the relative (your family member)	222	0	100	86.1	19.7	−1.6
5	Interest shown by the ICU staff in relation to your family member's needs	240	0	100	90.3	17.5	−2.1
6	Emotional support received from the ICU staff	231	0	100	82.0	22.0	−1.1
7	Coordination of care of the ICU staff caring for the relative	240	0	100	87.4	18.4	−1.5
8	Kindness, respect and support received by you from the ICU staff	240	0	75	91.1	14.7	−1.6
9	Care provided by the ICU nurses for your relative	240	0	75	92.2	13.7	−1.9
10	Frequency with which the ICU nurses talked with you about the condition of your family member	231	0	100	80.4	23.5	−1.1
11	Care given by the ICU physicians to your relative	239	0	75	90.8	15.5	−1.8
12	The ICU environment	240	0	100	88.0	18.7	−1.7
13	The ICU waiting room	234	0	100	76.9	22.6	−0.9
14	Degree of satisfaction regarding the amount of care received by your family member	240	0	100	86.4	18.1	−1.5
15	Frequency of communication with ICU physicians regarding your family member's condition	231	0	100	80.6	22.1	−1.1
16	Willingness of the ICU staff to answer your questions	238	0	100	86.8	19.0	−1.5
17	Clarity of the information provided by the ICU staff	237	0	75	86.3	17.0	−1.2
18	Honesty of the information provided about the condition of your family member	237	0	75	88.4	16.4	−1.3
19	Level of detail of the information provided by the ICU staff regarding what was happening with your family member and the actions taken	237	0	75	86.5	17.6	−1.1
20	Coherence of the information received from the physicians, nurses or other ICU professionals regarding the state of the family member	236	0	100	86.0	19.3	−1.5
21	Did you felt excluded from the decision making process regarding the care of your family member	240	0	100	79.5	27.1	−1.1
22	Did you felt supported in the decision making process regarding the care of your family member	240	50	100	88.2	18.6	−1.2
23	Did you felt in control regarding the care of your family member	240	0	100	82.3	22.3	−1.0
24	When decisions about your family member were made, did you have enough time to express your concerns and to receive answers to your questions?	240	0	100	84.2	36.6	−1.9

SD: standard deviation; ICU: Intensive Care Unit.

ment but also to care of the relatives, such as consideration of their needs (item 5), the perception of emotional support (item 6), and treatment (courtesy, respect and compassion) (item 8). Conceptually, we could propose a classification of the items of SCPF in two dimensions (patient and family). However, our psychometric analyses did not support this alternative.

The original validation of the FS ICU-24, in the same way as the validations corresponding to other languages,[9,13] included most of the items related to communication between the relative and the healthcare team in the dimension SDM. Although information and the communication process can influence the decision-making experience, the items included in the dimension SDM, such as inclusion, sup-

Table 3 Factor loadings, communalities and complexity of the items for 3 factor solution.

