

Revalidation of the Holistic Comfort Questionnaire – Family for caregivers of people with advanced chronic disease

Revalidação do *Holistic Comfort Questionnaire – Family* para cuidadores de pessoas com doença crónica avançada

Revalidación del *Holistic Comfort Questionnaire – Family* para los cuidadores de personas con enfermedad crónica avanzada

Rita Margarida Dourado Marques*; Maria dos anjos Dixe**; Ana Isabel Querido***; Patricia Pontifice Sousa****

Abstract

Background: Comfort is essential in nursing practice, so useful and valid assessment tools are required.

Objectives: To analyze the psychometric properties of the Holistic Comfort Questionnaire – Family (HCQ-F) for the Portuguese population and assess the level of comfort among caregivers of people with advanced chronic disease.

Methodology: A methodological study with a quantitative approach was conducted with 314 caregivers. The psychometric properties were analyzed using descriptive summary measures, item-total correlations, and Cronbach's alpha. Factor analysis was performed using Varimax orthogonal rotation and extraction factors with eigenvalues > 1.

Results: The internal consistency and factor analysis of the HCQ-F items resulted in the Holistic Comfort Questionnaire – Caregivers – Portugal (HCQ-C-PT) with 18 items that were distributed by 3 factors: relief, ease, and transcendence ($\alpha = .795$).

Conclusion: Based on validity and reliability results, the HCQ-C-PT proved to be suitable for assessing comfort in caregivers of people with advanced chronic disease.

Keywords: comfort; caregivers; chronic disease

Resumo

Enquadramento: O conforto é fundamental na prática de enfermagem pelo que emerge a necessidade de instrumentos úteis e válidos para o avaliar.

Objetivos: Determinar as características psicométricas do *Holistic Comfort Questionnaire – Family* (HCQ-F) para a população Portuguesa e, avaliar o nível de conforto dos cuidadores de pessoas com doença crónica e avançada.

Metodologia: Estudo metodológico com uma análise do tipo quantitativo, realizado a 314 cuidadores. Para o estudo das propriedades psicométricas, calculámos medidas descritivas de resumo, correlações de cada item com o total e, o *alfa* de Cronbach. Para a análise fatorial, utilizámos a rotação ortogonal do tipo varimax e a extração de fatores com valores próprios > 1.

Resultados: Da determinação da consistência interna e análise fatorial dos itens do HCQ-F resultou o *Holistic Comfort Questionnaire – Cuidadores – Portugal* (HCQ-C-PT) com 18 itens que se distribuíram por 3 fatores: alívio, tranquilidade e transcendência ($\alpha = 0,795$).

Conclusão: Os resultados sugerem que o HCQ-C-PT apresenta validade e consistência interna adequados para avaliar o conforto em cuidadores de pessoas com doença crónica avançada.

Palavras-chave: conforto; cuidadores; doença crónica

Resumen

Marco contextual: La comodidad es crucial en la práctica de enfermería. Por eso, surge la necesidad de contar con instrumentos útiles y válidos para evaluarla.

Objetivos: Determinar las características psicométricas del *Holistic Comfort Questionnaire – Family* (HCQ-F) para la población portuguesa y evaluar el nivel de comodidad de los cuidadores de personas con enfermedad crónica y avanzada.

Metodología: Estudio metodológico con un análisis de tipo cuantitativo realizado a 314 cuidadores. Para estudiar las propiedades psicométricas, se calcularon las medidas descriptivas del resumen, las correlaciones de cada ítem con el total y el *alfa* de Cronbach. Para el análisis factorial, se utilizó la rotación ortogonal varimax y la extracción de factores con valores propios > 1.

Resultados: La determinación de la consistencia interna y el análisis factorial de los ítems del HCQ-F dieron como resultado el *Holistic Comfort Questionnaire – Cuidadores – Portugal* (HCQ-C-PT), con 18 artículos que fueron distribuidos en 3 factores: alivio, tranquilidad y trascendencia ($\alpha = 0,795$).

Conclusión: Los resultados sugieren que el HCQ-C-PT tiene una validez y fiabilidad adecuadas para evaluar la comodidad de los cuidadores de personas con enfermedad crónica avanzada.

Palabras clave: confort; los cuidadores; enfermedad crónica

* Ph.D., Specialist Nurse, Hospital de Santa Maria, 2675-644, Oliveiras, Portugal [ritamdmrques@gmail.com]. Address for correspondence: Rua Eusébio Leão, nº2 6ºB, 2675-644, Oliveiras, Portugal. Contribution to the article: literature search, data collection, processing and analysis, discussion of results, article writing.

