






Health needs related to chemotherapy treatment: construction and validation of educational videos*

Necessidades de saúde relacionadas com o tratamento quimioterápico: construção e validação de vídeos educativos

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ABSTRACT

Objective: to construct and validate the content of educational videos on health needs related to chemotherapy treatment. **Methods:** methodological study, carried out in four stages: identification of the health needs of patients on chemotherapy; construction of the educational videos; validation by expert judges; and adequacy. **Results:** health needs were identified and based on these, three educational videos were constructed with content validated by 31 to 35 judges, depending on the content of each one. The total Content Validity Index and the items of the evaluation criteria were higher than 0.80 and all items had a 95% confidence interval, whose lower limit was also higher than 0.80. Subsequently, the suggested adaptations were made to improve and confer legitimacy to the videos. **Conclusion:** the videos are believed to contribute to the patients' knowledge and self-management of symptoms at home, adaptation to treatment, and consequent improvement in quality of life.

Descriptors: Oncology Nursing; Drug Therapy; Validation Study; Educational Technology; Needs Assessment.

RESUMO

Objetivo: construir e validar o conteúdo de vídeos educativos sobre as necessidades de saúde relacionadas com o tratamento quimioterápico. **Métodos:** estudo metodológico, realizado em quatro etapas: identificação das necessidades de saúde do paciente em quimioterapia; construção dos vídeos educativos; validação pelos juízes-especialistas; e adequação. **Resultados:** as necessidades de saúde foram identificadas e com base nestas, construiu-se três vídeos educativos com conteúdos validados por 31 a 35 juízes, a depender do conteúdo de cada um. O Índice de Validade de Conteúdo total e dos itens dos critérios de avaliação foram superiores a 0,80 e todos os itens apresentaram intervalo de confiança de 95%, cujo limite inferior também foi superior a 0,80. Posteriormente, realizaram-se as adaptações sugeridas para aperfeiçoar e conferir legitimidade aos vídeos. **Conclusão:** acredita-se que os vídeos contribuam para o conhecimento e autogerenciamento dos sintomas dos pacientes em domicílio, adaptação ao tratamento e consequente melhora da qualidade de vida.

Descritores: Enfermagem Oncológica; Tratamento Farmacológico; Estudo de Validação; Tecnologia Educacional; Determinação das Necessidades de Saúde.

Introduction

Chemotherapy is defined as the use of chemical substances, alone or in combination, that affect the process of growth and cell division, eliminating both tumor cells and healthy cells. Its non-specificity is responsible for several side effects such as: anemia, fatigue, leukopenia, loss of appetite, alopecia, diarrhea, weight loss, mucositis, nausea, and vomiting, among others. Associated with this, cancer patients also experience psychological suffering, making the situation of illness difficult to face⁽¹⁾.

In the principles and guidelines of the National Policy for Cancer Prevention and Control, it is clear the establishment of communication strategies with the population that allow the dissemination and expansion of knowledge about cancer, its risk factors and strategies for prevention and control⁽²⁾. In this context, it is the competence of the chemotherapy nurse to formulate and implement educational manuals directed to patients and families, adapting them to their social reality, as well as to improve their quality of life by disseminating criteria for the prevention of risks and complications through the orientation of patients and families, together with individualized care⁽³⁾.

Health education, in the digital age, required a change in the traditional methods of teaching/learning. In this sense, the construction of audiovisual material presents itself as a contemporary and accessible means of disseminating information through an interactive format and capable of inspiring a wide audience, according to the National Policy for Cancer Prevention and Control⁽²⁾.

When addressing the models of educational technology that are used in Health Education, it is evident the choice of primers with topics such as: Educational Technology; the importance of using new tools in health education of the population, and how educational technologies can be effective in this process⁽⁴⁾. These technologies, such as videos, can provide motivation in patients, increase self-esteem and reduce the side effects generated by chemotherapy treatment⁽⁵⁾.

The videos were designed based on the pa-

tients' health needs, providing opportunities to express their concerns and doubts and enabling the evaluation of patients' cognitive resources and knowledge expectations⁽⁶⁾. Health needs are not limited to felt needs, medical needs, or to diseases, lacks, risks, and sufferings. If the object is recognized as health needs, and not only as health problems (diseases, risks, hardships, deaths), it is necessary an investigation about these needs and their determinants as indicators in the construction of the Educational Technology.

