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Construction and validation of a serial album for companions of patients with stroke

Construção e validação de álbum seriado para acompanhantes de pacientes com Acidente Vascular Cerebral

Construcción y validación de un álbum en serie para acompañantes de pacientes con accidente cerebrovascular

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ABSTRACT

Objectives: to construct and validate a serial album, to be used in hospital discharge planning of patients with stroke. **Methods:** a methodological study, with construction of a serial album, validity by 22 judges and assessment by 22 companions. Data were collected from the Health Education Content Validity Instrument, with the companions, from the Suitability Assessment of Materials. **Results:** the serial album has 21 pages. The overall Content Validity Index was equal to 0.87 among expert judges and 1.0 among companions. **Conclusions:** the educational technology constructed was considered valid by the judges and assessed as understandable by the companions so that it presented itself as a viable technological resource for use in the health education of companions of patients with stroke.
Descriptors: Stroke; Health Education; Nursing Care; Home Assistance Services; Validation Study.

RESUMO

Objetivos: construir e validar álbum seriado, para ser utilizado no planejamento da alta hospitalar de pacientes com acidente vascular cerebral. **Métodos:** estudo metodológico, com construção do álbum seriado, validação por 22 juízes e avaliação por 22 acompanhantes. Os dados foram coletados a partir do Instrumento de Validação de Conteúdo Educacional em Saúde, com os acompanhantes, a partir do *Suitability Assessment of Materials*. **Resultados:** o álbum seriado possui 21 páginas. O Índice de Validade de Conteúdo global foi igual a 0,87 entre os juízes especialistas e 1,0 entre os acompanhantes. **Conclusões:** a tecnologia educacional construída foi considerada válida pelos juízes e avaliada como compreensível pelos acompanhantes, de forma que se apresentou como recurso tecnológico viável para utilização na educação em saúde de acompanhantes de pacientes com acidente vascular cerebral.
Descritores: Acidente Vascular Cerebral; Educação em Saúde; Cuidados de Enfermagem; Serviços de Assistência Domiciliar; Estudo de Validação.

RESUMEN

Objetivos: construir y validar un álbum en serie, para ser utilizado en la planificación del alta hospitalaria de pacientes con accidente cerebrovascular. **Métodos:** estudio metodológico, con construcción del álbum en serie, validación por 22 jueces y evaluación por 22 acompañantes. **Resultados:** el álbum en serie tiene 21 páginas. El Índice de Validez de Contenido global fue igual a 0,87 entre jueces expertos y 1,0 entre acompañantes. Los datos fueron recolectados del Instrumento de Validación de Contenido de Educación en Salud, con los acompañantes, del *Suitability Assessment of Materials*. **Conclusiones:** la tecnología educativa construida fue considerada válida por los jueces y evaluada como comprensible por los acompañantes, de manera que se presentó como un recurso tecnológico viable para ser utilizado en la educación en salud de los acompañantes de pacientes con accidente cerebrovascular.
Descriptores: Accidente Cerebrovascular; Educación para la Salud; Cuidado de Enfermera; Servicios de Asistencia Domiciliaria; Estudio de Validación.

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INTRODUCTION

Stroke leads the ranking of substantial factor of cognitive-behavioral disabilities[1]. In addition, the severity of the event can be determined by its anatomical location, which involves subcortical regions, bilateral cortical motor and language areas. It is added that, although men have a higher incidence, women are more likely to develop sequelae that affect their activities of daily living[2].

Stroke has become the second leading cause of death in the world, and Brazil is the Latin American country with the highest mortality rates, with approximately 125,000 deaths among patients hospitalized as a result of stroke in the last five years. years, which corresponds to the rate of 15.17 cases per thousand inhabitants[3].

Patients diagnosed with stroke often return home with physical and cognitive-behavioral sequelae, which compromise functional capacity and make these individuals dependent on care to perform their basic and instrumental activities of daily living. In a Brazilian municipality, functional dependence had a prevalence of 93.5%, with emphasis on the mild (40.7%) and moderate (32.4%) level[4].

The transition of care from hospital to home poses risks to patient safety. Therefore, health organizations need to identify which interventions should be implemented in this process. In that regard, a study that brought together the results of care transition research funded by the Patient-Centered Outcomes Research Institute (PCORI) concluded that future investigations on the subject will need to be guided by the forms of application of these interventions, as well as the assessment of their impacts, and should involve companions and patients in this transitional stage[5].

