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CONSTRUCTION AND VALIDATION OF AN EDUCATIONAL MANUAL FOR FAMILY CAREGIVERS OF OLDER ADULTS AFTER A STROKE

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ABSTRACT

Objective: to construct and validate an educational manual for family caregivers of older adult dependent on care after a stroke.
Method: a methodological study with four stages: focus group with five family caregivers, to identify doubts and difficulties regarding home care for older adults with stroke; preparation of the manual by six researchers; content validation by 18 specialist nurses, and face validation by 12 family caregivers. For data analysis, thematic analysis was performed, the Content Validity Index (CVI) was calculated, and the consensus of the target population was verified.
Results: from the focus group, the experiences and challenges faced by the caregivers in caring for aged family members with a stroke were identified, which supported the elaboration of an educative manual, in the second stage. In the expert consensus, a global CVI of 0.97 was obtained and, in face validation, a consensus of 95.51% by the target population.
Conclusion: an educational manual for family caregivers of older adults after a stroke was built, which was validated in terms of content and appearance. In view of this, it can be used as complementary material to the guidelines of the professionals, enabling improvement of the care provided by family members to the older adult dependent on care after a stroke.

DESCRIPTORS: Caregivers. Older adult. Stroke. Manuals. Validation studies. Nursing.

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CONSTRUÇÃO E VALIDAÇÃO DE MANUAL EDUCATIVO PARA CUIDADORES FAMILIARES DE IDOSOS APÓS ACIDENTE VASCULAR CEREBRAL

RESUMO

Objetivo: construir e validar um manual educativo para cuidadores familiares de pessoas idosas dependentes de cuidados após Acidente Vascular Cerebral (AVC).
Método: estudo metodológico com quatro etapas: grupo focal com cinco cuidadores familiares, para identificação de dúvidas e de dificuldades quanto ao cuidado no domicílio ao idoso com AVC; elaboração do manual por seis pesquisadoras; validação de conteúdo por 18 enfermeiros especialistas e validação de aparência por 12 cuidadores familiares. Para análise dos dados, realizou-se análise temática, cálculo do Índice de Validade de Conteúdo (IVC) e se verificou o consenso da população-alvo.
Resultados: a partir do grupo focal, foram identificadas as vivências e os desafios enfrentados pelos cuidadores ao cuidar do familiar idoso com AVC, o que embasou a elaboração de um manual educativo, na segunda etapa. No consenso de especialistas, obteve-se IVC global de 0,97 e, na validação de aparência, consenso de 95,51% pela população-alvo.
Conclusão: foi construído um manual educativo para cuidadores familiares de idosos após AVC, o qual foi validado quanto ao conteúdo e à aparência. Em vista disso, poderá ser utilizado como material complementar às orientações dos profissionais, possibilitando melhoria do cuidado prestado por familiares ao idoso dependente de cuidados após AVC.

DESCRITORES: Cuidadores. Idoso. Acidente vascular cerebral. Manuais. Estudos de validação. Enfermagem.

CONSTRUCCIÓN Y VALIDACIÓN DE MANUAL EDUCATIVO PARA FAMILIARES CUIDADOSOS DE PERSONAS MAYORES TRAS ACCIDENTE CEREBRO VASCULAR

RESUMEN

Objetivo: construir y validar un manual educativo para familiares cuidadores de personas mayores dependientes de cuidados con posterioridad al Accidente Cerebro Vascular (ACV).
Método: estudio metodológico de cuatro etapas: grupo focal con cinco familiares cuidadores, para identificación de dudas y dificultades con la atención domiciliaria de personas mayores con ACV; elaboración del manual por seis investigadores; validación de contenido por 18 enfermeras especializadas y validación de apariencia por 12 familiares cuidadores. Para el análisis de datos se llevó a cabo un análisis temático, se calculó el Índice de Validez de Contenido (IVC) y se verificó el consenso de la población objetivo.
Resultados: a partir del grupo focal se identificaron las experiencias y desafíos que enfrentan los familiares cuidadores en el cuidado de la persona mayor con ACV, lo que fomentó la elaboración de un manual educativo en la segunda etapa. En el consenso de expertos, se obtuvo un IVC global de 0,97 y, en la validación de apariencia, un consenso del 95,51% por parte de la población objetivo.
Conclusión: se elaboró un manual educativo para familiares cuidadores de personas mayores tras un ACV, el cual fue validado en cuanto a contenido y apariencia. Por ello, se puede utilizar como material complementario en la orientación de profesionales, lo que permite la mejora de la atención que brindan los familiares a las personas mayores dependientes de cuidados tras un ACV.

DESCRIPTORES: Cuidadores. Persona mayor. Accidente cerebro vascular. Manuales. Estudios de validación. Enfermería.