** Ph.D., Coordinating Professor, Polytechnic Institute of Leiria, 2411-901, Leiria, Portugal [manjos.dixe@gmail.com]. Contribution to the article: data processing and analysis, discussion of results, article writing.

*** Ph.D., Adjunct Professor, Polytechnic Institute of Leiria, 2411-901, Leiria, Portugal [querido.ana@gmail.com]. Contribution to the article: literature search, data collection, processing and analysis, discussion of results, article writing.

**** Ph.D., Assistant Professor, Universidade Católica Portuguesa, 1649-023, Lisboa, Portugal [patriciapontificesousa@gmail.com]. Contribution to the article: article writing.

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Introduction

In daily nursing practice, we often face situations of advanced chronic disease and realize that patients experiencing the disease and their family caregivers have a major need for comfort. Patients have different comfort needs at the physical, psychological, emotional, social, and environmental levels, but caregivers, during their experience, also need the same levels of comfort (Sousa, Marques, Costa, & Dixe, 2011; Yousefi, Abedi, Yarmohammadian, & Elliott, 2009).

If, on the one hand, an advanced chronic disease requires the involvement of the caregivers and quality care for the patient's comfort and well-being, on the other hand, caring for a family member with an advanced chronic disease, especially during end-of-life care, can trigger multiple feelings in the caregivers. This is a particularly stressful period, which can lead to the development of intense emotions that are difficult to manage and can lead not only to physical but also psychosocial and spiritual discomfort (Pereira, 2010).

Therefore, since comfort and its promotion seem to be key elements in nursing practice, which extend far beyond physical care, nurses should be able to identify comfort needs, plan interventions to meet these needs, and assess if the desired comfort outcomes were achieved (Kolcaba, 1991, 2003; Mok et al., 2010; Novak, Kolcaba, Steiner & Dowd, 2001; Sousa, 2014). Thus, and because comfort is one of the universally desirable elements of nursing care, we feel the need for an instrument capable of assessing the level of comfort among caregivers of people with advanced chronic disease, thus contributing to improve care delivery. This study aimed to determine the psychometric properties of the Holistic Comfort Questionnaire – Family (HCQ-F) for the Portuguese population and assess the level of comfort among caregivers of people with advanced chronic disease.

Background

The term comfort is often used in day-to-day language, associated with various contexts and directed to both healthy and ill individuals, as it is used in connection with clothing, shoes, hotel accommodation and household equipment, among others. It therefore

seems that comfort is a necessity of human beings at all stages of their life.

However, although comfort has already been explored by several authors, there is still no consensus in the literature about its definition, ranging from a basic human need to a process or goal to be accomplished, a nursing intervention, or even a desirable outcome, to the extent that it improves the physical, psychological, social and spiritual domains (Yousefi et al., 2009). It is considered a state of well-being that can occur at any stage of the health/disease process, a subjective experience that transcends the physical dimension, because it includes the physical, psychological, social, spiritual, and environmental components (Szareski, Beuter, & Brondani, 2009).

In accordance with Apóstolo and Kolcaba (2009) and Kolcaba (1991, 2003), comfort is a state in which the basic human needs of relief, ease, and transcendence are met in the four contexts of experience: physical, psychospiritual, sociocultural, and environmental. Relief is the state in which a need has been met, which is essential for people to re-establish their normal functioning; ease is a state of calmness or contentment and it is necessary for an effective performance; transcendence is the state in which people feel they have skills or potential to plan, control their destiny, and resolve their problems.

According to the International Classification for Nursing Practice (ICNP), comfort is defined in the axis of nursing focus as “Status: Sensation of physical ease and bodily well-being” (Conselho Internacional de Enfermeiros, 2011, p. 45), while well-being is defined as “Health: Mental image of feeling good, of balance, contentment, kindness or joy, and comfort, usually demonstrated by ease with oneself and openness to others, or satisfaction with independence” (Conselho Internacional de Enfermeiros, 2011, p. 41). Well-being can be subdivided into spiritual, psychological, physical and social well-being. In the Nursing Interventions Classification, comforting is defined as an action of “Relating: Consoling somebody in time of need.” (Conselho Internacional de Enfermeiros 2011, p. 95), while relating emerges as an action of “Attending: Establishing or continuing a connection with one or more individuals, to interact.” (Conselho Internacional de Enfermeiros, 2011, p. 99). Here, we see the importance of the relationship/interaction between nurse/patient/caregiver during the comfort process.

