

Evidence of Validity of a Nutritional Booklet for Patients with Head and Neck Cancer

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Evidências de Validade de uma Cartilha Nutricional para Pacientes com Câncer de Cabeça e Pescoço

Evidencia de Validez de Cartilla Nutricional para Pacientes con Cáncer de Cabeza y Cuello

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ABSTRACT

Introduction: Nutritional booklets reinforce guidelines and assist in the self-care of cancer patients and need to be evaluated from different perspectives to ensure adequacy, clarity, and effectiveness. **Objective:** To evaluate a nutritional booklet with guidelines for patients with head and neck cancer. **Method:** Research with a methodological interface carried out between October 2023 and February 2024, operationalized in three stages: content validation by nine health experts, face validation by seven design experts, and semantic validation by six patients from the oncology outpatient clinic of the *Hospital de Clínicas* of the Federal University of Uberlândia, in Minas Gerais, Brazil. Structured instruments using Likert-type scales were used in the three stages. The analysis was based on descriptive statistics to calculate the Content Validity Index, Face Validity Index, and Semantic Validity Index. **Results:** The booklet was validated with an index of 0.97 for content, 0.84 for appearance, and 90% for semantics. **Conclusion:** The nutritional booklet is appropriate to be applied in educational actions with patients with head and neck cancer.

Key words: Food and Nutrition Education; Validation Study; Head and Neck Neoplasms; Educational Technology.

RESUMO

Introdução: Cartilhas nutricionais reforçam orientações e auxiliam no autocuidado de pacientes oncológicos e precisam ser avaliadas sob diferentes perspectivas para assegurar adequação, clareza e eficácia. **Objetivo:** Avaliar uma cartilha nutricional com orientações para pacientes com câncer de cabeça e pescoço. **Método:** Pesquisa com interface metodológica realizada entre outubro de 2023 e fevereiro de 2024, operacionalizada em três etapas: validação de conteúdo por nove especialistas em saúde, validação de aparência por sete especialistas em *design* e validação semântica por seis pacientes do ambulatório de oncologia do Hospital de Clínicas da Universidade Federal de Uberlândia, Minas Gerais, Brasil. Foram utilizados instrumentos estruturados por meio de escalas do tipo Likert nas três etapas. A análise baseou-se em estatística descritiva para calcular o Índice de Validade de Conteúdo, o Índice de Validade de Aparência e o Índice de Validação Semântica. **Resultados:** A cartilha foi validada com índice de 0,97 para conteúdo, 0,84 para aparência e 90% para semântica. **Conclusão:** A cartilha nutricional está apropriada para ser aplicada em ações educativas com pacientes com câncer de cabeça e pescoço.

Palavras-chave: Educação Alimentar e Nutricional; Estudos de Validação; Neoplasias de Cabeça e Pescoço; Tecnologia Educacional.

RESUMEN

Introducción: Los folletos nutricionales refuerzan las pautas y ayudan en el autocuidado del paciente oncológico y necesitan ser evaluados desde diferentes perspectivas para garantizar su idoneidad, claridad y eficacia. **Objetivo:** Evaluar un folleto nutricional con pautas para pacientes con cáncer de cabeza y cuello. **Método:** Investigación con interfaz metodológica realizada entre octubre de 2023 y febrero de 2024, operacionalizada en tres etapas: validación de contenido por nueve expertos en salud, validación de apariencia por siete expertos en diseño y validación semántica por seis pacientes del servicio ambulatorio de oncología del Hospital de Clínicas de la Universidad Federal de Uberlândia, Minas Gerais, Brasil. En las tres etapas se utilizaron instrumentos estructurados utilizando escalas Likert. El análisis se basó en estadística descriptiva para calcular el Índice de Validez de Contenido, Índice de Validez de Apariencia y el Índice de Validación Semántica. **Resultados:** El folleto fue validado con un índice de 0,97 para contenido, 0,84 para apariencia y 90% para semántica. **Conclusión:** El folleto nutricional es apropiado para ser aplicado en acciones educativas con pacientes con cáncer de cabeza y cuello.