The approach between patient and caregiver should include the promotion of care management strategies, their comprehensive training, which should include physical and behavioral dimensions, active involvement of caregivers in the rehabilitation journey and carrying out regular assessments of caregivers' needs in the community[6]. Thus, for companions to play their role of assisting in the transitional stage, it is necessary for nurses to carry out health education with this public.

In this perspective, nurses, professionals responsible for managing patient care, should carry out the planning of hospital discharge in a clear way and that provides self-care for patients and, thus, make the transition from hospital to home safe. For this, they can guide the companions so that they become an assistant in the process, which provides subsidies for supported self-care.

Supported self-care aims to prepare and empower subjects for self-management of their health, which is done through: person-centered care; use of support strategies for self-care that include health status assessment and setting goals to be achieved, development of care plans, problem-solving technologies, and monitoring; organization of resources from health institutions and the community to support users' self-care[7].

This supported self-care is necessary, due to the fact that patients suffering from chronic diseases and their companions jointly participate in disease management, with decision-making, communication support and management of changes in general health behaviors. Moreover, the health outcomes of stroke survivors and caregivers affect each other, and are impacted by changes in patients' physical function[8]. Therefore, there is a need to develop instruments, such as serial albums, that emphasize health education with companions and support supported self-care.

Therefore, this study is justified by the need to create educational instruments, applied during hospitalization, aimed at the companions of patients with stroke, in order to support self-care after hospital discharge, since most existing technologies on the subject are aimed at disease prevention and not care after the development of sequel[9].

It is worth noting that a study with a similar topic did not address health education in hospital discharge planning and did not include the companions of these patients who suffered a stroke[10]. Therefore, the development of educational technology in this study is relevant, both for clinical practice and for research in nursing, in the area of neurological rehabilitation and health promotion.

This research may contribute to the translation of companions' knowledge and their empowerment to collaborate with the quality rehabilitation of patients affected by stroke. In addition to this, it can contribute to the development of care plans during hospital discharge carried out by nurses working in inpatient units. In this way, it can be used as an educational technology in health and contribute to qualified, safe care supported by instruments constructed and validated with suitable methodological rigor.

OBJECTIVES

To construct and validate serial album to be used in hospital discharge planning for stroke patients.

METHODS

Ethical aspects

The research was conducted in accordance with Resolution CNS 466/2012, under approval by the Research Ethics Committee of the *Universidade Estadual Vale do Acaraú* (UVA).

Study design, period and place

This is a methodological study, carried out for constructing and validating a serial album, carried out from August to October 2019, in the municipality of Sobral, Ceará.

Population or sample; inclusion and exclusion criteria

The sample size of expert judges and the target audience was defined using the formula $n= Za^2.P\ (1-P)/e^2$. The stipulated values were Za (confidence level) = 95%, P (ratio of agreement of judges) = 85%, and (accepted difference from what is expected) = 15%, which resulted in 22 judges.

The selection criteria adopted for nursing judges were having experience in the area of neurology and having articles published in the area of interest in an indexed journal. In turn, the selection criteria for the target audience were to be over 18 years of age and to accompany a patient diagnosed with stroke, whose discharge was scheduled for up to 24 hours.

Study protocol

To construct the educational instrument, the results of an integrative review (IR) were used, carried out from August 2019 to October of the same year, in the Cumulative Index to Nursing and Allied Health Literature (CINAHL), Scopus, Medical Literature Analysis and Retrieval System online (MEDLINE), Web of Science, SciELO, Cochrane and Latin American and Caribbean Literature in Health Sciences (LILACS) databases.

In conducting the IR, the following steps were taken: topic identification; guiding question formulation; study literature search; categorization of research; assessment of studies included in the review; discussion, interpretation of results and synthesis of knowledge evidenced in the analyzed articles; and presentation of the IR results[11].

The crossing of descriptors extracted from DeCS (Health Sciences Descriptor) and MeSH (Medical Subject Headings) was used: "Stroke", "Empathy" and "Nursing", combined by Boolean operators "AND" and "OR".

The articles were selected according to the inclusion criteria and answered the following research question: what nursing care, described in the literature, is directed to stroke patients? Repeated publications, theses, dissertations, monographs and editorials were excluded.