In this context, this study aimed to construct and validate the content of educational videos on health needs related to chemotherapy treatment.

Methods

Type methodological research, developed between December 2019 and September 2020, based on four stages, namely: identification of the patient's health needs related to chemotherapy treatment; construction of the videos and validation by expert judges; and, finally, adequacy of the educational videos.

Initially, a literature search was conducted in the main databases such as: Scientific Electronic Library Online (SCIELO); Latin American and Caribbean Literature on Health Sciences (LILACS); Medical Literature Analysis and Retrieval System Online (MEDLINE); and Cumulative Index to Nursing and Allied Health Literature (CINAHL). However, it was observed that the guidelines on chemotherapy are already compiled and, therefore, the preparation of the content was based on books, manuals and national and international guidelines that guide oncological care, in order to identify scientific evidence for the topics mentioned by patients. The Oncology Nursing Society guideline, Chemotherapy and Immunotherapy Guidelines and Recommendations for Practice⁽⁶⁾ was the main source of data used for the guidelines.

In addition, a descriptive research was conducted, using a non-probability convenience sampling by saturation, with 105 patients from the outpatient clinic of the Cancer Hospital I (at the beginning of treatment and already undergoing chemotherapy treat-

ment). Data collection was carried out through semi-structured interviews, in which the closed questions identified the following characteristics: age, gender, income, education, occupation, financial support, diagnosis, type of chemotherapy protocol prescribed, and cycle. In turn, the open questions allowed the survey of health needs related to the concept chemotherapy, which was explained to all interviewees. Patients at the beginning of treatment were also asked questions about their doubts about chemotherapy and information contained on the internet or from people close to them about the disease, in order to validate its veracity. As for the subsequent patients, questions were directed to the information learned from the experience not reported by the health team, information passed on by the nurse, initial and present doubts (considering the time of the interview) about the symptoms and their control.

The elaboration of audiovisual material was defined by the fact that it presents itself as an alternative, an economical and accessible means of disseminating information through an interactive format and capable of guiding many people, especially due to the possibility of dissemination through the internet and social networks. Besides being associated with a greater adherence because it is a more dynamic educational technology, when compared to standardized technologies, such as booklets.

The initial process for the development of the videos was based on the post-treatment of the results obtained, the interpretation and its subsequent categorization, based on content analysis⁽⁷⁾.

For the elaboration of the videos, the phases recommended in the literature were used, including planning, in which the objectives, content, target audience, when, where, and how they would be presented, the resources needed for development, the budget available, and the expected results were defined; the appropriate selection of the animations, production of texts for the characters' lines, construction of content with methodological rigor, as well as the capacity for innovation and transformation of a technical-scientific subject into an uncomplicated message compatible

with the target audience⁽⁸⁾.

To facilitate the understanding of the script and direct the production of the material, a *storyboard* was developed, a tool used to demonstrate the frames that made up the animation, thus being a draft that allowed the visualization of the whole structure of the educational videos.

The content validation by experts was the stage in which the relevance and representativeness of the elements that made up the videos were analyzed, being essential for their improvement. The judges' criticisms served as outlines for changes, which were evaluated as to their pertinence, making it possible to align the results.

For the educational technology to achieve its purpose, it is essential that it be developed and validated. In this sense, the validation process of a video provides legitimacy, since it is assumed that an educational material, when well produced and validated, can contribute to changing the reality of patients for whom the health technology was developed⁽⁹⁾. Thus, the produced material was submitted to the appreciation of experts in the subject, called judges, and they could suggest, correct, add or modify the items.

The judges were selected through criteria of professionals from different areas of health because it was believed that they were able to add distinctively in the validation and improvement of the videos⁽¹⁰⁾. The minimum number of experts recommended is seven, and it can vary according to the characteristics related to the investigated theme, and there is not a determined number of judges. It is assumed that the judgment of several experts, when meticulously organized, is more imperative than individual opinions⁽¹¹⁾.