INTRODUCTION

Stroke has been one of the main causes of death in developing countries like Brazil.[1] According to a national home-based survey carried out in 2013, the prevalence of stroke increases with age, reaching 15.3% of the population aged 60 years old or over. Among stroke survivors, approximately 25% to 35% remain disabled.[2]

Characterized as the appearance of sudden neurological deficit due to insufficient blood flow in a region of the brain, strokes commonly cause physical limitations, making the survivor become dependent on the care of another person. Such sequelae, when added to changes in structure and bodily functions, generated by the aging process, such as sensory, physical and memory limitations, contribute to the decrease in functional capacity. In addition, the older adult often faces losses of friends and family members, thus having a restricted support network. Thus, these limitations make the older adult more fragile, which increases the need for continuous care after hospital discharge.[3]

In Brazil, the family is generally responsible for the care of the older adult after a stroke. However, care activities performed at home often happen without adequate preparation, so that the quality of life of the patients and their caregivers[4–5] is compromised. An example of this are hospital readmissions arising from complications resulting from strokes, which could be prevented with qualified home care.

In this context, the nurse can play an important role with the older adult after a stroke and with the family, through assistance and guidance in the performance of care activities, both in the hospital and at hospital discharge, that is, in the return to the community. In addition, this professional can contribute to the elucidation of the aspects that involve the pathology, in the emotional support to the caregiver and the older adult, in the use of the health care network, in reducing the burden of care and in carrying out the care activities, tasks that can be facilitated with the use of educational materials.

A number of studies have suggested strategies to prepare the informal caregiver for the task of caring, among them are the development of hospital discharge programs and the development and use of educational technologies, as ways of complementing and reinforcing the guidelines provided by the health professionals.[5–6]

National and international research studies have identified positive effects of the use of educational materials, such as manuals and booklets, by health professionals. Among the effects observed with the use of these support materials, the articles point to an improvement in the attitude of the population for which the technology is intended, as well as positive changes in life habits.[7–9]

In order to produce qualified and effective materials, in the process of preparing such materials, the educational and cultural level of the target population must be considered in order to then select the content and images appropriate to the reality.[10–12] In recent years, the validation of the material by specialists and the population for which the technology is intended has also been indicated.[13–14]

There are online educational support materials for caregivers of older adults or of people with neurological sequelae. However, there is lack of a specific educational guidance manual for caregivers of older adult with a stroke, which can be used in times of doubt and difficulties at home. Thus, bearing in mind that the existence of an educational material suitable for this target population will contribute to the improvement of the care provided to the older adult, especially by contributing to reducing the burden on the caregiver, providing better quality of life for the older adults and their caregivers, and possibly reducing hospital readmissions that can be prevented at home. This study aims to construct and validate an educational manual for family caregivers of older adults dependent on care after a stroke.

METHOD

A methodological study composed by four stages: focus group, preparation of the educational manual, content validation and face validation. Initially, a focus group was held with five family caregivers of older adults after a stroke being followed-up in the Stroke Care Line of a general and public hospital in the Brazilian South region, linked to the Ministry of Health, one of the reference hospitals for the care of stroke patients.

The participants in this first stage were selected for convenience. The inclusion criteria were the following: being at least 18 years old and being the caregiver of a family member aged 60 years or older, with functional sequelae after a stroke, identified by the Modified Rankin Scale (mRankin) with a score of 3 to 5 at the time of hospital discharge. The mRankin scale has been used in the clinical practice and allows for the functional assessment of stroke patients, ranging from 0 to 6, where 0 means asymptomatic (symptom regression) and 6 means death.[15] The exclusion criteria were the following: caregiver of an older adult living in a long-term permanence institution, not being located by phone in three attempts, on different days and shifts, and not being able to read.

Telephone contact was made with 25 family caregivers of older adults according to a list of patients in the service. Of these, four were excluded, twelve agreed to participate in the study, and five attended the meetings. The caregivers who did not attend justified their absence because they had no one to leave the older adult with.

There were three meetings lasting 1 hour and 30 minutes each, in April 2018, in a room at the aforementioned hospital. The discussions were recorded with the authorization of the participants, and transcribed in full. The analysis of the discussions was done by two individuals, independently, and crossed at the end, based on Thematic Analysis.[16]

In the second stage, from May to October 2018, the educational manual was elaborated, structured from the emerging aspects in the focus group. A protocol was also used as support, built by a member of the research group in a previous study, based on an integrative review on the topic, whose purpose was to equip the nurse who works in the care of the caregiver of an older adult with a stroke.[17] Six nurses participated in this stage, members of the research group, and selected for convenience. The criteria for inclusion were the following: nurses with experience in research, care and management for aged stroke patients and working in the research group during the study period. These professionals were responsible for organizing the guidelines that would compose the manual and for suggesting the types of images that should illustrate them. For this, two face-to-face meetings were held, with a mean duration of 2 hours and 30 minutes and, subsequently, online reviews of the elaborated manual.

