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RESEARCH PAPER (ORIGINAL)

Construction and Validation of the Escala de Comportamentos de Abordagem aos Média por Enfermeiros (Scale of Media Use Behaviours by Nurses)

Construção e Validação da Escala de Comportamentos de Abordagem aos Média por Enfermeiros
Construcción y Validación de la Escala de Comportamientos de Interacción con los Medios de Comunicación por Enfermeros

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Abstract

Theoretical framework Media messages about healthcare in Portugal tend to undervalue the nurses' contributions and may lead to reductive representations of the sector. Understanding how nurses deal with the media is essential to characterise this issue.
Objectives: To build and validate the *Escala de Comportamentos de Abordagem aos Média por Enfermeiros* (Scale of Media Use Behaviours by Nurses).
Methodology: A methodological study was conducted using a sample of nurses from the same social network (n=528). The validation process included factor analysis, as well as the analysis of internal consistency and temporal stability.
Results: We obtained a scale composed of 23 items divided into 5 factors, which explain 70.98% of the variance. The scale shows a good internal consistency and an acceptable temporal stability.
Conclusion: The instrument proved to be valid and reliable. The development of educational programs about media approach may help nurses to publicly disseminate the value and the contributions of the profession.

Keywords: Validation studies; nursing; social communication

Resumo

Enquadramento: As mensagens mediáticas sobre a saúde em Portugal tendem a desvalorizar o contributo dos enfermeiros e podem originar representações redutoras do setor. Compreender como os enfermeiros abordam os média torna-se fundamental para caracterizar esta problemática.
Objetivos: Construir e validar a Escala de Comportamentos de Abordagem aos Média por Enfermeiros.
Metodologia: Realizou-se um estudo metodológico numa amostra de enfermeiros pertencentes à mesma rede social (n=528). O processo de validação incluiu a análise fatorial, a análise da consistência interna e da estabilidade temporal.
Resultados: Obteve-se uma escala de 23 itens, distribuídos por 5 fatores, que explicam 70,98% da variância. O instrumento apresenta boa consistência interna e valores aceitáveis de estabilidade temporal.
Conclusão: O instrumento revelou-se válido e fiável. O desenvolvimento de programas educativos sobre abordagem mediática poderá ajudar os enfermeiros a evidenciar publicamente o valor e contributos da profissão.

Palavras-chave: Estudos de validação; enfermagem; comunicação social

Resumen

Marco contextual: Los mensajes de los medios de comunicación sobre la sanidad en Portugal tienden a infravalorar la contribución de los enfermeros y pueden influir en la percepción de dicho sector. Entender cómo los enfermeros interactúan con los medios de comunicación es fundamental para comprender esta problemática.
Objetivos: Construir y validar la Escala de Comportamientos de Interacción con los Medios de Comunicación por Enfermeros.
Metodología: Se realizó un análisis metodológico en una muestra de enfermeros de la misma red social (n=528). El proceso de validación incluyó el análisis factorial, el análisis de la consistencia interna y de la estabilidad temporal.
Resultados: Se obtuvo una escala con 23 ítems, distribuidos por 5 factores, que explican el 70,98% de la varianza. El instrumento presenta buena consistencia interna y valores aceptables de estabilidad temporal.
Conclusión: El instrumento demostró su validez y fiabilidad. El desarrollo de programas educativos sobre la interacción entre enfermeros y medios de comunicación puede ayudar a los enfermeros a mostrar públicamente el valor y la contribución de la profesión a la sociedad.

Palabras clave: Estudios de validación; enfermeira; comunicación social

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Introduction

There has been growing media coverage of health in recent decades. The cult of the image, the increase in longevity and the scientific advances in the field of Health Sciences have consolidated the citizens' interest and motivated the production of media contents in this area (Aroso, 2012). The media are central to the diffusion of these contents, in so far as they "inform, explain and contextualise health issues that can help citizens to make decisions about their own health" (Araújo, Lopes, & Ruão, 2013, p. 139). According to these authors, citizens increasingly seek the media to clarify doubts, instead of only consulting health professionals.