According to Johnson et al. (2009), comfort is a nursing diagnosis defined as a potential to improve, as a state of well-being, relief and transcendence in physical, psychospiritual or environmental dimensions that can be strengthened, and its outcome is in parallel with personal well-being, which is defined as “the satisfaction with one’s health status and life circumstances” (Johnson et al., 2009, p. 99). Thus, comfort emerges as a result of nursing diagnostic interventions and is related to a disturbance of the energy field, while personal well-being is also a possible outcome from interventions, given the diagnosis of “health seeking behavior” (Johnson et al., 2009, p. 107).

However, given that its subjective and multidimensional nature hampers the assessment, monitoring and systematic recording of care, as well as the interventions, its assessment using an instrument adapted to the Portuguese reality is a priority.

We found an instrument which is specifically used to measure holistic comfort both among terminally ill patients and their relatives, which is based on Kolcaba’s Theory of Holistic Comfort (2001) - the Holistic Comfort Questionnaire (HCQ). This instrument was adapted as two versions: one for the patients - HCQ (Patient), and another one for the families - HCQ (Family). The HCQ had internal consistency with Cronbach’s α of .97 in the family’s version, and .98 in the patient’s version (Novak et al., 2001).

The version for family members - HCQ (Family) - has been used and validated in a study conducted on a sample of 133 informal caregivers of women with advanced genital or breast cancer who were admitted to a hospital institution (Rezende et al., 2010). It was translated and validated for the Portuguese population using a sample of 271 relatives of terminally ill patients admitted to an oncology hospital (Matos, 2012).

Research questions

Taking into account the objectives set out, we formulated the following research questions: Is the Holistic Comfort Questionnaire - Family (HCQ-F) valid and reliable for the Portuguese population? What is the level of comfort among caregivers of people with advanced chronic disease?

Methodology

Based on the objectives set out, we conducted a methodological study with a quantitative data analysis (Fortin, 2009).

The target population for this study consisted of caregivers of people with advanced chronic disease, who were selected based on the following inclusion criteria: Palliative Care patients (Direcção-Geral da Saúde, Divisão de Doenças Genéticas, Crónicas e Geriátricas, 2005), from the area of coverage of two hospitals in the Greater Lisbon region. We used the nonprobability intentional sampling technique and selected the sample based on following inclusion criteria: unpaid caregivers of a family member suffering from a progressive chronic disease (such as neoplastic disease; severe organ insufficiency; neurological disorder; other disabling chronic disease, with rapid evolution or frequent flare-ups; concomitant chronic diseases; disease without expectation of recovery), with limited prognosis of months or years of evolution, with the possibility of the patient undergoing aggressive treatments and having multiple and intense symptoms.

The researchers collected the data using a form composed of two groups: sample characterization data (caregiver’s sociodemographic variables and patient’s clinical variables) and the Portuguese version of the Holistic Comfort Questionnaire - Family – Portugal (HCQ-F-P).

It should be noted that the instrument mentioned above has been translated and validated for the Portuguese population by Matos (2012) for terminally ill patients admitted to an oncology hospital. However, although its validation process is already completed, due to the different settings and patients and caregivers’ characteristics, we decided to adapt it to the sample under analysis. Moreover, since 20 items were excluded in its validation process and the obtained factor distribution was different from the original version, we decided to apply the 49 items of the original instrument, instead of the 19 items resulting from its validation for Portugal.

The HCQ-F is composed of 49 statements assessed on a Likert-type scale with scores ranging from 1 to 6, where 1 means *strongly disagree* and 6 means *strongly agree*. The questionnaire assessed two dimensions: the sense of satisfaction of one’s needs (relief, ease, and transcendence), and the context in which comfort

occurs (physical, environmental, sociocultural, and psychospiritual; Apóstolo & Kolcaba, 2009; Kolcaba, 1991; Matos, 2012; Novak et al., 2001).

After data collection, we consolidated the data and performed a statistical analysis using the Statistical Package for Social Sciences (SPSS), version 23.0. To analyze its psychometric properties, we calculated descriptive summary measures, item-total correlations (if item deleted) and Cronbach's alpha coefficients as a measure of the instruments' internal consistency. For the principal components analysis, we used Varimax orthogonal rotation and the extraction of factors with eigenvalues greater than one. We followed the criteria according to which factor loadings in each item should be greater than .30 (Streiner & Norman, 2008). We used the Kaiser-Meyer-Olkin (KMO) test and the Bartlett's test to assess the quality of inter-variable correlations and test the validity of the factor matrix. The significance level of the tests was set at .05. We also performed a descriptive analysis using measures of dispersion and central tendency, with a view to studying its quantitative variables.

Throughout the research process, we tried to implement rigorous ethical/legal principles, so, before the data collection and instrument revalidation process, we asked for the authors' permission to use the instrument (Matos, 2012), which was granted. The study was approved by the executive boards of both institutions and obtained a favorable opinion from the Ethics Committee (0846; 001281). Participants were required to sign an informed consent form.