Palabras clave: Educación Alimentaria y Nutricional; Estudio de Validación; Neoplasias de Cabeza y Cuello; Tecnología Educacional.

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INTRODUCTION

Head and neck cancer (HNC) is the technical term for neoplasms that occur in the nasal and oral cavities, larynx, pharynx, and neck lymph nodes¹. Around 704 thousand new cancer cases a year are estimated in Brazil for the 2023-2025 period. When considering only head and neck cancers, the prediction is of 39,550 new cases for each year of the triennium².

The main treatments for HNC include surgery, chemotherapy, and radiotherapy, isolated or not³. However, despite progress, these therapies are associated with several side effects, such as dysphagia, mucositis, anorexia, xerostomia, nausea, and vomiting, among others^{1,3}, that, in addition to the disease itself, contribute to a greater decline in the nutritional state of patients with HNC^{3,4}. Moreover, these effects, also known as nutrition impact symptoms (NIS), may contribute to increasing pain and inflammatory response, impairing food intake, increasing stress, and consequently, weight loss^{1,5}.

Nutritional intervention before, during, and after finishing treatment is incredibly important, since nutritionists may assess the patient's nutritional state, manage manifested symptoms, and offer individualized care to patients, helping them fulfill proper nutritional needs⁶. Furthermore, patients with HNC who received nutritional guidance early experienced decreased toxic effects from antineoplastic therapy, better food intake, and quality of life⁷.

However, it is not always easy to transmit all the necessary nutritional guidance. The lack of resources in many healthcare services makes the educational practice monotonous and uninteresting for both professionals and patients⁸. Thus, printed educational materials are tools that have been increasingly used in different education and health areas, emphasizing to patients, families, and caregivers the orally provided medical guidance, contributing to understanding, adherence to treatment, and self-care⁹.

In this sense, a nutritional booklet as educational technology (ET) was produced in 2022. The booklet was elaborated from a survey of 91 patients on the main NIS that affected their food intake. Version I was elaborated to help manage those symptoms and promote accessible nutritional education to patients in a more didactic way, with simple and effective examples.

It should be highlighted that, before being used, ET must be validated by specialists with experience in the field, as well as the target population¹⁰. Different validation modalities are quality indicators that must be considered before application and publication. This aspect is fundamental since ET frequently presents

technical language and complex explanations, or lacks understandable illustrations, making it hard for the target audience to understand it. Clear and simple communication helps people get more involved in their health care, makes them more prone to following their treatment plans, and adhering to care¹¹. Thus, submitting a professional work tool to validation is essential to certify the quality of relayed information and assess its effectiveness¹².

In the literature, studies that propose validation of educational materials on nutritional guidance targeted at HNC patients are scarce^{12,13}. Therefore, considering the importance of ensuring the material's quality before its use, the objective of this research is to assess a nutritional booklet with guidelines for patients with head and neck cancer.

METHOD

A methodological interface study was conducted between October 2023 and February 2024, operationalized in three stages for content, appearance, and semantic validation of a nutritional booklet directed to patients with HNC, regardless of the time since diagnosis, who were in treatment and needed guidance on common nutritional complications.

The content validation step consulted professionals in the field of interest, called health specialists (researchers/professors in oncological nutrition, educational technology, and/or instrument validation fields, or professionals with experience in oncology). The Pasquali model was adopted to determine the sample size, that is, 6-20 specialists¹⁴. Resumes were selected from the Lattes platform, and researchers also used the snowball technique, in which each participant could refer others for the study.

The study included professionals that met at least two of the following criteria: had teaching or clinical care experience of at least three years; had published works on the subject in journals and/or events; had published works on design and validation in journals and/or events; had a specialist degree (*lato sensu* and/or *stricto sensu*) related to the subject; be a member of the Scientific Society related to the subject^{15,16}. Specialists who did not meet the established criteria and spent over 15 days without returning the study instruments or communicating with researchers were excluded.