Afterwards, a photo session was organized in order to illustrate the selected guidelines. For this, an older adult and a community caregiver were invited to participate, and a photographer was hired. The 3-hour session took place in a home to reproduce an environment closer to the patients' living context. Subsequently, the educational manual was formatted and configured.

In the third stage of the study, in November 2018, the content of the manual was validated through expert consensus. This stage included nurses with professional experience of at least six months in home care, primary health care and/or care for stroke patients, working in the hospital at the time of the study.

Based on the list of nurses at the hospital institution, the specialists were invited to participate in the study by means of an invitation letter sent by e-mail, containing the purpose of the study, information about the stage, and an access link to the Free and Informed Consent Form (FICF). Of the 49 nurses who met the inclusion criteria, 24 agreed to participate, by sending the FICF and, of these, 18 evaluated the educational manual. The professionals who did not respond to the letter of

invitation with the FICF within 45 days were excluded. The manual and an assessment tool adapted for this study were made available online,[18] containing questions regarding the relevance of each chapter, as well as the structure of the manual in general, using a scale with the following options: 1 - Irrelevant, 2 - A little relevant, 3 - Quite relevant, and 4 - Extremely relevant. In each question, the participants were able to optionally write suggestions for improvement.

For data analysis for this stage, the Content Validity Index (CVI) was calculated, which indicates the extent to which the experts' opinions are congruent. For the evaluated item to be considered valid, the CVI should be equal to or greater than 0.78.[19] In addition to the CVI, for each item assessed (CVI-I), the global CVI that analyzed the manual as a whole was calculated.

In the fourth stage of the research, the appearance was validated with 12 family caregivers of older adults dependent on care after a stroke, selected for convenience. The five family caregivers who participated in the first stage and the other seven who had agreed to participate, but who did not attend the meetings, evaluated the printed manual, filling out an evaluation instrument adapted for the present study,[20] with questions regarding organization, writing style, appearance and motivation, with the following options: 1) Yes, 2) No, and 3) In part. The instrument also contained two open questions: what suggestions do you have for improving the manual? and in general, how do you evaluate the information contained in this manual? For data analysis, the items of the instrument that obtained a minimum agreement of 75% in the positive answers (YES) were considered validated. Data collection took place in December 2018, in the participants' homes, and with a mean duration of 45 minutes.

Thus, the construction of the manual was based on the suggestions of the study participants, especially on the caregivers' reports regarding doubts and difficulties in caring for their family members at their homes, as well as on the scientific knowledge and professional experience of the researchers working in the area. All the participants signed the FICF. In addition, a Term of Image Rights Assignment was signed by those who carried out the photo session.

RESULTS

Through the focus group, it was possible to identify the main doubts and difficulties that the caregivers had when caring for their dependent family member at their homes, such as: impaired social life, financial problems, lack of formal and informal support, delay in accessing materials provided by the State, complexity in accessing the health services and their quality. It was also identified that the caregivers were unable to perform daily care, to face urgent situations, and to deal with the feelings generated by the relative's situation of dependence.

The educational manual that was created was entitled Manual for caregivers of older adults after a stroke and consisted in 34 pages and 41 images distributed in 11 areas: what is a Stroke? How to prevent a stroke; Taking care of the caregiver; Care with food; Care with tracheostomy; Care with medications; Care with hygiene care; Care with eliminations; Skin care; Care for taking off and putting on clothes; Care with positioning; and Care with the environment. Table 1 shows the distribution of the experts' opinions regarding the areas and structure of the educational manual.

Table 1 – Distribution of the number of specialists and Content Validity Index (CVI) in each item evaluated in terms of the chapters and the structure of the educational manual. Porto Alegre, RS, Brazil (2018).

Evaluation items	N=18				CVI[‖]
	I[*]	ALR[†]	QR[‡]	ER[§]	
1 - What is a Stroke? How to prevent a stroke	–	–	6	12	1.0
2 - Taking care of the caregiver	–	2	6	10	0.88
3 - Care with food	–	1	3	14	0.94
4 - Care with tracheostomy	–	–	8	10	1.0
5 - Care with medications	–	–	2	16	1.0
6 - Care with hygiene	–	–	5	13	1.0
7 - Care with eliminations	–	–	5	13	1.0
8 - Skin care	–	1	2	15	0.94
9 - Care for taking off and putting on clothes	–	–	7	11	1.0
10 - Care with positioning	–	–	3	15	1.0
11 - Care with the environment	–	–	7	11	1.0
Regarding the structure					
12 - The information is relevant for a better quality of care provided by family caregivers to older adults with a stroke	–	–	5	13	1.0
13 - The structure and presentation are coherent and appropriate	–	2	5	11	0.88
14 - The information is based on updated scientific evidence	–	–	7	11	1.0
15 - There is a logical sequence in the content proposed	–	–	7	11	1.0
16 - The information is presented clearly and objectively	–	–	9	9	1.0
17 - The writing style corresponds to the level of knowledge of the target population	–	1	8	9	0.94
18 - The illustrations are expressive and enough	–	2	8	8	0.88
19 - The number of pages is adequate	–	–	9	9	1.0
Total					0.97