Results

The sample consisted of 314 caregivers of patients with advanced chronic disease, mostly women (84.1%; 264), with a mean age of 63 years, whose relatives had been admitted to medical services (79.6%) or were being followed-up in outpatient care (20.4%) in two hospitals of the Greater Lisbon area. With regard to their perception of their own health status, caregivers considered that their health was fragile ($M = 2.10$, $SD = 1.77$), that it had worsened since they had begun caring for the patient (93.6%; 294), and that they felt very tired ($M = 2.06$, $SD = 1.69$). With regard to the patients, all of them had a disease without expectation of recovery, particularly neoplastic disease (85.0%; 267), 58.6% (184) were undergoing aggressive treatments, and 57.6% (181) had multiple and severe symptoms.

The internal consistency of the Holistic Comfort Questionnaire – Caregivers – Portugal (HCQ-C-PT) was initially assessed through Cronbach's α with 49 items ($\alpha = .902$). However, based on the item-total correlation, 31 items were eliminated, not only because they had very low correlation values (between .064 and .154), but also because the Cronbach's alpha if item deleted was higher than the total alpha value. The remaining 18 items had a total Cronbach's alpha of .795 and none of the items had a Cronbach's alpha coefficient higher than the total alpha value, which is an indication of good internal consistency. It should be noted that the corrected Pearson's correlation value ranged from .259 to .553, as seen in Table 1.

Table 1
Pearson's correlation of the items in the HCQ-C-PT and item-total Cronbach's alpha if item deleted.

Item	M	SD	Corrected Pearson's Correlation	Cronbach's α if item deleted
5 My beliefs give me peace of mind	4.78	1.23	.396	.785
6 Our nurse(s) give me hope	4.65	1.55	.421	.782
10 I have difficulty resting	3.77	1.91	.268	.793
12 My emotional pain is difficult to endure	3.13	1.97	.348	.787
13 I feel peaceful	4.50	1.53	.461	.780
16 I do not like it here	4.39	1.91	.272	.792
19 This room makes me feel scared	4.82	1.84	.344	.787
20 I am afraid of what is next	3.01	1.91	.321	.789
22 I have experienced changes which make me feel uneasy	3.55	1.76	.398	.783
28 The mood around here is depressing	4.61	1.79	.413	.782

32	I feel out of place here	4.41	1.89	.375	.785
34	I think about my loved one's discomforts constantly	3.44	1.98	.315	.790
35	I feel confident spiritually	4.68	1.28	.438	.783
40	I feel lonely	4.33	1.71	.514	.776
42	I am depressed	3.79	1.78	.553	.773
43	We have found meaning in this experience	3.68	1.83	.435	.781
45	My loved one's state of mind makes me feel sad	3.56	1.80	.299	.790
49	My God is helping me	5.11	1.22	.259	.791
Cronbach's α					.795

Note. M = Mean; SD = Standard deviation.

With regard to the construct validity, we performed a principal components analysis with Varimax rotation which, using Kaiser's criterion (values higher than 1), revealed three specific factors. The proportion of

cumulative variance explained in the total factors was 52.430%. The KMO value was .797 and the Bartlett's test of sphericity was 2029.780 ($p < .0001$), as shown in Table 2.

Table 2

Factor loading matrix using a three-factor Varimax orthogonal rotation of the HCQ-C-PT items

Item	Factor			Context of Comfort	h ²
	1 REL	2 EA	3 TR		
5	My beliefs give me peace of mind	.760		Psy. REL	.579
6	Our nurse(s) give me hope	.680		Psy. REL	.503
10	I have difficulty resting		.567	Phy. EA	.326
12	My emotional pain is difficult to endure		.732	Psy. EA	.654
13	I feel peaceful	.628		Psy. REL	.450
16	I do not like it here		.828	Env. TR	.726
19	This room makes me feel scared		.812	Env. TR	.667
20	I am afraid of what is next		.717	Psy. EA	.543
22	I have experienced changes which make me feel uneasy		.598	Psy. EA	.440
28	The mood around here is depressing		.855	Env. TR	.742
32	I feel out of place here		.772	Env. TR	.612
34	I think about my loved one's discomforts constantly		.631	Soc. EA	.399
35	I feel confident spiritually	.726		Psy. REL	.541
40	I feel lonely		.420	Psy. EA	.410
42	I am depressed		.668	Psy. EA	.584
43	We have found meaning in this experience	.733		Psy. REL	.570
45	My loved one's state of mind makes me feel sad		.475	Soc. EA	.296
49	My God is helping me	.626		Psy. REL	.395
% of variance explained per factor		17.914	17.161	17.355	
% of cumulative variance explained		17.914	35.075	52.430	
KMO					.797
Bartlett's Test of Sphericity					2029.780; $p < .0001$

Note. REL = Relief; EA = Ease; TR = Transcendence; Psy. = Psychospiritual; Phy. = Physical; Soc. = Sociocultural; Env. = Environmental.