The final sample consisted of 20 articles. The data emerging from the IR were categorized into three strands of care, namely: management, care and educational. The main care identified was the coordination of care in the management dimension, dysphagia screening related to care and guidance regarding the performance of exams in the educational aspect.

Based on these results, the serial album was organized into 21 pages, divided into eight topics, respectively, such as the definition of stroke, healthy habits, diet, eliminations, comfort, fall prevention, medication and psychosocial support. The illustrations were developed by a specialized professional, and the diagramming was performed by a graphic designer.

Then, the instrument was validated by expert judges. At this stage, nurses with expertise in neurology and with articles published in the area participated in the research, selected through the *Plataforma Lattes*, by sequential sampling, which involves recruiting all people from an accessible population who meet the inclusion criteria over a specified time interval or until reaching a specified sample size[12].

To collect data from nursing judges, an instrument was adapted[13], which contains evaluative items of technology and identification variables of participants, such as gender, age, degree, training time, current occupation and scientific production. The answers regarding the technology items were presented using a Likert-type scale, varying between the following levels: 1) totally disagree; 2) disagree; 3) neither disagree nor agree; 4) agree; 5) totally agree.

Judges' data were collected by sending the instruments via e-mail. A period of fifteen days was established to answer the questionnaire, and reminders were sent when there were two days left for the deadline for sending the answers.

After the deadline, judges returned the completed instrument with suggestions for improving the educational instrument. Then, the serial album underwent a new illustrative and diagramming process, with full respect for judges' suggestions.

After the reformulations, we proceeded to appearance validity, in which the technology was assessed by the target audience, with a sample of 22 companions of patients with stroke hospitalized in a neurological clinic of a public hospital in Sobral, Ceará, Brazil. The choice of this scenario is justified by the fact that the institution is a reference in neurological care for 55 municipalities in northwestern Ceará.

The hospital is a reference for northern Ceará and is considered a care center in the region. Founded on 05/25/1925, today, with its 450 beds, the institution serves 55 municipalities in the region and a population of approximately two million inhabitants, being certified by the Interministerial Ordinance MoH/MEC 2.576/2007. The hospital's neurology sector assists adult patients with neurological pathologies resulting mainly from traumatic brain injury (TBI) and stroke, having eight wards with five beds. It has a nursing team composed of technicians and nurses, a medical team made up of clinicians and neurological surgeons, in addition to physiotherapists.

An assessment questionnaire was used containing clinical and epidemiological data, such as age, sex, marital status, education, degree of kinship with patients and occupation, in addition to the Suitability Assessment of Materials (SAM) instrument, translated and validated into Portuguese[14], in which the answers are arranged using a Likert-type scale and vary in five levels, namely: 1) totally disagree; 2) disagree; 3) neither disagree nor agree; 4) agree; 5) totally agree.

To participate in the study, each companion was invited individually in the ward. After acceptance, participants were asked to sign the Informed Consent Form (ICF), initiating the serial album assessment process. Individually, the researcher implemented the educational intervention mediated by the serial album. For each topic in the album, companions were asked to observe the images, while the researcher carried out post-discharge care guidelines guided by the script file. At the end of the intervention, the data collection instrument was completed by participants. The process of instrument application and assessment by participants took about ten minutes.

Analysis of results, and statistics

For data analysis, the Content Validity Index (CVI) was calculated, based on the sum of agreement of items that were marked "4" or "5" by participants. Items that received a score of "1" or "2" were revised or eliminated[15].

It is recommended that the CVI adopted as valid be equal to or greater than 0.80 and that values greater than 0.90 ensure excellence in content validity among evaluators[15]. In the present study, a valid agreement of 85% was adopted among participants. To verify the proportion of agreement statistically higher than 0.85, the binomial test was used, calculated from the R software, version 4.0.1, with a significance of 5%.

RESULTS

The serial album was titled "*A vida continua: orientações para acompanhantes de pacientes com Acidente Vascular Cerebral*", composed of 21 pages, including cover, presentation, technical sheet, summary, the five script sheets and their respective figures, ending with the last sheet, which contains the support information for carrying out the research.

The contents of the serial album contained an initial presentation and, in sequence, the following subjects in the script files, which are part of the serial album, containing instructions to nurses on what to address on the respective subject, such as the definition of stroke, healthy habits, food, eliminations, comfort, fall prevention, medication and psychosocial support.