[*]I: Irrelevant; [†]ALR: A Little Relevant; [‡]QR: Quite Relevant; [§]ER: Extremely Relevant; [‖]CVI: Content Validity Index

As for the chapters and the structure of the educational manual, all items assessed obtained CVI greater than 0.78, and were then considered validated. The experts who chose option 2 (a little relevant) and some experts who chose other options offered suggestions for improvement. The modifications are shown in Chart 1.

Chart 1 – Suggestions by the specialists in the content validation stage of the educational manual. Porto Alegre, RS, Brazil (2018).

Evaluation items	Suggestions	How it was	Changes
2 - Taking care of the caregiver	Mention, more explicitly, the possibility of care burden, self-care, and body posture of the caregiver when performing care; include the possibilities of supporting the caregiver.		Inclusion of the following phrases: - If you did not have help from other people to care for the older adult, you may be overloaded. To prevent this from happening, you can arrange for a family gathering to establish what activities each family member can help with. - Remember to be careful with your body posture when performing some care action in the older adult so as not to cause spinal problems.
3 - Care with food	Add the need for nutritional guidance and medical prescription of a tube diet, as well as fluid intake and moistening of mucous membranes and lips in a patient on a catheter-only diet.		Inclusion of the following phrases: - It is important to have monitoring by a nutritionist and medical prescription of the diet. - If feeding is only through the probe, water must also be placed through the tube. - Moisten the older adult's lips with a cloth with water, avoiding wounds.
8 - Skin care	Include guidance on the possibility of using a pneumatic mattress and the importance of moisturizing the skin.	If possible, use a pyramidal mattress - egg box (image), which relieves the person's weight at different points where the bones are most prominent.	If possible, use a pyramidal mattress - egg box (image 1) or pneumatic air mattress (image 2), which relieve the person's weight at different points where the bones are more prominent. Inclusion of the following phrase: - Whenever possible, apply moisturizer on the skin, this helps to prevent the appearance of wounds.
13 - The structure and presentation are coherent and appropriate	Explore more information through images; improve the graphical presentation; shorter sentences.	41 images	48 images
17 - The writing style corresponds to the level of knowledge of the target population	Improve the language, so that it is easy and understandable to the caregivers.		The entire manual was reviewed and more colloquial words were used.
18 - The illustrations are expressive and enough	Include images about care with the environment; a suggestion of adequacy of the images regarding how to put diapers on.		The entire manual was reviewed, images were included and others suitable for better illustration.

All the mentioned suggestions were accepted. The overall CVI of the manual was 0.97, confirming content validation with the specialists. At the end of this stage, the manual had a total of 38 pages and 48 images.

In the stage of validation by the target population, 12 family caregivers of older adults dependent on care after a stroke, ranging in age from 25 to 85 years old and in schooling from 2 to 15 years, evaluated the educational manual regarding organization, writing style, appearance and motivation. Table 2 shows the evaluation by the target population.

Table 2 - Evaluation of the educational manual by the family caregivers of older adults dependent on care after a stroke. Porto Alegre, RS, Brazil (2018).

Evaluation items	N=12			%
	Y*	N†	IP‡	
Organization				
Did the cover catch your attention?	12	–	–	100%
Is the content sequence adequate?	12	–	–	100%
Is the size of the manual adequate?	10	–	2	83.33%
Writing style				
Are the sentences easy to understand?	12	–	–	100%
Is the written content clear and appropriate?	12	–	–	100%
Di the text draw your attention?	12	–	–	100%
Appearance				
Are the illustrations adequate?	12	–	–	100%
Do the illustrations complement the text?	11	–	1	91.66
Are the pages or sections organized?	12	–	–	100%
Motivation				
In your opinion, will any caregiver of an older adult who has suffered a stroke understand this information?	10	–	2	83.33%
Did you feel motivated to read until the end?	10	–	2	83.33%
Does the manual address issues necessary for the caregiver of an older adult with stroke sequelae?	12	–	–	100%
Does the manual provide caregivers with information to develop care activities properly?	12	–	–	100%

*Y = Yes; †N = No; ‡IP = In Part.