Araújo et al. (2013) argue that the media not only provide information on health; they create social representations about the sector and are often the only informational resources to which people have access. This view is shared by Fonseca and Baptista (2013), according to whom the media build realities and structure contemporary societies. The mechanism of reality construction (by the media) is so important that what is reported comes to exist in a conscious way in the mind of the public, and what is not reported transforms itself into something ineligible and disposable. In this way, there are aspects of the event reported (as actors involved and actions performed) that are actively hidden by the media, often contributing to the formation of incomplete and unbalanced representations of reality by the public (Fonseca & Baptista, 2013).

The media content on health tend to reflect a society that is medicalised and anchored in the biomedical model. However, the health system is based on the contributions of dozens of professionals and in the collaboration of different disciplines. In this system, nurses provide the majority of direct care to citizens, manage units and departments, integrate decision-making commissions and bodies, investigate problems, and explore technological solutions. Although they work in almost every setting and provide a unique contribution for improving the health and well-being of citizens, nurses are still barely visible in the media coverage of health (Buresh & Gordon, 2013; Cardoso, Graveto, & Albuquerque, 2014). This study aimed to build and validate the *Escala de Comportamentos de Abordagem aos Média por Enfermeiros* (ECAME) (Scale of Media Use Behaviours by Nurses).

Background

The media visibility of the profession has been studied in several countries, with a particular focus on: News coverage of the profession, analysis of the images and stereotypes used in entertainment programs on health, analysis of advertising contents, analysis of the images published in the written press, and, to a lesser extent, the relationship between journalists and nurses.

Entertainment programs affect the citizen's perception of the functioning of the health system and influence their behaviour and attitudes towards the professionals (Buresh & Gordon, 2013). These authors add that the representations of autonomous decision-making by nurses and the impact of their care on the citizens are rare in this type of programs, which generates a gap between reality and media fiction.

In Portugal, most studies focus on the news coverage and sources of health information: In 2008, Lopes, Ruão, and Pinto-Coelho (2009) analysed 801 pieces of news about health published in two Portuguese newspapers and showed a low representativeness of nurses as sources of information; Silva (2011) analysed 2781 pieces of news from three Portuguese newspapers and concluded that nurses were sources of information in 1.1% of cases, appeared in 4.4% of the titles, and were mentioned in 2.6% of the health articles published in the first pages of the newspapers; Lopes et al. (2013) collected 5667 pieces of health news from three national newspapers during 4 years and concluded that nurses were news sources 0.4% of times in the *Semanário Expresso*, 0.6% of the times in the *Jornal Público* and 1.3% of the times in the *Jornal de Notícias*; Cardoso et al. (2014) analysed 946 pieces of news from nine informative sites of the written press, radio and television and verified that nurses were sources of information in 6.6% of the cases, and that the news content tended to be negative and generally related with strikes and rallies. Finally, Martins and Fernandes (2014) conducted an integrative literature review and analysed how nurses promoted the visibility of the profession, having noted that Nursing has limited visibility and that society is unaware of the nurse's role and the importance of the care provided.

The reduced news coverage of Nursing is justified by the relationships established between the nurses

and the media, among other factors. Buresh and Gordon (2013) and Cardoso et al. (2014) state that nurses are afraid of talking to journalists because they fear being wrongly quoted, being questioned about themes outside their area of expertise and being reprimanded by their superiors. Finkelman and Kenner (2013) emphasise the historical evolution of the profession and the culturally imposed silence as factors that affect media participation. On the other hand, media professionals show a lack of knowledge about the Nursing areas of activity, job market, and career and confirm the invisibility of the nurses in the media (Kemmer & Silva, 2007). The journalists' routines represent another factor interfering with this relationship: The number of professionals in the newsrooms has decreased; the deadlines have become shorter; journalists are increasingly dependent on sources of health information (given the complexity of the discourses that need decoding); official (institutional and academic) and male sources of information are more often used, as well as previously used sources of information (maintaining a vicious cycle which gives voice to only a few health agents); and there is a preference for physicians and politicians, who journalists consider to be more important and credible (Lopes, Ruão, Marinho, Fernandes, & Gomes, 2012; Lopes et al., 2013).

Nurses tend not to be chosen as sources of health information, which may justify the low visibility of Nursing. Santos (2012, p. 205) exemplifies, when mentioning that although "hearing the nurse would be pertinent and supplemental, and even if it were possible to obtain equally or more relevant information from this professional, even so, the only the physician was consulted". Lopes et al. (2012, p. 343) explains that "the physicians and patients organised in associations are those who receive priority in journalistic discourse. The others do not exist". In this sense, Lopes et al. (2013, p. 62) indicate that "the tendency to always hear the same people within these groups has undermined the visibility of other agents who should have been given a voice. [...] Important professionals such as nurses [...] would have been good sources, if they had not been marginalised."