After the serial album construction, it was submitted to content validity by expert judges, with a profile presented in Table 1.

Table 1 - Profile of expert judges (nurses) participating in the study (n= 22), Sobral, Ceará, Brazil, 2019

Variables	%	n
Sex		
Female	95.4	21
Male	4.5	1
Highest degree		
Master's degree	18.1	4
PhD	72.7	16
Postdoctoral degree	9	2
Current occupation		
Teaching and research	45.4	10
Teaching	31.8	7
Care, teaching and research	13.6	3
Care and teaching	9	2
	Mean	
Age (years)	43 (±8.7)	
Time passed after graduation (years)	19 (±8.9)	
Authorship in published articles	21 (±25.4)	

Nursing judges assessed the instrument in terms of its objectives, structure/presentation and relevance, whose CVI per topic were, respectively, 0.87, 0.86 and 0.90. As for the overall CVI, the serial album reached a value of 0.87. Data were calculated according to CVI per item, presented in Table 2. At the end of assessment, judges considered the technology approved with modifications.

Among the items related to the objectives, the lowest agreement was 77.2% in item "Encourages behavior change". The five judges who disagreed with this item suggested that, in the image of script file 7, illustrations of the phases of the sun and moon should be placed, to help the target audience in indicating the times of medication. Another evaluator reported that he was not sure whether a conversation could encourage behavior change, as it depends on the nurse who applies the technology and their ability to sensitize listeners. However, as the binomial test of such item was not significant, such agreement is considered statistically equal to or greater than 85%, thus, the item is valid, and even so, all suggestions were accepted.

In the structure/presentation topic, there was agreement lower than 85% in four items. The first was "Language suitable to educational material", in which four judges disagreed with the item and only one made suggestions that the serial album presented more direct language. The second, third and fourth items were "Interactive language, allowing active involvement in the educational process", "Illuminating information" and "Suitable text size"; despite the disagreement, judges did not make specific suggestions for change. Moreover, the items were considered valid according to the binomial test, in which there was no statistical significance.

Of the 22 companions who assessed the serial album, 59% (n=13) were female, with a mean age of 34 years, the majority being housewives, with an income of approximately one and a half minimum wage and complete elementary school. At this validity stage, the serial album obtained an overall CVI of 1.00, calculated from the CVI per item, described in Table 3.

Judges suggested improvements in the educational instrument, mainly related to layout and some changes in the characters. It was pointed out that the background of all pages was changed to more neutral colors. It was suggested that, on the cover, the patients' illustration should be represented by someone younger, and the companion should be a woman. In script file 1, it was proposed to also guide risk factors for stroke. In the illustration in script file 3, the character's position has changed. The title of topic 6 was replaced by "fall prevention", and in the first version, it was only called "falls".

Table 2 - Distribution of agreement among nursing judges in the assessment of serial album content regarding objectives, structure/presentation, relevance (n= 22), Sobral, Ceará, Brazil, 2019

Items	n	%	CVI*	*p*†
1 Objectives				
1.1 Contemplates the proposed topic	20	90.9	0.90	0.863
1.2 Suitable for the teaching-learning process	20	90.9	0.90	0.863
1.3 Clarifies doubts about the topic covered	19	86.3	0.86	0.661
1.4 Provides reflection on the topic	21	95.4	0.95	0.972
1.5 Encourages behavior change	17	77.2	0.77	0.226
2 Structure/presentation				
2.1 Language suitable for the target public	19	86.3	0.86	0.661
2.2 Language suitable to educational material	18	81.8	0.81	0.424
2.3 Interactive language. enabling active involvement in the educational process	17	77.2	0.77	0.226
2.4 Correct information	21	95.4	0.95	0.972
2. 5 Objective information	21	95.4	0.95	0.972
2.6 Enlightening information	18	81.8	0.81	0.424
2.7 Necessary information	21	95.4	0.95	0.972
2.8 Logical sequence of ideas	20	90.9	0.90	0.863
2.9 Current topic	20	90.9	0.90	0.863
2.10 Suitable text size	17	77.2	0.77	0.226
3 Relevance				
3.1 Encourages learning	19	86.3	0.86	0.661
3.2 Contributes to knowledge in the field	20	90.9	0.90	0.863
3.3 Arouses interest in the topic	21	95.4	0.95	0.972