In the selection of the judges, the characteristics of the instrument, training, qualification, and availability of the necessary professionals were taken into consideration. Since this is an institutional video, it was decided to select employees from Cancer Hospital I, a unit of the National Cancer Institute, since it has a larger number of clinics and a higher number of recurrent patients. Each judge had to obtain at least 05 points according to the items evaluated through the

Lattes curriculum: academic degrees; professional, academic and scientific experience; and published works. 22 nurses, 09 physicians (05 oncologists and 04 onco-hematologists), 02 nutritionists and 02 social workers were selected to evaluate the content of the videos.

In the construction of the instrument, three evaluation criteria were established: relevance; theoretical pertinence; and audiovisual. Relevance indicates whether the video content sufficiently and correctly meets the patients' needs. Theoretical Relevance evaluates if the information is current and if the language is clear, understandable and appropriate for the target population (patients and companions seen at the chemotherapy clinic of the National Cancer Institute). And the audiovisual considers the quality of the video and its resources such as voice, rhythm, image and characters.

The validation instrument by means of the Likert scale contained four response options: I - Irrelevant/not relevant; PR - Partially Relevant/pertinent; R - Relevant/pertinent; and TR - Totally Relevant/pertinent. In case of I or PR, the reason should also be indicated. The questionnaire also had three subjective questions: if there was any wrong or harmful information; if any information could be suppressed; and if any information were not covered in the videos.

Data analysis was quantitative, performed by calculating the Content Validity Index (CVI) for each item of the evaluation criteria Relevance (5 items), Theoretical Relevance (7 items), and Audiovisual (8 items). In addition, the 95% confidence interval (95% CI) of each item CVI value and the total CVI were calculated when indicated.

In accordance with the rules governing research with human beings of the National Health Council (Resolutions No. 466/2012 and No. 510/2016), the present research was submitted for consideration by two Research Ethics Committees: The Federal University of the State of Rio de Janeiro and the National Cancer Institute José Alencar Gomes da Silva and approved under Opinions 3,764,712/2019 and 3,693,015/2019.

Results

Patients starting chemotherapy had more needs related to the treatment, such as: duration time, interval and color of chemotherapy; and the symptoms they might have nausea, vomiting, alopecia, fever. On the other hand, the needs that stood out in patients in treatment were aimed at autonomy and self-care: practice of physical, work and sexual activities, use of control medications; and psychosocial: psychological support, family support, social assistance, transportation and financial needs.

The people responsible for producing the video were professionals who were close to the themes being addressed, and thus it was necessary to detail the script so that these professionals would be able to reproduce the authors' ideas.

The storyboard was built and planned with a communication company led by a professional graduated in radio and cinema, post-graduated in cinema production and with expertise in making videos in digital animation format. The illustrations were created with the program Medibang Paint Pro and vectorization by means of Adobe Illustrator Pro. Adobe Photoshop Pro was used for image refinement and effects and Adobe After Effects Pro for visual effects, transitions and post-production. Finally, the storyboard of the 03 videos was developed with 66 screens and the editing and sound were done in Adobe Premiere Pro.

In order to guide the creation process, the script was built in the form of a table, with four columns. In the first column: the theme of the scene, i.e., the title, the main idea that one wanted to show; in the second column: the narration with the theoretical content from the literature review, which was the source of the subtitles; in the third column: details of what was shown during the presentation; and in the fourth column: the characters and scenarios of the animations.

In the construction of the videos, some important characteristics were respected, such as to be as short as possible: initially a video of six minutes and 38 seconds was built, however, it was decided to produce three short videos of approximately two minutes

each; to promote authorship: the voice and the physical characteristics of the sector nurse were used to create the character; the chemotherapy waiting room was used as the main background of the video; and to sensitize the viewer: the video was prepared based on the doubts and situations related to the patients/spectators' daily lives. The educational technology sought to convey a pleasant, humorous, and light atmosphere, with the purpose of attracting the patients' attention. The videos are available on the Distance Education portal of the Coordination for the Improvement of Higher Education Personnel with the links:

<http://educapes.capes.gov.br/handle/capes/585544>;
<http://educapes.capes.gov.br/handle/capes/585545>;
<http://educapes.capes.gov.br/handle/capes/585556>

The videos were evaluated separately by means of an instrument with a total of 20 items, divided into three classes (Table 1). The evaluation of the nutritionists was requested in the second and third videos, and the social workers were only requested in the third video, where the guidelines were relevant to the field of knowledge of the professionals. Thus, 31 judges participated in the evaluation of the first video, 33 in the second, and all 35 judges in the third.