The limited visibility of Nursing in the media arises from the previously described constraints and entails serious damages to the profession and to society, with an impact on the recruitment of nurses, the public perception of the profession, the funding of education and research in Nursing, the relationship with other health professionals, managers and politicians, the violence against nurses, professional performance, working conditions (work load, burnout and work dissatisfaction), as well as on the nurses' self-image and self-concept (Rezaei-Adaryani, Salsali, & Mohammadi, 2012; Finkelman & Kenner, 2013; McAllister, Downer, Hanson, & Oprescu, 2014). Recognising the potentially harmful consequences of media invisibility, it is important to characterise the efforts performed by nurses to approach the media, seeking to improve the visibility of the planned and provided care. To characterise the relationship with the media, we used the concept of approach instead of interaction, since the latter presupposes some type of feedback and the reality of the media do not always include this feedback: Nurses approach the media to share health information aiming at its dissemination, but this information is not always made public or there is no concrete response from the media outlet.

Research Question

Does the ECAME, built within the scope of this work, show satisfactory reliability and validity criteria to be used as an instrument to measure the frequency of media use behaviours by nurses?

Methodology

Type of Study

The study covered the construction and validation of the ECAME.

Population and Sample

A methodological study was conducted with a sample of 528 nurses from Mainland Portugal and the Islands. Professionals from a closed group of a social network, only composed of nurses, were asked to voluntarily participate in the study. The inclusion criterion was being legally authorised to exercise the nursing profession in Mainland Portugal and the Islands.

Instruments

An extensive literature review was performed, based on which 30 items representing media use behaviours

by nurses were defined. The list of items was reviewed by a panel of experts in Nursing, Social Media and Communication Sciences, namely a PhD researcher from the Nursing School of Coimbra and member of the Health Sciences Research Unit: Nursing (UICISA: E), a PhD researcher from the University of Porto, a researcher with a Bachelor's Degree in Communication Sciences and a researcher with a Master's Degree in Communication Sciences. In a group meeting, after reaching a consensus from all the experts, 24 items were selected.

Data were collected through a self-administered instrument composed of a sociodemographic questionnaire and the ECAME. The sociodemographic questions covered the variables related to gender, age, academic qualifications, main professional area of activity, years of professional experience, and country region. It also included other variables, such as attendance of specific pre- and post-graduate training in communication, the existence of a previous relationship with media professionals and the frequency of consumption of media content on health (through the press, television, radio and the Internet). The ECAME assesses the variable on the frequency of approach to the media by the nurses, through 24 statements concerning behaviours adopted up until 1 month before its completion. This is a 5-point Likert-type scale, with the answer options ranging from *never* to *always* (scores between 0 and 4). Higher scores correspond to higher frequencies of media use behaviours by the nurses.

In order to test its face validity, a pre-test was performed with 28 nurses. The participants emphasised the ease and speed of completion, so it was not necessary to carry out additional changes.

The first phase took place in October 16-30, 2013 and consisted of the online completion of the questionnaire. Participants were asked to insert a participation code (composed of the first two letters of the first name, the last two letters of the last name and three non-sequential digits) and send it to an email address specifically created for this purpose, if they wished to participate in the second phase of completion. Between January 1st and 15th, 2014, 61 nurses participated again and only completed the ECAME, being possible to compare data through the participation code.

Data processing

In order to be able to use the ECAME in a comprehensive study, its psychometric properties needed to be tested. Thus, the construct validity was analysed through the exploratory factor analysis (EFA); the internal consistency was analysed by calculating Cronbach's alpha; and temporal stability was assessed through Spearman's correlation.

In the EFA, we used the principal components extraction method, through orthogonal varimax rotation. We adopted the criteria used in the studies of Almeida, Rodrigues, and Escola (2013) and of Martins and Andrade (2014) to determine the factors and item retention: 1) factors with eigenvalue greater than or equal to 1 (Kaiser' s criterion); 2) items with factor loading and commonality greater than or equal to 0.4; 3) exclusion of items with scores greater than 0.3 in more than one factor and whose difference between scores exceeds 0.15; 4) the factors retained should explain, at least, 40% of variance; and 5) each factor should have a minimum of three items.