All the items evaluated had an agreement index greater than 75% and were then considered validated. The target population's agreement index for the manual as a whole was 95.51%.

Some participants made suggestions for improving the educational technology, which were incorporated into the manual, such as the insertion of larger illustrations and schedules for administering the diet. Regarding the evaluation, the caregivers judged the manual as: enlightening; practical and illustrative; enlightening and useful; very good; great; wonderful work, easy to understand; and great, it has all the information that a caregiver needs to know. Two caregivers reported that, based on their experiences, the material may not be enough to make the caregiver acquire skills to care for the older adult with stroke sequelae. They also stressed the importance of demonstrating care as the best way to prepare the caregiver. Next, Figure 1 shows the final version of the educational manual, which can be accessed through the following link: http://encurtador.com.br/efmsw.

Figure 1 – Images of the final version of the educational manual for caregivers of older adults after a stroke. Porto Alegre, RS, Brazil. 2018.

DISCUSSION

National and international studies that dealt with educational manuals on health care also used the strategy of investigating the needs of the target population to support the construction of the material.[10,21–22] Similarly to the present study, the focus group technique was used in an international research study that produced a leaflet for preventing falls in aged residents of long-term care facilities. A focus group was held with the target population, in order to know their knowledge needs and expectations.[22] In a different way, an international study that developed a leaflet for parents with premature babies held a focus group with specialists on the subject matter in order to discuss the theme, generating support for the material from the clinical practice.[13] In this study, it was decided to carry out a focus group with the target population, since the protocol used as support in the preparation of the manual was validated by a multidisciplinary team.

The elaboration of manuals based on literature reviews has been mentioned in other studies.[10,14,23–24] Similarly, in the present research, a guidance protocol for nurses[17] was used as support, being elaborated from an integrative literature review.

Most of the research studies do not detail which professionals participated in the stage of preparing educational material.[21,25–26] This study was supported by nurses with experience in research, assistance and management in the studied area. This choice was made due to the fact that the manual is intended for the preparation of hospital discharge and the process of care transition from the hospital to the home environment, and the nurse is the professional who is dedicated to this process. In addition, this range of expertise, that is, an expert's panel composed of nurses working both in the area of education and in assisting the population for which the manual is intended, made it possible for the material to be developed through an expanded view of the theme.

Content validation by specialists and face validation by the target population, used in the present study, were also employed both in national and international studies to validate the materials constructed.[10,14,23–24,27–28]

Unlike the consensus made by the specialists in this research, the content validation process of an information manual on cardiac catheterization[23] used the *Delphi* technique, which consists of holding rounds until experts' consensus is reached. In that study, four rounds were necessary to reach the consensus of all specialists; however, here it was decided to use the CVI, which consists of the consensus of specialists through a single evaluation. It is noteworthy that the CVI, adopted in the content validation stage, has been a widely used tool in recent years.[10,13–14,24–25,27]

Corroborating the results found in the validation stages, other methodological studies of construction and validation of educational materials also obtained high scores. The leaflet for parents with premature babies was validated by specialists, obtaining a global CVI of 0.91, ranging from 0.73 to 1.0 in the items.[13] The educational manual for companions during labor and delivery was validated by specialists with a global CVI of 0.94, ranging from 0.66 to 1 in the evaluation of the items, with 95.45% agreement of the target population.[10]

The educational booklet aimed at preventing metabolic syndrome in adolescents was validated by expert consensus, obtaining a global CVI of 0.98, ranging from 0.86 to 1.0 in the items, and a level of agreement of the target population of 88.4%.[14]

Another study that validated a serial album for the promotion of children's body weight control obtained a global CVI of 0.88, ranging from 0.82 to 1.0 in the evaluation of the items, as validated by the specialists.[25] No studies were identified in recent years dealing with the elaboration and validation of educational materials for family caregivers of older adults after a stroke.

Studies that developed and validated educational materials on infant body weight control and HIV vertical transmission also highlighted the experts' evaluation of the manual as an important material qualification strategy.[21,25] Similarly to the research study that developed a leaflet for parents with premature babies,[13] it is noteworthy that this research had a panel of qualified experts with experience in the subject matter under study. However, unlike other studies that relied on the evaluation of a multidisciplinary team[14,25,27] and of professionals with experience in design,[14] the specialists who validated the content of the educational manual in this study were only nurses.

Similarly, to this study, experts who validated an educational booklet for HIV/AIDS prevention in older adults suggested changes in the text, images and graphic content of the material, despite the fact that all CVI-I had values above 0.8.[26] Among the suggestions of the specialists in this research, those that referred to the structure and the graphic presentation had the purpose of making it attractive to reading, with a view to sensitizing a greater number of people.