We obtained a Cronbach's α of .702 in factor 1, .769 in factor 2, and .854 in factor 3, and a total Cronbach's α of .795. Table 3 shows the taxonomic structure of comfort found in the HCQ, in the HCQ-F (Kolcaba,

1991), the HCQ-F-P (Matos, 2012) and the HCQ-C-PT versions, according to the item distribution in the original instrument.

Table 3

Taxonomic structure of comfort of the HCQ (HCQ-F; HCQ-F-P; HCQ-C-PT)

Contexts (Dimension)	HCQ Version	Types of Comfort (States)		
		Relief	Ease	Transcendence
Physical	HCQ-F	14, 17, 29	1, 10, 47	33
	HCQ-F-P	-	10, 17	-
	HCQ-C-PT	-	10	-
Psychospiritual	HCQ-F	6, 12, 13, 20, 43, 49	5, 15, 22, 35, 40	7, 27, 42, 46
	HCQ-F-P	5, 6, 13, 35, 43, 49	12, 20, 22, 40, 42	-
	HCQ-C-PT	5, 6, 13, 35, 43, 49	12, 20, 22, 40, 42	-
Sociocultural	HCQ-F	8, 11, 24, 44, 45, 48	3, 21, 34, 36, 37, 38	4, 26, 31, 41
	HCQ-F-P	-	34, 45	-
	HCQ-C-PT	-	34, 45	-
Environmental	HCQ-F	2, 23, 25	9, 39	16, 18, 19, 28, 30, 32
	HCQ-F-P	-	-	16, 19, 28, 32
	HCQ-C-PT	-	-	16, 19, 28, 32

Note. HCQ-F = Holistic Comfort Questionnaire - Family; HCQ-F-P = Holistic Comfort Questionnaire - Family - Portugal; HCQ-C-PT = Holistic Comfort Questionnaire - Caregivers - Portugal.

As Table 4 shows, through the application of the final version of the HCQ-C-PT, with the items already renumbered, caregivers reported that they feel comfortable, with a mean value of 4.23 ($SD = 0.83$). The item showing the highest level of comfort can be found in the state of comfort Ease in the psychospiritual context and refers to “My God is helping me” ($M = 5.11$, $SD = 1.27$), while the item

showing the lowest level of comfort can be found in the state of comfort Ease in the psychospiritual context and is associated with the fact that caregivers are “afraid of what is next” ($M = 3.01$, $SD = 1.90$). We also found that caregivers reported a higher level of comfort in the state of comfort Relief ($M = 4.57$, $SD = 1.02$) and a lower level of comfort in the state of comfort Ease ($M = 3.57$, $SD = 1.15$).

Table 4

*Characterization of the level of comfort among the sample of caregivers, according to the several HCQ-C-PT items, per factor and overall comfort (n=314)**

Factor /Item	State/context	Min	Max	M	SD	
Factor 1 – Estado de conforto alívio						
1	A minha fé/crença dá-me paz de espírito	Psychospiritual REL	1	6	4.78	1.23
2	A(s) nossa(s) enfermeira(s) dão-me esperança	Psychospiritual REL	1	6	4.65	1.55
5	Sinto-me em paz	Psychospiritual REL	1	6	4.50	1.53
13	Sinto-me espiritualmente confiante	Psychospiritual REL	1	6	4.68	1.28
16	Encontrámos sentido nesta experiência	Psychospiritual REL	1	6	3.68	1.83
18	O meu Deus está a ajudar-me	Psychospiritual REL	1	6	5.11	1.22
Total of factor 1			1	6	4.57	1.02
Factor 2 – Estado de conforto tranquilidade						
3	Tenho dificuldade em descansar ⁺	Physical EA	1	6	3.77	1.91
4	É difícil aguentar a minha dor emocional ⁺	Physical EA	1	6	3.13	1.97
8	Tenho medo do que está para vir ⁺	Psychospiritual EA	1	6	3.01	1.90
9	Tenho sentido mudanças que me fazem sentir apreensivo ⁺	Psychospiritual EA	1	6	3.55	1.76
12	Estou sempre a pensar no mal-estar do(a) meu/ minha ente querido(a) ⁺	Psychospiritual TQ	1	6	3.44	1.98
14	Sinto-me só ⁺	Psychospiritual EA	1	6	4.33	1.71