**Content Validity Index; †Binomial test.*

Table 3 - Distribution of agreement between target audience regarding content, literacy requirement, illustrations, layout, learning motivation and cultural suitability (n= 22), Sobral, Ceará, Brazil, 2019

Items	n	CVI*	$p^{\dagger}$
1 Content			
1.1 The purpose is evident	22	1.00	1
1.2 Content deals with behaviors	22	1.00	1
1.3 Content is focused on purpose	22	1.00	1
1.4 Content highlights the main points	22	1.00	1
2 Literacy requirement			
2.1 Reading level is suitable	22	1.00	1
2.2 Use active voice writing	22	1.00	1
2.3 Use vocabulary with common words in the text	22	1.00	1
2.4 The context comes before new information	22	1.00	1
2. 5 Learning is facilitated by topics	22	1.00	1
3 Illustrations			
3.1 The illustration's purpose for the text is clear	22	1.00	1
3.2 The types of illustrations are suitable	22	1.00	1
3.3 Figures/illustrations are relevant	22	1.00	1
3.4 Lists, tables, etc., have explanations	22	1.00	1
3.5 Illustrations are captioned	22	1.00	1
4 Layout			
4.1 Layout characteristics are suitable	22	1.00	1
4.2 Size and font are suitable	22	1.00	1
4.3 Subtitles are used	22	1.00	1
5 Learning motivation			
5.1 Use interaction	22	1.00	1
5.2 The guidelines are specific and are examples	22	1.00	1
5.3 Motivation and proper self-efficacy	22	1.00	1
6 Cultural suitability			
6.1 Language is suitable	22	1.00	1
6.2 Cultural image and examples are suitable	22	1.00	1

**Content Validity Index; †Binomial test.*

The final version of the serial album presented a cover with the representation of a patient, a companion, a nurse and a doctor, all in the ward, at the time of hospital discharge planning. The technology illustrations are shown in Figure 1.

The illustration of script file 1 highlights the two main types of stroke and the Cincinnati Prehospital Stroke Severity Scale. In script file 2, habits are presented that can mitigate modifiable risk factors for stroke. The illustration of script file 3, on the other hand, refers to feeding and highlights the patients' positioning, with a gastrointestinal tube, at the time of feeding. The illustration in script file 4 highlights the care with the frequent use of diapers and the need to empty the urine collection bag in patients who need an indwelling urinary catheter. The illustration in script file 5 refers to comfort, highlighting the change in decubitus in bedridden patients. In the illustration of script file 6, fall prevention is evident. In the script file 7 engraving, some medications are highlighted to refer to medication guidelines. In script file 8, the image presents terms related to companions' psychological well-being, as exemplified in Figure 1.

DISCUSSION

The educational instrument constructed and validated in this study represents technological innovation, since there are still few technologies related to health education in the hospital environment, mainly during discharge planning, and that have as a target audience companions and/or caregivers of patients with stroke[12]. Moreover, studies that have constructed or assessed hospital discharge planning strategies are scarce[16].

It is also emphasized that, in supported self-care, the theoretical basis that underlies the serial album of this study, the importance of the central role belonging to individuals living after a stroke is emphasized, and the family performs functions that guide and support the autonomy of these subjects, in the search to rebuild and provide self-responsibility in the management of their own health[17]. Therefore, this serial album will help decision-making on the most suitable care approach in rehabilitation, guided by the dialogue between the individual-family trinomial/caregiver/companions-nurses.

The companions of patients who have suffered stroke need subsidies to increase their interaction with survivors and play their role as companions and thus assist patients to perform self-care supported[18]. Interventions that contribute to the supported self-management of care demonstrate positive results for both companions and patients[19]. Therefore, the health education of this public is essential for the rehabilitation of quality of post-stroke patients.

Instrument validity by nursing judges reached an overall CVI of 0.87. These values are similar to other studies that used a method similar to that adopted in this study, as the one that aimed to build and validate serial album on acquired syphilis[20], the research that described the validity of a leaflet on self-care with the feet of people with diabetes[21] and the article that described the construction and validity of the educational manual for family caregivers of post-stroke older adults[10].

It is noteworthy that, despite the similarity between the serial album constructed in this study and the previously mentioned manual[10], the technology developed in this research innovates, by bringing patients' companions and approaching health education in the hospital discharge planning process.