The internal consistency analysis was based on the criteria used by Almeida et al. (2013): 1) the Cronbach's alpha of the scale should be greater than or equal to 0.70; 2) the item-total correlations should not be lower than 0.4; and 3) the alpha value should not increase when an item is deleted. Temporal stability was assessed through test-retest, by comparing the data obtained between both applications of the instrument (with a 2-month interval).

Since we did not observe the adherence of the variable frequency of media use behaviours to the normal distribution (Kolmogorov-Smirnov nonparametric test), we used Spearman's correlation test to assess temporal stability. The *Statistical Package for the Social Sciences* (SPSS), version 19, was used for data analysis.

Formal and ethical procedures

The respondents were informed about the study and its objectives, as well as the voluntary nature of their participation. They were ensured the anonymity and confidentiality of all answers, as well as the right to privacy. This study was conducted within the scope of the project *Comunicar Enfermagem: dos Média à Sociedade* (Communicating Nursing: from the Media to Society) developed by a health research unit in Portugal.

Results

The sample was composed of 528 nurses: 415 women and 113 men. As can be observed in Table 1, the mean age of participants was 35.10 years (SD = 9.28 years). The country regions with the highest number of answers were: the Central region with 35.8% (n= 189), the North with 25.6% (n=135), and Lisbon and Tagus Valley with 23.5% (n=124), followed by Alentejo (5.1%), Algarve (4.5%), Madeira (3%), and the Azores (2.5%). The main activity of the nurses in the sample was: general care (69.3%, n = 366), specialised care (13.3%) and management (8.5%). Health media contents were more frequently consumed via the Internet (96.3%, n= 508), followed by the television (86.7%), the written press (83.3%), and the radio (48.1%).

Table 1

Sample distribution regarding the variables of age, years of professional experience, gender, academic qualifications, specific training in communication, and relationship with media professionals

	N = 528	
	Mean	SD
Age	35.10	9.28
Professional experience	12.10	9.38
	n	%
Gender		
Female	415	78.6
Male	113	21.4
Academic Qualifications		
Bachelor's Degree or Equivalent	399	75.6
Master's Degree	120	22.7
PhD	9	1.7
Specific Training in Communication		
Yes	74	14.0
No	454	86.0
Relationship with Media Professionals		
Yes	107	20.3
No	421	79.7

Psychometric characteristics of the ECAME

The psychometric characteristics of the ECAME were assessed, namely construct validity, internal consistency (reliability) and temporal stability. We obtained a final solution with 23 items grouped in five factors.

The score of 0.903 obtained in the Kaiser-Meyer-Olkin test and the chi-square of 9091.126 (p = 0.000) obtained in Bartlett's test of sphericity allowed concluding on the adequacy of the factor analysis. When performing the first factor analysis using the principal component extraction method, we obtained a five-factor solution with eigenvalue greater than 1, which encompassed the 24 initial scale items and explained 68.75% of the total variance. However, item 21 – I organised television programs (prior research and production of contents) – showed a commonality score of 0.292, which is why it was deleted. A second factor analysis was performed with the 23 remaining items, and we obtained a five-factor solution with eigenvalue greater than 1, which explained 70.98% of the total variance. Some items loaded higher than 0.3 in more than one factor. However, as the difference between factor loadings was greater than 0.2, these items were not deleted. All of the factors obtained in this solution comprise three or more items, as previously established.

As observed in Table 2, all items have commonality scores above 0.5 and had satisfactory factor loadings in the different factors.

Table 2
Factorial analysis and factor loadings after varimax rotation of the ECAME

Items	h^2	F1	F2	F3	F4	F5
Item 1	0.638	0.670				
Item 2	0.554	0.538				
Item 3	0.577	0.735				
Item 4	0.833					0.824
Item 5	0.811					0.838
Item 6	0.764					0.788
Item 7	0.584	0.636				
Item 8	0.508	0.637				
Item 9	0.516	0.621				
Item 10	0.685	0.670				
Item 11	0.554	0.603				
Item 12	0.600	0.632				
Item 13	0.646	0.732				
Item 14	0.820		0.738			
Item 15	0.837		0.835			
Item 16	0.764		0.718			
Item 17	0.522		0.633			
Item 18	0.850			0.855		
Item 19	0.677			0.738		
Item 20	0.850			0.866		
Item 22	0.914				0.900	
Item 23	0.922				0.905	
Item 24	0.897				0.887	
Eigenvalues		9.667	2.831	1.266	1.391	1.168
% Explained variance		42.03%	12.31%	5.51%	6.05%	5.08%
% Accumulated variance		42.03%	54.34%	59.85%	65.90%	70.98%