Item	Description	SCPF	SC	SDM	h^2	Complexity
1	Kindness, respect and support received by your family member	**0.87**	−0.19	−0.10	0.63	1.1
2	Management of pain of the relative (your family member)	**0.56**	0.05	−0.02	0.36	1.0
3	Management of dyspnea (breathing difficulty) of the relative (your family member)	**0.32**	0.26	−0.02	0.30	1.9
4	Management of agitation (restlessness) of the relative (your family member)	**0.68**	0.13	0.09	0.55	1.1
5	Interest shown by the ICU staff in relation to your family member's needs	**0.81**	−0.03	0.02	0.62	1.0
6	Emotional support received from the ICU staff	**0.42**	0.17	−0.21	0.44	1.8
7	Coordination of care of the ICU staff caring for the relative	**0.78**	0.10	0.09	0.68	1.1
8	Kindness, respect and support received by you from the ICU staff	**0.54**	0.28	−0.03	0.59	1.5
9	Care provided by the ICU nurses for your relative	**0.61**	0.21	0.03	0.56	1.2
10	Frequency with which the ICU nurses talked with you about the condition of your family member	0.13	**0.56**	−0.11	0.51	1.2
11	Care given by the ICU physicians to your relative	0.00	**0.71**	0.01	0.49	1.0
12	The ICU environment	**0.61**	0.12	−0.06	0.52	1.1
13	The ICU waiting room	0.28	0.03	−0.19	0.16	1.8
14	Degree of satisfaction regarding the amount of care received by your family member	**−0.62**	−0.02	0.13	0.47	1.1
15	Frequency of communication with ICU physicians regarding your family member's condition	−0.08	**0.67**	−0.19	0.53	1.2
16	Willingness of the ICU staff to answer your questions	0.29	**0.47**	−0.06	0.54	1.7
17	Clarity of the information provided by the ICU staff	−0.01	**0.82**	−0.04	0.70	1.0
18	Honesty of the information provided about the condition of your family member	0.10	**0.69**	−0.06	0.62	1.1
19	Level of detail of the information provided by the ICU staff regarding what was happening with your family member and the actions taken	−0.01	**0.79**	−0.03	0.63	1.0
20	Coherence of the information received from the physicians, nurses or other ICU professionals regarding the state of the family member	0.09	**0.82**	0.10	0.70	1.1
21	Did you felt excluded from the decision making process regarding the care of your family member	0.01	0.00	**0.56**	0.31	1.0
22	Did you felt supported in the decision making process regarding the care of your family member	−0.02	−0.07	**0.78**	0.67	1.0
23	Did you felt in control regarding the care of your family member	−0.05	−0.01	**0.66**	0.47	1.0
24	When decisions about your family member were made, did you have enough time to express your concerns and to receive answers to your questions?	0.08	**−0.30**	0.25	0.18	2.1

Factor loadings $\geq$ 0.3 in boldface.
h^2: communality; SC: satisfaction with communication; SCPF: satisfaction with care of the patient and family; SDM: satisfaction with decision making; ICU: Intensive Care Unit.

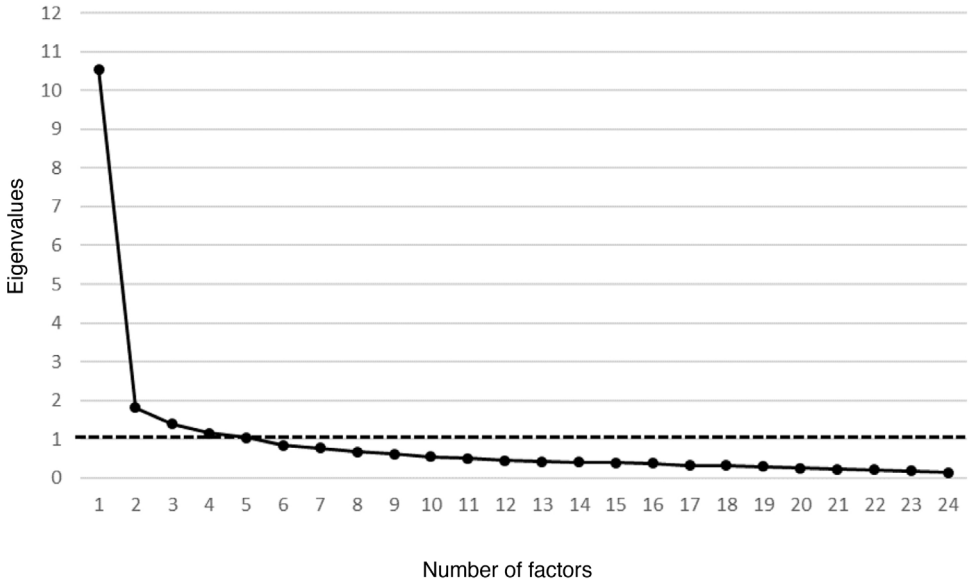

Figure 1 Scree plot of the number of factors in the Chilean-Spanish version of the FS ICU-24.

port, control or adequate time, do not necessarily depend on the amount or quality of the information received from the ICU team, but are also conditioned by the real opportunities for participation of the relatives in decision making referred to the health of the patient.

The factor analysis led to the inclusion of item 11 (physician skill and competence) in the dimension SC. Although this could be contradictory, it is possible that the relatives not only evaluated the clinical competences but also the communication skills of the physician. Traditionally, the relatives in the ICU are informed by the medical team about the condition of the patient.[30] In the case of the ICU in which this study was carried out, the formal information was provided by the medical team within the established hours, and the team was moreover open to consultation outside these hours. This hypothesis is reinforced by the fact that a similar item, but which evaluates the skill and competence of the nursing staff (item 9), was included in the dimension SCPF, and communication with the nurses in dimension SC.