As for the adequacy of the language, in order to make it suitable for the target population, the results are similar to the suggestions of the specialists who validated the educational manual for patients with head and neck cancer subjected to radiotherapy.[11] Also, the suggestion of having a larger number of images, facilitating understanding and complementing the written guidelines, is similar to that suggested by the specialists who validated the educational booklet for healthy eating practices.[27]

Obtaining the evaluation by the population for which the educational technology is intended is also an important method, in order to make sure that the material is understandable and to ensure effectiveness of care for the target population. Other studies that validated educational materials for pregnant women and mothers with HIV+ and grandparents of children with cancer[21,28] also highlighted the importance of carrying out this stage.

Unlike the present study, a survey that validated an educational manual for companions during labor and delivery[10] evaluated the Readability Index, which refers to the level of schooling required from the readers so that they can understand a certain passage of writing. In this study, this strategy

was not used, but the material was validated by a sample that included caregivers of different age groups and schooling levels, showing that it is an easily understood material. In addition, the images showing the main care actions contribute to understanding the guidelines.

Using illustrations is an important strategy to attract readers' attention and facilitate the understanding of the written guidelines. Similarly, to other studies that built and validated educational material aimed at patients with head and neck cancer undergoing radiation therapy and at parents of premature babies,[11,13] the images of this research were taken in an environment that approximates the reality of the target population, in addition to being photographs of people, instead of drawings in the demonstration of care. In a different way, other research studies used illustrations from the Internet[24] or made by a designer.[10,25]

Regarding the theme of the manual, the importance of developing and using educational technologies for caregivers of older adults dependent on care after a stroke is highlighted. The pathology commonly causes limitations suddenly, requiring immediate skills from the caregiver.[29]

In this sense, the health team, especially the professional nurse, can assist this caregiver in the search for strategies that facilitate the performance of their care activities, and the use of printed material can support this process, as the use of educational materials by the professionals, especially the nurse, in preparation for hospital discharge, as well as in the return to the community, reinforces and enhances the transmitted guidelines.

It should be noted that educational manuals do not replace the presence and guidance of the professionals. This tool contributes to reinforce the information, serving as consultation and support material when doubts and difficulties arise at home, thus being able to assist the caregiver in carrying out the care activities after hospital discharge. In addition, besides helping to reinforce the guidelines,[30] educational materials can be configured as a reference for other family members who have not received the information.[28]

As a limitation, it is highlighted that, in the face validation stage, the manual was evaluated by an intentional sample of caregivers with characteristics from a specific Brazilian region. In addition, they were linked to a specific hospital institution with a program to assist stroke, which is not the reality for the entire population.

The effectiveness of using the technology can be further studied. The manual may also be made available online and/or in an alternative format, such as an audio manual, where people who cannot read will be able to hear the guidelines. In addition, it is proposed to carry out periodic reviews of the educational manual content, since scientific innovations and new demands from the target population can alter the content of the material.

CONCLUSION

An educational manual for family caregivers of older adults after a stroke was constructed and validated in terms of content by specialists and in terms of appearance by the target population. The preparation of the educational manual was based on the reports of the caregivers about doubts and difficulties in caring for their family members at their homes; scientific knowledge; the professional experience of the researchers working in the area; and the suggestions made by the study participants. Thus, the manual is a tool that is available for use by health professionals, especially by nurses who work in the preparations for hospital discharge, home care and primary care.

The constructed and validated manual is a technological innovation, being the first developed in the Brazilian context for caregivers of older adults with a stroke. It can be used by institutions that assist this population, by professionals who work in the hospital environment, preparing these individuals for hospital discharge or for returning to the community, as well as for primary health care and home care services. It is believed that this manual can contribute to the practice of nurses, serving

as a tool to reinforce care guidelines and contributing to improving the quality of care provided to the older adult with a stroke. It can also help to reduce the burden on family caregivers and improve the quality of life of the older adult and of the caregiver, in addition to reducing hospital admissions that can be prevented at home.