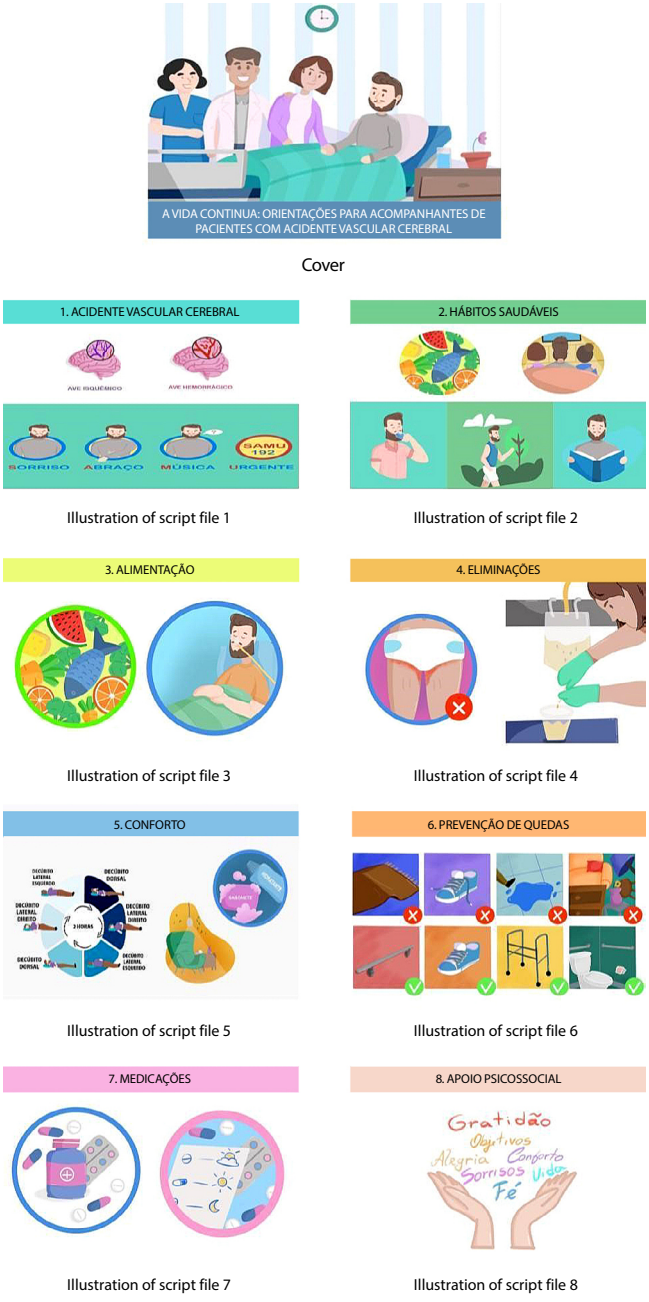

Figure 1 - Illustrations of the serial album "*A vida continua: orientações para acompanhantes de pacientes com Acidente Vascular Cerebral*", Sobral, Ceará, Brazil, 2021

It is worth noting that validity is the degree to which the instrument measures what should supposedly measure[12]. Thus, it must be considered that the validity process is obtained from the opinion and theoretical and practical knowledge of subject matter experts, and its validity depends on the circumstances and determinants of each institution to be applied in the instrument developed.

Thus, the serial album constructed in this study was validated by experts with extensive experience in neurology and articles published in this area, with emphasis on cerebrovascular diseases. The assessment of educational technologies carried out by professionals who are experts in the area and who develop research in the respective topics makes the recommendations of the material constructed with robust degrees of scientific evidence.

The first topic assessed by the expert judges referred to the serial album's objectives. Most items had CVI higher than 85%. Only item "Encourages behavior change" had a lower CVI value, however its binomial test was not significant, so the item is valid. Even so, judges' suggestions were accepted to improve the educational material.

In this context, regarding the aforementioned item, research indicates that behavioral changes occur sequentially, in stages in which the person passes through until developing a new desired behavior[7]. Thus, the process of behavior change is continuous and requires practice and encouragement at different levels of health care. Thus, health education, still in the hospitalization process, is only the beginning for the achievement of behaviors prone to better rehabilitation of patients.