Data collection started with an invitation letter sent by email, inviting the selected professionals to participate in the research and exposing the objectives, along with a link directed to the survey form, hosted online via Microsoft Teams®. The survey started with an Informed Consent Form (ICF), followed by the collection

instrument to characterize the specialists, then a PDF file of the booklet's version I for analysis, and finally the assessment instrument.

The specialists responded to the Educational Content Validation Instrument in Health¹⁷ (ECVIH), with 18 specific questions, organized in three sections: I – Objective, with five questions; II – Structure and presentation, with ten questions; III – Relevance, with three questions and space for comments and suggestions. The following scale was used: 0 – disagree, 1 – partially agree, and 2 – completely agree. The level of agreement between participants was calculated by the Content Validity Index (CVI) obtained from the sum of “totally fit” and “fit” answers divided by the total number of answers. The items were considered valid when reaching the minimum agreement value of 0.70. Those that did not reach this value were revised and altered.

In the appearance validation step, specialists experienced in design/communication/publicity were consulted. The sample size, inclusion, and exclusion criteria, as well as data collection, were similar to those in the previous step. Specialists also received version I of the booklet and answered the Appearance Validity Instrument for Educational Technology in Health (AVIETH) with 12 questions referring to the harmonization of elements that constitute educational technology, like shapes, colors, images, text, amount, and size of figures. The following scale was used: 1 – completely disagree; 2 – disagree; 3 – partially disagree; 4 – agree; 5 – completely agree.

A 1–5-point scale was used to assess the Appearance Validation Index¹⁸ (AVI), in which the AVI for each item (AVI-I) was computed for the number of specialists who answered 4 or 5, divided by the total number of specialists. The total AVI (AVI-T) was obtained by adding all AVI-I and dividing by the total number of items. The item with AVI>0.78 was considered excellent; 0.60-0.77 indicated a need to improve the appearance of the ET; and AVI<0.60 items were classified as poor, and the material was redone from the main aspect of the item.

The semantic validation step consulted the target audience, composed of patients cared in the oncology outpatient ward of the *Hospital de Clínicas* of the Federal University of Uberlândia (HC-UFU). The research included patients who were in outpatient care on the day of data collection, aged ≥18 years, who had a head and neck cancer diagnosis, an education level that allowed them to read and understand the booklet, and who were available to read the booklet and answer the assessment instrument. Patients without the minimum literacy to understand the booklet, with a cognitive deficit due to mental illness recorded in their medical chart, or who had difficulty speaking or hearing, impairing communication

and answering the instrument, were excluded. The question “Do you read?” was asked to identify if the patient could read. In care practice, this is a structure that everybody understands and is enough to meet the exclusion criteria.

First, the patient was invited to participate in the survey and sign the Free Informed Consent Form (different from the specialist judges) and was later given the printed version II of the ET for reading, adjusted according to the content and design experts' advice. An interviewer filled in the assessment instrument with the participant's answers. The target audience answered the Suitability Assessment of Materials¹⁹ (SAM), validated for Brazilian Portuguese, with 22 specific questions organized in six categories: content, understanding of the text, illustration, presentation, motivation, and cultural adaptation. The classification ranged from not applicable; 0 – unsuitable; 1 – suitable; 2 – completely suitable. The Semantic Validation Index²⁰ (SVI) was calculated by the sum of agreement of items marked as 1 and 2 by patients, divided by the total number of responses. The interpretation of the SAM estimate percentage occurred as follows: 70-100% (completely suitable), 40-69% (suitable material), or 0-39% (unsuitable material).