Note. F1= Promotion of news coverage and interaction with the media; F2= Communication in the radio; F3= Communication in the TV; F4= (Re)Production and sharing of online contents; F5= Comments of online media content.
Kaiser-Meyer-Olkin = 0.903; Bartlett's test of sphericity (approx. Chi-Square = 9091.126;p = 0.000)

Regarding the obtained factor structure, it should be highlighted that factor 1 explains 42.03% of the variance and that the following items load on it: 1, 2, 3, 7, 8, 9, 10, 11, 12 and 13. Since these items are related to approaches intended to increase the media coverage of the profession (such as inviting the media to nursing events or promoting reportages in the work place) and improve the interaction with the media (such as contacting producers of television series or actively participating in press conferences), this factor was designated as Promotion of news coverage and interaction with the media. Factor 2 explains 12.31% of the variance and the following items load on it: 14, 15, 16, and 17. As these items are related to approaches to radio programs, we designated this factor as Communication in the radio. Factor 3 explains 5.51% of the variance and items 18, 19, and 20 load on it. These items are related to behaviours of usage of television communication outlets, so we designated it as Communication in the television. Factor 4 explains 6.05% of the variance and items 22, 23, and 24 load on it. These items are related to the behaviours of supply of information to the media. This information comes from Nursing professional organisations and is available online. Hence, we designated this factor as (Re)Production and sharing of online content. Factor 5 explains 5.08% of the variance and items 4, 5, and 6 load on it. These items relate to behaviours of reaction to online media production through several types of comments. Thus, we designated this factor as Comments of online media content. The division obtained through factor analysis suggests the following categorisation of the media use behaviours based on their nature: Promotion of news coverage, communication in the radio and television, sharing of information and comments on the Internet.

Since we intended to assess the frequency of a set of media use behaviours and not the frequency of individual behaviours or behaviours related to a single type of media outlet, we believe that the ECAME should be a single scale, with a total score.

The study of reliability comprised the assessment of the internal consistency of the items of the ECAME and temporal stability. According to Table 3, we obtained a very good Cronbach's alpha for the total scale (0.920). Item-total correlation scores between 0.473 and 0.705 were obtained, which confirmed the internal consistency of the ECAME.

Table 3

Statistics of homogeneity of the items and internal consistency coefficients (Cronbach's alpha) of the ECAME

Item	Mean	SD	corrected *r*	Cronbach's α if item deleted
1. Voluntariei-me para ser contactado pelos meios de comunicação social como fonte de informação oficial sobre temas de saúde/enfermagem	0.36	0.814	0.705	0.913
2. Contactei os produtores de séries televisivas/rádio de entretenimento sobre saúde, manifestando a minha visão enquanto Enfermeiro/a	0.14	0.506	0.654	0.915
3. Convidei a comunicação social para eventos profissionais de Enfermagem	0.30	0.782	0.577	0.916
4. Fiz comentários em blogues ou páginas pertencentes a Profissionais de Comunicação Social	0.62	0.978	0.682	0.914
5. Fiz comentários nas redes sociais, sobre publicações pertencentes a Profissionais de Comunicação Social	0.95	1.133	0.591	0.918
6. Fiz comentários em sites oficiais e páginas das redes sociais, pertencentes a meios de comunicação social informativos	0.68	0.968	0.647	0.915
7. Escrevi cartas de opinião/cartas ao editor, manifestando a minha visão enquanto Enfermeiro/a	0.17	0.525	0.667	0.915
8. Escrevi artigos para a imprensa escrita local/regional	0.27	0.650	0.537	0.917
9. Escrevi artigos para a imprensa escrita nacional	0.13	0.461	0.558	0.917
10. Elaborei comunicados/dossiers de imprensa	0.10	0.426	0.666	0.916
11. Participei ativamente em conferências de imprensa	0.15	0.486	0.615	0.916
12. Promovi reportagens in loco, no meu local de trabalho	0.16	0.524	0.565	0.917
13. Voluntariei-me para ser porta-voz nas interações com os média, enquanto representante da minha instituição	0.16	0.569	0.574	0.916
14. Participei em programas de opinião pública da rádio	0.10	0.391	0.580	0.917
15. Participei em outros programas da rádio local/regional	0.10	0.394	0.560	0.917
16. Participei em outros programas da rádio nacional	0.06	0.314	0.553	0.918
17. Dinamizei programas de rádio (investigação prévia e produção de conteúdos sobre saúde/enfermagem)	0.06	0.318	0.473	0.919
18. Participei em programas de opinião pública da televisão	0.07	0.344	0.498	0.918
19. Participei em outros programas de televisão local/regional	0.07	0.304	0.488	0.919
20. Participei em outros programas de televisão nacional	0.07	0.330	0.486	0.919
22. Partilhei com Profissionais de Comunicação Social conteúdos de Enfermagem provenientes de Blogues e Sites oficiais de Enfermeiros e de Associações Profissionais	0.47	0.907	0.642	0.915
23. Partilhei com Profissionais de Comunicação Social conteúdos de Enfermagem provenientes das Redes Sociais	0.52	0.958	0.615	0.916
24. Partilhei com Profissionais de Comunicação Social conteúdos de Enfermagem provenientes de E-mails de Enfermeiros ou de Associações Profissionais	0.52	0.950	0.642	0.915
α de Cronbach	0.920			