Table 1 – Content validity index for the criteria Relevance, Theoretical Relevance, and Audiovisual. Rio de Janeiro, RJ, Brazil, 2020

Criteria	Video 1	Video 2	Video 3
	CVI (CI95%)	CVI(CI95%)	CVI (CI95%)
Relevance			
The purpose of the video is clear	1.00*	1.00*	1.00*
The video content is consistent with the information needs of patients and their families	1.00*	1.00*	0.97 (0.91-1.00)
The information is important for managing symptoms and improving patients' quality of life	0.81 (0.67-0.95)	1.00*	0.97 (0.91-1.00)
The video invites and/or encourages changes in the behavior and attitude of families	0.90 (0.79-1.00)	1.00*	1.00*
The video serves the guidance that patients need on the institutional routines regarding chemotherapy	0.90 (0.79-1.00)	1.00*	1.00*
Total CVI (95%CI)	0.92 (0.89-0.95)	1.00*	0.99 (0.95-1.00)
Theoretical Relevance			
The content presented in the script is relevant and current	1.00*	1.00*	1.00*
The video can be played and shared for the health education of the chemotherapy patient	1.00*	1.00*	1.00*
Are the messages presented clearly and objectively?	1.00*	0.97 (0.91-1.00)	1.00*
The information presented in the video is scientifically correct	0.97 (0.91-1.00)	0.97(0.91-1.00)	1.00*
Writing and speaking styles are appropriate to the socio-cultural level of the target audience	1.00*	1.00*	0.97 (0.91-1.00)
The information in the video is well structured in concordance and spelling	1.00*	0.91(0.81-1.00)	0.94 (0.86-1.00)
The video covers the issues necessary for the knowledge of chemotherapy patients	0.97 (0.91-1.00)	1.00*	1.00*
Total CVI (95%CI)	0.99 (0.95-1.00)	0.98(0.97-1.00)	0.99 (0.95-1.00)
Audiovisual			
The timing of the video is adequate	1.00*	1.00*	1.00*
The size of the title, the writing and the topics are adequate	0.87 (0.75-0.99)	0.91 (0.81-1.00)	1.00*
There is a logical sequence of content proposed in the video	1.00*	1.00*	0.89 (0.79-0.99)
The illustrations in the video are expressive and sufficient	1.00*	0.97 (0.91-1.00)	1.00*
The tone of the video is friendly	1.00*	1.00*	0.94(0.86-1.00)
There is an association of the theme of each scene to the corresponding text	0.97(0.91-1.00)	0.97(0.91-1.00)	1.00*
The characters/images presented in the video are appropriate for the target audience	1.00	1.00*	1.00*
Total CVI (95%CI)	0.98 (0.93-1.00)	0.98 (0.97-1.00)	0.98 (0.93-1.00)

*CI95% not applicable because all judges answered Fully relevant/pertinent or Relevant/pertinent; CVI: Content Validation Index; CI: Confidence interval

In addition to the evaluations made through the Likert scale, the judges left their observations and contributions recorded, with the objective of providing better quality to the health educational technology. The suggestions were read and carefully evaluated as to their pertinence and consonance with the scientific literature. The changes were mainly related to the content, especially regarding the lack of some subjects not covered by the videos.

Although the results obtained through the expert judges already ensured the content validity of the videos, given the degree of agreement obtained, at the end of the objective data analysis of the Likert scale, the suggestions and comments were appreciated, which made it possible to make the relevant adjustments to complement and qualify the content, seeking a more assertive and effective educational technology. Such considerations contributed to the improvement of the final product and its applicability through the reformulation of information, replacement of terms, and review of illustrations.

After analysis of the observations, adjustments were made in the layout of the videos: and, in order to avoid overlapping subtitles, it was decided to insert two horizontal bands with a black background. The judges requested more emphasis on the role of nurses, since nursing should develop actions that promote greater recognition and appreciation of the profession. And, in order to show the role of nursing, which is always present, the phrase was added: Remember that we, nurses, will always be here, before, during and even after your treatment, to clarify your doubts, listen to your anguish and give you support.