The study was conducted in line with the national and international ethical guidelines and approved by the Research Ethics Committee (CEP) of the institution, report number 6320537 (CAAE (submission for ethical review): 72629123.8.0000.5152), in compliance with Resolution No. 466/12²¹ of the National Health Council, which regulates scientific research in human beings. The Free and Informed Consent was obtained from all the people involved in the study, online for the specialists and in person for the target audience.

RESULTS

Nine nutritionists, all female, participated in the content validation step. The age varied from 28-51 years, with training time ranging from 3-28 years. Regarding the specialists' titles, 2 (22,2%) had a multiprofessional residency, 2 (22,2%) had a master's degree, and 1 (11,1%) had a doctorate degree.

Table 1 shows the CVI attributed by the content specialists concerning the booklet's objectives, structure, presentation, and relevance. The “Objectives” domain had a 0.98 CVI. The initial section, composed of five items, received 45 responses. Of those, 35 (77.8%) were categorized as “completely agree” (2), 9 (20%) as “partially agree” (1), and only 1 (2.2%) as “disagree” (0). It must be noted that all the items were considered valid, reaching a CVI over 0.70.



The “Structure/Presentation” domain reached a 0.96 CVI. With 10 items totaling 90 responses, 71 (78.9%) were “completely agree” (2), 15 (16.7%) “partially agree” (1), and 4 (4.4%) “disagree” (0). All the items reached the minimum defined index.

“Relevance”, the last domain, had three items, totaling 27 responses. Of those, 23 (85.2%) were categorized as “completely agree” (2), 4 (14.8%) as “partially agree” (1), validating all the items with a 1.0 CVI. Considering the three domains CVI (0.98, 0.96, and 1.0), the global CVI was 0.97, which means the booklet was considered valid, not needing a new round of assessment.

In the appearance validation step, seven professionals participated in the survey, six of them (85.7%) female, aged 21-38 years. Regarding education, 71.4% of the sample had a bachelor's degree in social communication, Marketing, and Publicity and Advertising.

Table 2 shows the AVI attributed by the design specialists concerning colors, illustrations, and harmony of the figures in relation to the text. The instrument, composed of 12 items, received 84 responses, of which 71 (84.5%)

were “completely agree” (5) and “agree” (4), reaching a total AVI of 0.84, which is above the recommended threshold for validation.

In addition to the assessment instruments, the specialists could add improvement suggestions encompassing several aspects, including content, language, and layout. Seven content specialists recorded their contributions, compiled and expressed in Chart 1.

Among the appearance specialists, five suggested changes: switch the illustrations for actual photos and standardize the size (S1, S4, S5); adjust the margin (S1, S2, S5); choose up to two fonts to be used in the whole material (S1); improve spacing between texts and images (S2).

After analyzing the suggestions for each item, the researchers complied with every proposition and made the suggested adjustments in the material, culminating in the booklet version II.

In the semantic validation step, the validation process was concluded with contributions by six patients, aged 31-65 years, mostly male (4; 63%) and half (3; 50%) with complete elementary school. According to Table 3,

Table 1. Content specialists (n = 9) assessment of the booklet's objectives, structure/presentation, and relevance. Uberlândia, MG, Brazil, 2023

	Scale			CVI
	0	1	2	
Domains (overall CVI = 0.97)				
Objectives (CVI = 0.98)				
1. Contemplates the proposed theme	-	1	8	1.0
2. Suitable for the teaching-learning experience	-	1	8	1.0
3. Clears doubts on the approached subject	-	4	5	1.0
4. Offers reflection on the theme	1	2	6	0.89
5. Fosters behavioral change	-	1	8	1.0
Structure and presentation (CVI = 0.96)				
6. Language suitable for the target audience	-	1	8	1.0
7. Language suitable for the educational material	-	1	8	1.0
8. Interactive language, allowing active involvement in the educational process	-	1	8	1.0
9. Correct information	1	3	5	0.89
10. Objective information	-	1	8	1.0
11. Enlightening information	1	2	6	0.89
12. Necessary information	1	1	7	0.89
13. Logic sequence of ideas	-	-	9	1.0
14. Current theme	1	1	7	0.89
15. Suitable text size	-	4	5	1.0
Relevance (CVI = 1.0)				
16. Stimulates learning	-	1	8	1.0
17. Contributes for knowledge in the area	-	2	7	1.0
18. Sparks interest in the theme	-	1	8	1.0

Captions: 0 = disagree; 1 = partially agree; 2 = completely agree; CVI = Content Validation Index.