Good Cronbach's alpha values were obtained for each factor of the scale, as shown in Table 4. Factor 1 obtained corrected item-total correlation scores between 0.591 and 0.745, Factor 2 obtained scores between 0.495 and 0.830, Factor 3 showed scores between 0.699 and 0.832, Factor 4 obtained scores between 0.893 and 0.922, and Factor 5 showed scores between 0.734 and 0.807.

Table 4
Coefficients of internal consistency (Cronbach's alpha) for the factors of the ECAME

Factor	Cronbach's α
1. Promotion of news coverage and interaction with the media	0.897
2. Communication in the radio	0.865
3. Communication in TV	0.886
4. (Re)Production and sharing of online contents	0.957
5. Comments of online media contents	0.882

The test-retest allowed us to analyse the temporal stability of the ECAME. Data were obtained through a second participation of 61 nurses, with a 2-month interval. As shown in Table 5, Spearman's correlation coefficient between both applications of the ECAME was acceptable (Spearman's $\rho = 0.512$) and statistically significant ($p<0.01$). The correlation coefficients of Factor 2 and 3 were negative, but were not statistically significant. The remaining factors obtained acceptable and statistically significant correlation scores.

Table 5
Analysis of the temporal stability of the ECAME

		1st assessment		2nd assessment		
	spearman's ρ	$\bar{\chi}$	SD	$\bar{\chi}$	SD	
Total ECAME	0.512	5.85	6.94	4.51	5.95	$p = 0.000$
Factor 1	0.455	1.49	2.83	0.67	1.23	$p = 0.000$
Factor 2	-0.024	1.64	0.92	0.03	0.26	$p = 0.856$
Factor 3	-0.042	0.05	0.28	0.10	0.47	$p = 0.749$
Factor 4	0.460	1.54	2.89	1.26	2.33	$p = 0.000$
Factor 5	0.525	2.61	2.89	2.44	2.81	$p = 0.000$

The frequency of media use behaviours of the 528 nurses who comprised the sample registered a mean score of 6.24 points, with a standard deviation of 9.17 points. Out of a maximum of 92 possible points, a variation between 0 and 61 points was observed. The most frequent behaviours relate to item 5 with $\bar{\chi} =$ 0.95 points and SD = 1.13 points (I made comments on the social networks about publications of Media Professionals), item 6 with $\bar{\chi} =$ 068 points and SD = 0.97 points (I made comments in official websites and webpages of social networks of information media) and item 4 with $\bar{\chi} =$ 0.62 points and SD = 0.98 points (I made comments in blogs or webpages of Media Professionals). The less frequent behaviours relate to item 17 with $\bar{\chi} =$ 0.06 points and SD = 0.32 points (I organised radio programs (previous research and production of contents about health/nursing), item 16 with $\bar{\chi} =$ 0.06 points and SD = 0.32 points (I participated in other national programs on the radio) and item 19 with $\bar{\chi} =$ 0-07 points and SD = 0.30 points (I participated in other local/regional programs on the television).