The contributions of the judges, nutrition professionals, such as washing and rinsing food with filtered water, avoiding the use of sausages, canned and fried foods, among others, were also incorporated into the videos.

We tried to avoid prolonged discussions on extensive topics, to avoid presenting a conceptual analysis, or to deepen content, because there are already printed materials and pamphlets at the Natio-

nal Cancer Institute that have this intention and are more suitable for this purpose. Thus, the observations were partially implemented. The videos were prepared to meet the doubts presented by patients in the interviews, considering meeting only the questions raised, so as not to extrapolate the time available for the videos.

Discussion

The health needs used as a basis for developing the videos were identified in a single institution, which may be a limitation for the research findings, since the clientele addressed has specific characteristics. In addition, the audiovisual criterion was not evaluated by specific technical professionals in the area. However, even in the face of these impediments, the video fulfills its role of informing issues relevant to chemotherapy treatment.

It is believed that the use of this educational technology will contribute to the care practice of oncology nurses working in the chemotherapy outpatient clinic, especially in the nursing consultation, to contribute with safe information for patients, encouraging the clarification of doubts originated through the videos with the nursing team, besides standardizing and streamlining the guidelines.

We highlight the potential of videos for use in teaching, since this study not only presents updated references based on national and international guidelines, but also provides critical reflection on the care provided to patients receiving chemotherapy. In addition, it allows a deeper theoretical foundation among nurses, physicians, nutritionists, and social workers, aiming at improving care. Through this study, it will be possible to develop other educational health technologies in other regions of Brazil, highlighting the importance of considering the health needs according to the region and population for which the technology will be developed.

Based on the survey of health needs, it was possible to observe some already addressed in other

studies, such as: explanations about side effects, nutritional, social and psychological support^(1,12). However, it was also possible to highlight specific needs such as: pet care; access to the smoking control group; use of control medications before, during and after chemotherapy; possibility of going to the beach and getting a tattoo; doubts about sexual intercourse and fasting before starting chemotherapy; and eyebrow loss.

On average, the listener's concentration remains adequate for learning for three to five minutes and tends to reduce in proportion as the video extends, so the videos were made shorter than three minutes each⁽¹³⁾.

The characteristics and voice of a nurse of the sector were used because it is essential that the viewer (patient) understands the video as a "speech" of the interlocutor and, depending on the form and tone of the narrator's voice, it may seem that he does not have the competence to discourse on the themes with the appropriate domain and depth, weakening the credibility of the videos⁽¹³⁾. The waiting room was also used as the main background of the video, serving as an identification and familiarization of patients with the videos.

As in other studies^(8,10), the validation was performed by professionals from different areas, creating an opportunity to discuss conducts and enabling the construction of educational material in accordance with the specialties involved. The total content validity index was 0.98, as can be seen in the results. In relation to the data obtained in this study, other methodological studies of educational technology in health have validated their materials with high statistical indices⁽¹⁴⁻¹⁵⁾.

The orientation and clarification of doubts about the disease and its treatment show positive results in reducing stress and anxiety and improving insomnia in patients⁽¹⁶⁾. Since nurses are responsible for assisting patients undergoing chemotherapy throughout their entire course, health education performed by this category is fundamental for the quality of treatment.

However, it is recommended that experimental research in the form of clinical trials be conducted in order to evaluate the effectiveness of the educational video for the acquisition of practical knowledge by patients.

Conclusion

The health technology developed has a unique character, because it was built after research and discussion of patients' health needs, which makes it relevant and appropriate. It was verified that the constructed videos present evidence of content validity. It is believed that the videos, after being disseminated, have the potential to stimulate behaviors favorable to health maintenance, with information for self-management and reduction of symptoms and, consequently, improvement in the quality of life of patients.

Collaborations

Grave HP contributed to the conception and design and analysis and interpretation of the data. All authors contributed to the writing of the article and relevant critical review of the intellectual content. Santos IMM, Souza SR, Couto LL, and Oliveira AS contributed to the final approval of the version to be published.