REFERENCES

1. Rodrigues RAP, Marques S, Kusumota L, Santos EB, Fhon S Jr, Fabrício-Wehbe SCC. Transition of care for the elderly after cerebrovascular accidents-from hospital to the home. Rev Latino-Am Enfermagem [Internet]. 2013 [cited 2020 Sept 14];21(Spe):216-24. Available from: https://doi.org/10.1590/s0104-11692013000700027
2. Bensenor IM, Goulart AC, Szwarcwald CL, Vieira MLFP, Malta DC, Lotufo PA. Prevalence of stroke and associated disability in Brazil: National Health Survey-2013. Arq Neuropsiquiatr [Internet]. 2015 [cited 2020 Sept 14];73(9):746-50. Available from: https://doi.org/10.1590/0004-282X20150115
3. Pereira RA, Santos EB, Fhon JRS, Marques S, Rodrigues RAP. Burden on caregivers of elderly victims of cerebrovascular accident. Rev Esc Enferm USP [Internet]. 2013 [cited 2020 Sept 14];47(1):182-8. Available from: https://doi.org/10.1590/S0080-62342013000100023
4. Costa TF, Gomes TM, Viana LRC, Martins KP, Macêdo-Costa KNFM. Stroke: patient characteristics and quality of life of caregivers. Rev Bras Enferm [Internet]. 2016 [cited 2020 Sept 14];69(5):877-83. Available from: https://doi.org/10.1590/0034-7167-2015-0064
5. Silva RCA, Monteiro GL, Santos AG. Nurses' role in the education of caregivers of patients with stroke. Rev Atenção Saúde [Internet]. 2015 [cited 2020 Sept 14];13(45):114-120. Available from: https://doi.org/10.13037/ras.vol13n45.3114
6. Maniva SJCF, Carvalho ZMF, Gomes RKG, Carvalho REFL, Ximenes LB, Freitas CHA. Educational technologies for health education on stroke: an integrative review. Rev Bras Enferm [Internet]. 2018 [cited 2020 Sept 14];71(Suppl 4):1724-31. Available from: https://doi.org/10.1590/0034-7167-2017-0041
7. Oliveira SC, Fernandes AF, Vasconcelos EM, Ximenes LB, Leal LP, Cavalcanti AM, et al. Effect of an educational intervention on pregnancy: cluster-randomized clinical trial. Acta Paul Enferm [Internet]. 2018 [cited 2020 Sept 14];31(3):291-8. Available from: https://doi.org/10.1590/1982-0194201800041
8. Lubotzky FP, Butow P, Hunt C, Costa DSJ, Laidsaar-Powell R, Carroll S, et al. A psychosexual rehabilitation booklet increases vaginal dilator adherence and knowledge in women undergoing pelvic radiation therapy for gynaecological or anorectal cancer: a randomised controlled trial. Clin Oncol [Internet]. 2019 [cited 2020 Sept 14];31(2):124-31. Available from: https://doi.org/10.1016/j.clon.2018.11.035
9. Akour A, Bardaweel S, Awwad O, Al-Muhaissen S, Hussein R. Impact of a pharmacist-provided information booklet on knowledge and attitudes towards oral contraception among Jordanian women: an interventional study. Eur J Contracept Reprod Health Care [Internet]. 2017 [cited 2020 Sept 14];22(6):459-64. Available from: https://doi.org/10.1080/13625187.2017.1412425
10. Teles LMR, Oliveira AS, Campos FC, Lima TM, Costa CC, Gomes LFS, et al. Development and validating an educational booklet for childbirth companions. Rev Esc Enferm USP [Internet]. 2014; [cited 2020 Sept 14];48(6):977-84. Available from: https://doi.org/10.1590/S0080-623420140000700003
11. Cruz FOAM, Ferreira EB, Vasques CI, Mata LRF, Reis PED. Validation of an educative manual for patients with head and neck cancer submitted to radiation therapy. Rev Latino-Am Enfermagem [Internet]. 2016 [cited 2020 Sept 14];24:e2706. Available from: https://doi.org/10.1590/1518-8345.0949.2706

12. Echer IC. Elaboração de manuais de orientação para o cuidado em saúde [Internet]. Rev Latino-Am Enfermagem [Internet]. 2005 [cited 2020 Sept 14];3(5):754-7. Available from: https://doi.org/10.1590/s0104-11692005000500022

13. Khurana S, Rao BK, Lewis LES, Bhat R, Purkayastha J, Kamath A, et al. Development and Validation of Educational Leaflet for Caregivers of Preterm Infants. J Clin Diagn Res [Internet]. 2016 [cited 2020 Sept 14];10(7):YC01-4. Available from: https://doi.org/10.7860/JCDR/2016/19206.8109

14. Moura IH, Silva AFR, Rocha AESH, Lima LHO, Moreira TMM, Silva ARV. Construction and validation of educational materials for the prevention of metabolic syndrome in adolescents. Rev Latino-Am Enfermagem [Internet]. 2017 [cited 2020 Sept 14];25:e2934. Available from: https://doi.org/10.1590/1518-8345.2024.2934

15. van Swieten JC, Koudstaal PJ, Visser MC, Schouten HJ, van Gijn J. Interobserver agreement for the assessment of handicap in stroke patients. Stroke [Internet]. 1988 [cited 2020 Sept 14];19:604-7. Available from: https://doi.org/10.1161/01.str.19.5.604

16. Minayo MCS. O desafio do conhecimento: pesquisa qualitativa em saúde. 2014. 11th ed. São Paulo, SP(BR): Hucitec; 2008.