In the process of assessing the relevance of the serial album, all CVI reached values above the acceptable, which corroborates other studies that were also well assessed in this aspect, for example: the research that constructed and validated serial album for pregnant women who will undergo cesarean surgery[22]; study that developed and validated an educational booklet for overweight prevention in adolescents[23]; and article that described the construction and validity of the nursing care protocol with educational interventions for family caregivers of post-stroke older adults[24].

The relevance of the educational technology constructed in this study for health promotion is related to its ability to adapt to the level of care and to the completeness of the topics covered. Thus, nurses will be able to use a validated instrument for guidance in the transition from hospital care to the home. Additionally, they will be able to adapt the guidelines according to patients' social and health determinants.

Regarding topic "Illustrations", the agreement obtained in item "The illustrations used are relevant to material content" stands out. A methodological study, which aimed to build and validate an educational booklet for HIV/AIDS prevention in older adults, also presented validity in the respective item, however, it presented CVI greater than those found in this study[25].

Moreover, it is also worth mentioning that the use of illustrations is an excellent technique to attract the attention of the target audience and facilitate the health education process. Similar to other studies that constructed and validated educational technology directed to patients with stroke[10], the images of this study were defined in analogy to environments that approach the target population's reality.

In the assessment by the target audience, the serial album reached a maximum level of agreement in all items analyzed. This finding corroborates other methodological studies, such as the one that aimed to validate the content and appearance of a serial album for children, addressing the topic of prevention and control of body weight[26], and another, which performed validity of an educational booklet for people with intestinal ostomy as a technological resource in teaching self-care[27].

The first topic assessed by the target audience was related to the content, if it was clear and if the main aspects of the subject were highlighted. The content of this serial album is similar to that of the Brazilian study, which reported the construction of educational material with nursing guidelines for home care of

patients with disabilities resulting from stroke. It is worth mentioning that the construction of the cited material was oriented from the most frequent diagnoses in these patients[28].

Furthermore, a study carried out in southern Brazil, which described the activities performed and the difficulties faced by caregivers of post-stroke dependent older adults, concluded that most caregivers performed all essential care activities for post-stroke dependent older adults present in the Capacity Scale for Informal Caregivers of Elderly Stroke Patients (ECCIID-AVC - *Escala de Capacidade para Cuidadores Informais de Pacients Idosos com AVC*), referring to oral feeding, medication, skin care, personal hygiene, bathing, eliminations, clothing, transfer and positioning. However, most caregivers had difficulties in some activities due to the lack of suitable guidance[29].

Therefore, the contents presented in this serial album are in accordance with the reality of companions and/or caregivers of patients who need post-stroke home care, which reflects, therefore, the cultural suitability of the instrument constructed and the learning motivation, as it adjusts to the needs of this audience, as presented in the scientific literature.

Study limitations

As a limitation of this study, it can be mentioned that the technology was assessed by companions of only public institution, which may result in divergence of possible data that can be obtained in private institutions. In addition, the results may also differ from the reality of other Brazilian states.

Contributions to nursing, health, and public policies

The serial album produced in this study presents significant contributions to clinical practice, since its use may guide the planning process of hospital discharge of patients with stroke. It is added that the instrument has potential elements for health promotion, with emphasis on patient empowerment and supported self-care, as well as the possibility of improvement in quality of life.

For nursing research, the serial album also presents persistent contributions, as its development followed a methodological pattern supported by qualified references; therefore, its implementation in care will be grounded in evidence-based practice.

CONCLUSIONS

The serial album construction directed to companions of patients with stroke was carried out. Its final version has 21 pages, which address, in sequence, the definition of stroke, healthy habits, diet, eliminations, comfort, fall prevention, medication and psychosocial support.

Content validity had an agreement greater than 85% on most items, referring to the objective, structure/presentation and relevance. In the assessment by the target audience, there was also a proportion of agreement greater than 85%, in all items, referring to content, literacy requirement, illustrations, layout, learning motivation and cultural suitability. Through the binomial test and CVI, the serial album validity was confirmed in terms of content and appearance, and its approval by companions of patients with stroke.

In this way, educational technology was presented as valid and viable for use in educational practice by nurses who work in the care of patients with stroke, as well as in the process of rehabilitation of these subjects in other levels of health care. Even so, it is suggested that other studies investigate the effectiveness of the use of the serial album constructed and validated in this research, as well as other technologies being developed involving stroke.

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