Table 2. Appearance specialists (n = 7) assessment of the booklet's graphic illustrations. Uberlândia, MG, Brazil, 2023

Domains (overall AVI = 0.84)	Scale					AVI
	1	2	3	4	5	
1. Illustrations are suitable for the target audience	-	-	1	4	2	0.86
2. Illustrations are clear and easily understandable	-	-	1	2	4	0.86
3. Illustrations are relevant for content understanding by the target audience	-	-	-	-	7	1.00
4. Illustration colors are suitable for the type of material	-	-	2	3	2	0.71
5. Illustration shapes are suitable for the type of material	-	-	2	3	2	0.71
6. Illustrations portray the daily life of the intervention's target audience	-	-	-	4	3	1.00
7. Figures are arranged in harmony with the text	-	1	1	3	2	0.71
8. The figures used enlighten the content of the educational material	-	-	1	2	4	0.86
9. The illustrations help expose the subject and are presented in a logical sequence	-	-	-	3	4	1.00
10. There are a suitable number of illustrations in the educational material	-	-	1	2	4	0.86
11. The illustrations are displayed in a suitable size in the educational material	-	1	1	1	4	0.71
12. The illustrations help the target audience change behaviors and attitudes	-	-	1	4	2	0.86

Captions: 1 = completely disagree; 2 = disagree; 3 = partially disagree; 4 = agree; 5 = completely agree; AVI = Appearance Validation Index.

all six participants assessed the item “3. e) Illustrations have captions” as “unsuitable”. The SVI (SAM = 90%), calculated from the mean of individual criteria, showed that the material was overall deemed superior, obtaining a percentage index above 70%.

The target audience suggested no improvements; therefore, version II did not undergo adjustments, resulting in the final version of the booklet. Figure 1²² presents some pages of the validated material.

DISCUSSION

The results obtained showed that the nutritional booklet was considered valid, reaching the proposed finality. In general, the specialists' responses were concordant, as attested by the content, appearance, and semantic validation indexes.

According to Nietzsche et al.²³, validation consists of precisely analyzing a specific instrument using predefined scores, aiming to improve an ET in terms of efficacy, reach, and representativeness. Researchers found in the literature only two validation studies directed at patients with HNC, one of them aimed at nursing care¹¹ and the other aimed at post-treatment nutritional guidance¹³. Thus, developing materials in health for patients with HNC is relevant, given that the affected regions are responsible for feeding.

Complications from antineoplastic treatment, especially radiotherapy, very frequent in patients with HNC, can intensify susceptibility to malnutrition, due to adverse

effects, like anorexia, dysphagia, and mucositis. Nutritional intervention before and after radiotherapy is imperative, demanding a thorough assessment to determine the nutritional risk and elaborate an individualized plan⁶.

Nutritional therapy plays a key role and must be started from diagnosis to minimize side effects and avoid nutritional decline. Nutritional monitoring can contribute to reducing hospitalization rates and the stay of patients in hospital services, given that malnutrition may be a predictive factor for unplanned hospitalization²⁴.

Thus, patient awareness of the relevance of their nutritional state, combined with professional follow-up, optimizes treatment and plays a crucial role, positively influencing adherence and commitment of patients and caregivers⁶. The use of educational materials may target, standardize, and dynamize health education actions and guidance, with illustrations, clear and understandable language, containing important guidance on the theme^{25,26}.