15	Sinto-me deprimido(a) ⁺	Psychospiritual EA	1	6	3.79	1.78
17	O estado mental do(a) meu/minha ente querido(a) entristece-me ⁺	Sociocultural EA	1	6	3.56	1.80
Total of factor 2			1	6	3.57	1.15
Factor 3 – Estado de conforto Transcendência						
6	Não gosto disto aqui ⁺	Environmental TR	1	6	4.39	1.91
7	Este quarto faz-me sentir assustado ⁺	Environmental TR	1	6	4.82	1.84
10	Por aqui, o ambiente em volta é deprimente ⁺	Environmental TR	1	6	4.61	1.79
11	Aqui sinto-me deslocado (a) ⁺	Environmental TR	1	6	4.41	1.89
Total of factor 3			1	6	4.55	1.54
Total			1	6	4.23	0.83

Nota. REL = Relief; EA = Ease; TR = Transcendence; Min = Minimum; Max = Maximum; M = Mean; SD = Standard deviation.
*Final version of the HHI-C-PT (with renumbered items). ⁺Reversed item.

Discussion

The HCQ-C-PT included 18 items of the original instrument, distributed across three factors (Relief, Ease, and Transcendence) which Kolcaba (1991, 2003) named states of comfort, and across four different contexts (Physical, Psychospiritual, Socio-Cultural, and Environmental). Factor 1 (Relief) encompassed items 5, 6, 13, 35, 43, and 49; factor 2 (Ease) was comprised of items 10, 12, 20, 22, 34, 40, 42, and 45; and factor 3 (Transcendence) included items 16, 19, 28, and 32.

The reliability of the three factors in HCQ-C-PT was estimated through Cronbach's α . We obtained a Cronbach's α of .702 in factor 1, .769 in factor 2, and .854 in factor 3, and a total Cronbach's α of .795, which shows a good internal consistency (Marôco, 2014). This value ($\alpha = .795$) is lower than that of the original instrument ($\alpha = .97$), the studies conducted in Portugal (Matos, 2012) and Brazil (Rezende et al., 2010; $\alpha = .83$), but higher than that found in a study in South Africa (Kim & Kwon, 2007) in which a short version of the instrument (with 24 items) was applied to a sample of 98 patients with cancer ($\alpha = .76$). However, it should be noted that all studies, except the one conducted in Portugal (Matos, 2012), used a smaller sample than what is considered acceptable (Ribeiro, 2010).

Similarly to the original study (Novak et al., 2001) and in the validation for the Portuguese population (Matos, 2012), the principal components analysis revealed three specific factors. The proportion of [ASC12]: cumulative variance explained (52.430%) is higher than that obtained in the Portuguese study (Matos, 2012; 44.55%), whereas the KMO value of

.797, suggesting a good inter-variable correlation (Ribeiro, 2010), was lower than the value of .83 found in the Portuguese population (Matos, 2012). The test of sphericity (2029.780; $p < .0001$) indicates a good sampling adequacy to the factor analysis.

Moreover, in the revalidation process, we found that some items could not be assigned to any of the three factors, as in the original scale, and that some of them had moved between the factors Relief and Ease, which caused some difficulties in distinguishing these two states of comfort.

We found that items 5 and 35 had moved from factor Ease to factor Relief, whereas items 12, 20, and 45 had moved from factor Relief to factor Ease. Only item 42 loaded on factor Ease rather than on factor Transcendence.

Item 5 "My beliefs give me peace of mind", which belongs to factor Ease in the overall taxonomic structure of holistic comfort, loaded on factor Relief (.760). This leads us to believe that, although having faith/belief to achieve peace of mind is a response to the situation of discomfort and a condition necessary for people to reestablish their normal functioning, it is not considered as a positive and long-lasting state. In addition, item 35 "I feel confident spiritually" loaded on factor Relief (.726), clearly indicating that the study participants felt that spiritual confidence was an experience of relief from psychospiritual discomfort, but not as a long-term state.

In our sample, and unlike what is theoretically considered in the overall taxonomic structure of holistic comfort (Kolcaba, 1991, 2003), items 5 and 35 belong to the factor Relief, and not to the factor Ease. We found that items 12, 20, and 45 ("My emotional pain is difficult to endure"; "I am afraid of what is

next”; and “My loved one’s state of mind makes me feel sad), which theoretically are factors of Relief, loaded on factor Ease, with factor loadings of .732, .717, and .475, respectively. This leads us to believe that, for the study participants, enduring emotional pain, fear of the unknown, and loved ones’ mental status are states of long-lasting discomfort, interfering with their ability to feel calm and at peace, which are necessary conditions for an efficient performance.