The maintenance of item 13 (environment in the waiting room) in the FS ICU-24 in the SC dimension was supported upon assessment of the relevant role played by the environment in reducing stressors and in improving support of the relatives.[31] Furthermore, in our study, the term ''atmosphere'' was translated as ''environment'', to improve understanding of the item, in a way similar to the approach adopted by Neves et al.[16] Although a secondary element in relation to other attributes of family satisfaction, such as communication, the place where the relatives wait in the ICU is important, particularly when they have to stay in the hospital for prolonged periods of time. Improvements in the ICU waiting rooms, such as the presence of coffee machines and Internet access, have been shown to increase family satisfaction.[32] On the other hand, it should be mentioned that the item could present some semantic ambiguity concerning the word ''environment'', as reported by a minority of the experts in the content validity stage, who pointed out the need to clarify whether the term refers to the physical or to the social/emotional environment. Nevertheless, in this same stage of the validation process, this item received no objections from the relatives.

Other validation studies of the FS ICU-24 have presented item 13 as ''atmosphere (mood state) of the waiting room'', emphasizing evaluation of the relatives about how they feel, rather than on an assessment of the infrastructure or elements found in the waiting room.[11,14] In this respect, being able to share and live similar experiences with other relatives in the waiting room could constitute an additional source of support. In contrast, witnessing the suffering of others on receiving bad news could constitute an added emotional burden for these relatives.[33] The development of new items and the adaptation of the already existing items regarding the environment in the ICU waiting room would allow multidimensional and precise evaluation of this attribute of family satisfaction, contemplating aspects referred to both the infrastructure, design and commodities for the relatives, and to their perceptions regarding interaction with other relatives and the healthcare team in physical spaces.

Regarding the dimension SDM, the distribution of items was identical to that reported in other validations,[11,14] but different from that of the original version[9] and the validation in Turkish,[17] defining a factorial structure of two dimensions. Likewise, item 24 did not reach the defined minimum for the factor analysis, though the decision was made to maintain it in the dimension SDM, given the importance of its content. This difficulty with item 24 was also reported in the validation in Thai,[15] where in addition to maintaining the item, the Likert scale was expanded from 2 to 5 alternatives.

In relation to the reliability analysis, the values obtained in this study were adequate ($\alpha > 0.70$), in concordance with other validation studies that reported a factorial structure of three dimensions.[11,14,17] However, the heterogeneous distribution of the items within the dimensions in the different studies makes it difficult to establish comparisons.

Limitations and strengths

The present study has some limitations. The use of a version in Spanish of the FS ICU-24, in contrast to a translation and back-translation process, could have influenced the cross-cultural adaptation process. On the other hand, since the study was carried out in a private teaching hospital, its applicability to non-teaching and public healthcare centers could be limited. The exclusion of relatives of patients with limitation of therapeutic effort restricts applicability of the findings in this population — limiting knowledge of the experience of these relatives regarding relevant processes in the ICU, such as end of life care. On the other hand, the sample of relatives was characterized by a high educational level, which may have influenced the questionnaire adaptation process — particularly in the language adjustment stage. Lastly, the interdisciplinary nature and the number of experts involved in the content validity stage stand out as strengths of the study.

Conclusions

The Chilean-Spanish version of the FS ICU-24 showed adequate psychometric properties, reporting a factorial structure of three dimensions. In addition, some elements of the FS ICU-24 were seen to be amenable to modification to improve their validity. The availability of a valid and reliable instrument will allow precise assessment of the levels of family satisfaction in the ICU, as well as contribute to identifying the influencing factors. Likewise, the instrument will allow healthcare staff and institutions to design, execute and evaluate strategies seeking to improve the quality of care of families and patients in the ICU.

Contribution of the authors

CPF, NRS and YMM participated in the design of the study. Analysis and interpretation of the data were performed by CPF, NRS and YMM. SAJ contributed to data collection and review of the manuscript. All the authors read and approved the final version of the manuscript.

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Conflicts of interest

The authors declare that they have no conflicts of interest.

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