References

1. Curtinaz ML, Muniz RM, Amaral DED, Viegas AC, Pinto BK, Barboza MCN. O contexto de adoecimento do homem com câncer de pulmão. *Rev Esp Ciênc Saúde* [Internet]. 2017 [cited Jan 28, 2021]; 5(1):4-19. Available from: <http://revistaelectronicaocs.unicruz.edu.br/index.php/enfermagem/article/view/5489/105>
2. Migowski A, Atty ATM, Tomazelli JG, Dias MBK, Jardim BC. 30 years of oncological care in the Brazilian National Health System. *Rev Bras Cancerol*. 2018; 64(2):247-50. doi: <https://doi.org/10.32635/2176-9745.RBC.2018v64n2.84>

3. Sá E, Lopes MAP, Basto ML. Antineoplastic therapy administration: nursing intervention in the relief of suffering. *Rev Bras Enferm.* 2019; 72(1):177-82. doi: <https://doi.org/10.1590/0034-7167-2018-0639>
4. Silva DML, Carreiro FA, Mello R. Educational technologies in nursing assistance in health education: integrating review. *Rev Enferm UFPE [Internet]*. 2017 [cited Mar 20, 2021]; 11(2):1044-51. Available from: <https://periodicos.ufpe.br/revistas/revistaenfermagem/article/view/13475/16180>
5. Melo EBM, Vicente MC, Pinto MS, Perasol L, Xavier BSHS, Manola CCV. Enfermagem e o uso de tecnologias nos serviços de terapia antineoplásica brasileiro. *Nursing.* 2020; 23(266):4342-50. doi: <https://doi.org/10.36489/nursing.2020v23i266p4342-4359>
6. Lefebvre KB. Professional practice considerations. In: Olsen MM, Lefebvre KB, Brassil KJ. *Chemotherapy and immunotherapy guidelines and recommendations for practice*. Pittsburgh: Oncology Nursing Society; 2019.
7. Minayo M. *Pesquisa Social: teoria, método e criatividade*. Petrópolis: Vozes; 2012.
8. Falkembach GAM. Concepção e desenvolvimento de material educativo digital. *Renote.* 2005; 3(1):1-15. doi: <https://doi.org/10.22456/1679-1916.13742>
9. Rosa BVC, Girardon-Perlini NMO, Gamboa NSG, Nietzsche EA, Beuter M, Dalmolin A. Development and validation of audiovisual educational technology for families and people with colostomy by cancer. *Texto Contexto Enferm.* 2019; 28:e20180053. doi: <https://doi.org/10.1590/1980-265x-tce-2018-0053>
10. 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.* 2017; 25:e2934. doi: <https://doi.org/10.1590/1518-8345.2024.2934>
11. Pasquali L. Análise dos itens. Validade dos testes. In: Pasquali L. *Psicometria: teoria dos testes na psicologia e na educação*. Petrópolis: Vozes; 2017.
12. Rodrigues Junior JC, Rebouças CBA, Castro RCMB, Oliveira PMP, Almeida PC, Pagliuca LMF. Development of an educational video for the promotion of eye health in school children. *Texto Contexto Enferm.* 2017; 26(2):e06760015. doi: <https://doi.org/10.1590/0104-07072017006760015>
13. Bahia AB, Silva ARL. Modelo de produção de vídeo didático para EaD. *Renote.* 2017; 15(1):1-10. doi: <https://doi.org/10.22456/1679-1916.75116>
14. Reis KL, Silva PAS, Andrade MC, Lima AB, Brito MVH, Botelho NM. Validation of an educational technology: obstetric manual for primary attention. *Nursing.* 2019; 22(258):3351-5. doi: <https://doi.org/10.36489/nursing.2019v22i258p3337-3341>
15. Paz JMB. Educational technology about living better with cardiac insufficiency: validation study. *Rev Pesqui Cuid Fundam Online.* 2021; 13:428-33. doi: <http://dx.doi.org/10.9789/2175-5361.rpcfo.v13.7140>
16. Villar RR, Fernández SP, Garea CC, Pillado MTS, Barreiro VB, Martín CG. Quality of life and anxiety in women with breast cancer before and after treatment. *Rev Latino-Am Enfermagem.* 2017; 25:e2958. doi: <https://doi.org/10.1590/1518-8345.2258.2958>



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