In turn, item 42 “I am depressed” loaded on factor Ease (.668) rather than on factor Transcendence. In cultural terms, *not being depressed* is, for families, a positive state of calmness and satisfaction, which is necessary for caregivers to perform their role. On the contrary, *feeling depressed* is a state that compromises the performance of tasks necessary for the patients’ and families’ comfort, causing discomfort, unease, and dissatisfaction. In this context, the inclusion of the item in factor Ease is justified.

Therefore, although the distribution of six of the 18 HCQ-C-PT items was different from that of the original instrument, the final distribution remained the same as that of other study conducted in Portugal (Matos, 2012) using different samples. The exception is item 17 “I have no appetite”, which was included in the validation of the instrument for the Portuguese population (Matos, 2012) but was excluded in the HCQ-C-PT for having a Pearson’s correlation coefficient lower than .20. However, it should be noted that, in the above-mentioned Portuguese study, item 17 “I have no appetite” had the lowest Pearson’s correlation coefficient (.33). This leads us to believe that comfort is a personal experience, so its perception can vary according to each individual’s personality and culture, and his/her own interpretation of the same issues.

With regard to the original instrument, it should be noted that, on the one hand, in addition to the cultural differences, 22 years have passed since the study was conducted, and that the way in which comfort and care quality are perceived have changed. On the other hand, the author of the original instrument stated that the assessment of holistic comfort requires caution when duplicating the taxonomic structure as it is presented in the instrument originally developed. The author even suggested that it is prudent not to duplicate this structure (Kolcaba, 2003).

With regard to the level of comfort, the highest level of comfort among caregivers was associated with the state Relief, and their major comfort needs were related to the state Ease in the Physical, Psychospiritual and Sociocultural contexts. Additionally, the author responsible for the translation and validation of the instrument (Matos, 2012) concluded that caregivers felt comfortable, although the obtained value was lower ($M = 3.8$; $SD = 0.8$) than that obtained in the study sample ($M = 4.23$, $SD = 0.83$). In the original study (Novak et al., 2001), family members also showed a good level of comfort; however, this value was lower than the level of comfort of terminally ill patients (Rezende et al., 2010).

In line with these findings, the study conducted in Portugal (Matos, 2012) also found that caregivers showed a higher level of comfort in the state Relief ($M = 4.5$; $SD = 1.0$) and a lower level of comfort in the state Ease ($M = 3.2$; $SD = 1.0$), results that are similar to those obtained in the study conducted in Brazil (Rezende et al., 2010).

Conclusion

The revalidation of the HCQ-F-P translated for the Portuguese population (Matos, 2012) was performed using a sample of 314 caregivers of people with advanced chronic disease, with a ratio of 6.4:1 (number of subjects per questionnaire item). The validation process resulted in a Likert-type scale - HCQ-C-PT, with a total of 18 items that were distributed by three factors: Relief, Ease, and Transcendence. With regard to the psychometric characteristics, the instrument showed a Cronbach’s α coefficient of .795, and a KMO of .797.

We encountered some difficulties during the instrument validation process, which were related to its psychometric characteristics, the number of items, and the item distribution by the factors. However, we noticed that its psychometric characteristics changed whenever this instrument was validated or revalidated for another population/culture, which leads us to believe that they may be sensitive to different sample characteristics and cultural differences.

Despite this, we believe that this scale has good psychometric properties and that it is a short, simple and easy-to-complete instrument that can be used

as a tool for diagnosis and assessment of nursing interventions with the purpose of improving the level of comfort among caregivers of people with advanced chronic disease, thus contributing to improve care delivery.

With regard to the overall level of comfort, our results indicate that caregivers feel comfortable (although with a level of comfort far from desirable), and that the highest level of comfort is associated with the state Relief, and the lowest level of comfort with the state Ease. This supports the importance of implementing and assessing strategies to promote comfort.

We believe that this research, as well as the results described in this article, may be the starting point and a contribution to the assessment and promotion of comfort among caregivers of people with advanced chronic disease. We are aware that only research can lead to the development of the state of the art concerning the inclusion of comfort in care delivery. We believe that special attention should be given to this topic due to its multiple benefits, and, for this reason, we suggest additional studies to be conducted. For example, it would be important to develop qualitative studies on the construct with the purpose of further analyzing this topic and interventions to promote comfort. With regard to the measurement instruments, we believe that the structural question should be further discussed in studies using confirmatory factor analysis with different samples.