Discussion

This study aimed at building and validating the ECAME scale and analysing the relationship between the frequency of media use behaviours and certain sociodemographic variables. The ECAME has good indicators of validity and reliability. Face validity was ensured after the construction of the instrument. Content validity was ensured by the extensive literature review and the analysis of the panel of experts in

nursing, social media and communication sciences. The principal component analysis determined the exclusion of an item for having low commonality scores, thus resulting in a structure composed of 23 items grouped in five factors. All items loaded on the different factors with factor loadings between 0.538 and the 0.905 and explain 70.98% of the variance, which ensures construct validity.

It should be noted that the ECAME was created to assess the frequency of media use behaviours as a whole. Even so, we chose to assess the reliability and the temporal stability of its five factors. The factors of the scale present good Cronbach's α values, between 0.865 and 0.957. In the same way, corrected *r values* between 0.473 and 0.705 were obtained, as well as a Cronbach's α value of 0.920 for the total scale, which suggests a good internal consistency of the instrument. Overall, the ECAME has correlation scores of 0.512 for temporal stability. Although this is an acceptable score, it may be related to the information period under analysis (period of festivities, in which less news about the profession may have generated lower frequency of contact with the media). Although many studies in the area have been conducted for several decades, no other scale was found that assessed the frequency with which nurses approach the media. Therefore, this research suggests that the ECAME is a good instrument to assess this variable in samples of nurses.

The 528 nurses of the sample had very low frequencies of media use behaviours, with a mean score of 6.24 points out of 92 possible points. The mean scores of the most frequent behaviours are inferior to 1 point, out of 4 possible points. Buresh and Gordon (2013) argue that nurses are afraid of contacting the media and these findings might arise as a consequence of that same fear. In the same way, the findings are in line with the conclusions of Calvo (2011), who argues that nurses have not been highly concerned with communicating their true identity to society and have not bothered to improve their image on the media.

Several authors advocate that nurses should receive training in public communication, as a way of increasing the media visibility of the profession. Chaffee (2000) affirms that the creation of communication training programs can help nurses to understand and express their work, as well as contribute to the public's perception about Nursing. The author suggests that this training should be done in partnership with professionals of social media and communication sciences. Finkelman and Kenner (2013) argue that the development of public communication skills is essential for nurses to be able to educate society about the profession. In turn, Martins and Fernandes (2014) indicate that the nursing curricula should integrate the media content about the profession.

In the same way, the establishment of professional relations with the media seems to be a good strategy to increase the media visibility. In a world where the social reality is more and more a construction of the media, and where media professionals have the power to convey images that influence the citizens' perceptions of health care, nurses urgently need to take on a proactive attitude and to be able to manage and influence the media representations of the profession (Calvo, 2011; Martins & Fernandes, 2014).

This study may have some limitations considering some of the choices we made. The participants were recruited in an online social network, which may have excluded all of those who do not use this resource but approach the media through other channels. Cultural or institutional factors that might interfere with the frequency with which nurses approach the media were not investigated, but can influence this variable.

Conclusion

The ECAME has good psychometric properties, which suggests the possibility of being applied to different groups of nurses and in different settings. The sampled nurses approached the media with low frequency, being the Internet the preferential form of contact. These findings are consistent with the scientific evidence emphasising the reduced media coverage of nursing: it is possible that the media invisibility of the profession is related with the nurses' lack of initiative and, consequently, with the reduced frequency with which they approach the media. It is important to define the spaces and mechanisms for reflection on care provision that reinforce the nurses' discourse and allow for their dissemination to the public and media sphere. This is an innovative study, which indicates the need to integrate public communication knowledge into the nursing curricula and which paves the way for new studies: the use of the ECAME scale in different samples of nurses, the analysis of the personal and professional factors

which prevent nurses from approaching the media, the analysis of the relationship between nurses and media professionals; and the construction and assessment of training programs in the area of public communication and media approach.

In an increasingly mediatised society, nurses are responsible for developing strategies to manage their public image and their relationships with media professionals. A society informed about the contribution of nurses to the general health and well-being may help these professionals to design and provide care in a competent, safe and effective way.

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