17. Santos NO, Predebon ML, Bierhals CCBK, Day CB, Machado DO, Paskulin LMG. Development and validation a nursing care protocol with educational interventions for family caregivers of elderly people after stroke. Rev Bras Enferm [Internet]. 2020 [cited 2020 Sept 14];73(Suppl 3):e20180894. Available from: https://doi.org/10.1590/0034-7167-2018-0894

18. Oliveira MS, Fernandes AFC, Sawada NO. Manual educativo para o autocuidado da mulher mastectomizada: um estudo de validação. Texto Contexto Enferm [Internet]. 2008 [cited 2020 Sept 14];17(1):115-23. Available from: https://doi.org/10.1590/S0104-07072008000100013

19. Polit DF, Beck CT, Owen SV. Is the CVI an acceptable indicator of content validity? Appraisal and recommendations. Res Nurs Health [Internet]. 2007 [cited 2020 Sept 14];30(4):459-67. Available from: https://doi.org/10.1002/nur.20199

20. Gonçalves MB, Barbieri M, Gabrielloni MC. Teste de Papanicolaou: construção e validação de material educativo para usuárias de serviços de saúde. Saúde Coletiva [Internet]. 2008 [cited 2020 Sept 14];5(20):39-44. Available from: https://www.redalyc.org/pdf/842/84202003.pdf

21. Lima ACMACC, Bezerra KC, Sousa DMN, Rocha JF, Oriá MOB. Development and validation of a booklet for prevention of vertical HIV transmission. Acta Paul Enferm [Internet]. 2017 [cited 2020 Sept 14];30(2):181-9. Available from: https://doi.org/10.1590/1982-0194201700028

22. Schoberer D, Eglseer D, Halfens RJG, Lohrmann C. Development and evaluation of brochures for fall prevention education created to empower nursing home residents and family members. Int J Older People Nurs [Internet]. 2018 [cited 2020 Sept 14];13(2):e12187. Available from: https://doi.org/10.1111/opn.12187

23. Maciel BS, Barros ALBL, Lopes JL. Elaboration and validation of an information manual for cardiac catheterization. Acta Paul Enferm [Internet]. 2016 [cited 2020 Sept 14];29(6):633-42. Available from: https://doi.org/10.1590/1982-0194201600089

24. Oliveira SC, Lopes MVO, Fernandes AFC. Development and validation of an educational booklet for healthy eating during pregnancy. Rev Latino-Am Enfermagem [Internet]. 2014 [cited 2020 Sept 14];22(4):611-20. Available from: https://doi.org/10.1590/0104-1169.3313.2459

25. Saraiva NCG, Medeiros CCM, Araujo TL. Serial album validation for promotion of infant body weight control. Rev Latino-Am Enfermagem [Internet]. 2018 [cited 2020 Sept 14];26:e2998. Available from: https://doi.org/10.1590/1518-8345.2194.2998.

26. Cordeiro LI, Lopes TO, Lira LEA, Feitoza SMS, Bessa MEP, Pereira MLD, et al. Validation of educational booklet for HIV/Aids prevention in older adults. Rev Bras Enferm [Internet]. 2017 [cited 2020 Sept 14];70(4):775-82. Available from: https://doi.org/10.1590/0034-7167-2017-0145

27. Teng NIMF, Ismail NA, Ismail NH, Ahmad T. Development and Validation of an Educational Booklet for Sunnah Practices in Improving Quality of Life. Envr Behav Proceed J [Internet]. 2017 [cited 2020 Sept 14];2(5):151-9. Available from: https://doi.org/10.21834/e-bpj.v2i5.692

28. Wakefield C, Lin S, Drew D, McLoone J, Doolan E, Young A, et al. Development and evaluation of an information booklet for grandparents of children with cancer. J Pediatr Oncol Nurs [Internet]. 2016 [cited 2020 Sept 14];33(5):361-9. Available from: https://doi.org/10.1177/1043454215602689

29. Reis RD, Pereira EC, Pereira MIM, Soane AMNC, Silva JV. Meanings to family members living with an elderly affected by stroke sequelae. Interface (Botucatu) [Internet]. 2017 [cited 2020 Sept 14];21(62):641-50. Available from: https://doi.org/10.1590/1807-57622016.0206

30. Padilha AP, Rosa LM, Schoeller SD, Junkes C, Mendez CB, Martins MMFPS. Care manual for diabetic people with diabetic foot: construction by scoping study. Texto Contexto Enferm [Internet]. 2017 [cited 2020 Sept 14];26(4):e2190017. Available from: https://doi.org/10.1590/0104-07072017002190017

NOTES

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APPROVAL OF ETHICS COMMITTEE IN RESEARCH

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CONFLICT OF INTEREST

There is no conflict of interests.

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