References

Apóstolo, J., & Kolcaba, K. (2009). The effects of guided imagery on comfort, depression, anxiety, and stress of psychiatric inpatients with depressive disorders. *Archives of Psychiatric Nursing*, 23(6), 403-411. doi: 10.1016/j.apnu.2008.12.003

Conselho Internacional de Enfermeiros. (2011). CIPE versão 2: Classificação Internacional para a Prática De Enfermagem. Retrieved from <http://associacaoamigosdagrandeidade.com/wp-content/uploads/filebase/guias-manuais/ORDEM%20ENFERMEIROS%20cipe.pdf>

Direção-Geral da Saúde, Divisão de Doenças Genéticas, Crónicas e Geriátricas. (2005). Programa Nacional de Cuidados Paliativos. Retrieved from <http://1nj5ms2lli5hdggbe3mm7ms5.wpengine.netdna-cdn.com/files/2015/08/Programa-Nacional-de-Cuidados-Paliativos.pdf>

Fortin, M. F. (2009). *Fundamentos e etapas do processo de investigação*. Loures, Portugal: Lusodidacta.

Johnson, M., Bulechek, G., Butcher, H., Dochterman, J., Maas, M., Moorhead, S., & Swanson, E. (2009). *Ligações entre NANDA-I, NOC e NIC: Diagnósticos, resultados e intervenções* (2ª ed.). Porto Alegre, Brasil: Artmed.

Kim, K., & Kwon, S. (2007). Comfort and quality of life of cancer patients. *Asian Nursing Research*, 1(2), 125-135. doi: 10.1016/S1976-1317(08)60015-8

Kolcaba, K. (1991). A taxonomic structure for the concept comfort. *Journal of Nursing Scholarship*, 23(4), 237-240. doi: 10.1111/j.1547-5069.1991.tb00678.x

Kolkaba, K. (2001). Evolution of the Mid Range Theory of Comfort for Outcomes Research. *Nursing Outlook*. Washington. 49(2), 86-92. doi: 10.1067/mno.2001.110268

Kolcaba, K. (2003). *Comfort theory and practice: A vision for holistic health care and research*. New York, NY: Springer Publishing Company.

Marôco, J. (2014). *Análise estatística com utilização do SPSS* (6ª ed.). Lisboa, Portugal: Edições Sílabo.

Matos, M. J. (2012). *O conforto da família em cuidados paliativos: Tradução e validação para a população portuguesa do Holistic Comfort Questionnaire (family)*. (Masters dissertation). Universidade Católica Portuguesa, Porto, Portugal.

Mok, E., Lam, W., Chan, L., Lau, K., Ng, J., & Chan, K. (2010). The meaning of hope from the perspective of Chinese advanced cancer patients in Hong Kong. *International Journal of Palliative Nursing*, 16(6), 298-305. doi: 10.12968/ijpn.2010.16.6.48836

Novak, B., Kolcaba, K., Steiner, R., & Dowd, T. (2001). Measuring comfort in caregivers and patients during late end-of-life care. *American Journal of Hospice and Palliative Medicine*, 18(3), 170-180. doi: 10.1177/104990910101800308

Pereira, S. M. (2010). *Cuidados paliativos: Confrontar a morte*. Lisboa, Portugal: Universidade Católica Editora.

Rezende, V., Derchain, S., Botega, N., Sarian, L., Vial, D., Morais, S., & Perdicaris, A. (2010). Avaliação psicológica dos cuidadores de mulheres com câncer pelo General Comfort Questionnaire. *Páideia*, 20(46), 229-237. doi: 10.1590/S0103-863X2010000200010

Ribeiro, J. L. (2010). *Metodologia de investigação em psicologia e saúde* (3ª ed.). Porto, Portugal: Legis Editora.

Sousa, P. P. (2014). *O conforto da pessoa idosa*. Lisboa, Portugal: Universidade Católica Editora.

Sousa, P., Marques, R., Costa, M., & Dixe, M. (2011). O conforto do doente idoso com doença crónica e de cuidadores informais em contexto de hospitalização. *International Journal of Developmental and Educational Psychology*, 1(3), 457-466.

Streiner, D., & Norman, G. (2008). *Health measurement scales: A practical guide to their development and use* (4ª ed.). New York, NY: Oxford University Press.

- Szareski, C., Beuter, M., & Brondani, C. (2009). Situações de conforto e desconforto vivenciadas pelo acompanhante na hospitalização do familiar com doença crônica. *Ciência, Cuidado e Saúde*, 8(3), 378-384. doi: 10.4025/ciencucuidsaude.v8i3.9020
- Yousefi, H., Abedi, H., Yarmohammadian, M., & Elliott, D. (2009). Comfort as a basic need in hospitalized patients in Iran: A hermeneutic phenomenology study. *Journal of Advanced Nursing*, 65(9), 1891-1898. doi: 10.1111/j.1365-2648.2009.05026.x