For ET to be effective, a content validation process should be conducted for a detailed examination of the purposes, goals, structure, and accessibility to the target audience²⁷. Moreover, validation by specialists is important to identify possible inconsistencies that may impair understanding by the target audience for whom the booklet is directed, while ensuring greater methodological rigor in ET employment²⁸.

In this sense, instruments that assess abstract concepts are employed to help improve the material¹⁶. As demonstrated, all the ECVIHC items reached the



Chart 1. Changes proposed by content specialists. Uberlândia, MG, Brazil, 2023

Substitution of terms/sentences	"Switch the term 'deglutição' (deglutition) for something with the word 'engolir' (swallow)" (S6) "Change the sentence: 'spicy food and with strong seasoning (salt, onions, garlic) impair deglutition!'" (S7) "In the sentence 'another way to increase the amount of saliva', switch to increase salivation" (S7) "In the sentence 'helps clean the palate' switch the word clean for excite or stimulate" (S7)
Guidance review	"Remove the guidance to use xylocaine in jelly form, as it promotes biting and lesions, in addition to increasing the risk of bronchoaspiration" (S2, S3, S5, S7, S8, S9) "Suggestions like the use of thickener and also review the wording of the phrase" (S5) "Jelly is not recommended for those who have dysphagia, as it turns into liquid in the mouth and becomes a major cause of choking" (S8) "There is no recommendation for head and neck cancer patients, especially in radiotherapy, regarding ice sucking, since it can stick to the mouth" (S3, S5)
Inclusion of guidance	"Include a sentence about the importance of feeding during treatment and the importance of nutritional follow-up" (S3) "The symptoms of dysgeusia and dysosmia, in addition to trismus and the use of straws, were not mentioned. Many patients also need to use a nasogastric probe or have a temporary/permanent gastrostomy, it would be interesting to add something about it" (S8)

established goal for CVI. The specialists' participation in the validation process had a positive impact on the excellence of the concluded product, as each of their individual experiences and knowledge allowed for adjustments in the material, considering that, occasionally, some details may involuntarily go unnoticed²⁵.

The AVIETH scores for items 4, 5, 7, and 11 indicated a need for adjustments in the booklet's appearance. Therefore, following alteration suggestions, the booklet was submitted to a new cycle of elaboration, editing, review, and layout. The aspects highlighted by the specialists related to visual composition, quality, and standardization of illustrations.

In parallel, the specialists praised the use of illustrations and images for making information more accessible and stimulating interest in the content and reading, becoming a facilitating tool for communication between professional, patient, and family¹⁰. This approach is essential to ensure that nutritional guidance is transmitted effectively, promoting patient adherence and understanding^{29,30}.

Regarding the semantics assessed by the target audience through SAM, only the item "3. e) Illustrations

have captions" scored 0 by all the patients, given that no illustration had captions. In the other Illustrations sub-items (3) and the Content (1), Literacy requirement (2), Layout and presentation (4), Stimulates/motivates learning (5) and Cultural suitability (6) items the 2 (great) score prevailed, suggesting that information contained in the booklet was pertinent and expressed clearly and objectively, well-illustrated, and suitable to the population's sociocultural level. Translating technical and scientific language into a more accessible language to the population, especially for less health-literate people, is a challenge³⁰. However, the patients' positive acceptance of the educational material highlights the relevance of customized approaches, considering their individual, cultural, and social characteristics⁷⁻¹⁰.

The meticulous elaboration of ETs that employ an accessible language and use pertinent illustrations becomes a relevant strategy to improve understanding and adherence to nutritional guidance^{10,28,29}. In addition, making these materials available not only helps standardize guidance to be followed, but also serves as a consultation source for the target audience seeking health care³⁰.

Table 3. Target audience (n = 6) assessment on content, understanding of the text, illustrations, presentation, motivation, and cultural suitability. Uberlândia, MG, Brazil, 2023

Domains (SVI-T: 90%)	Score attributed by each participant of the target audience*					
	1	2	3	4	5	6
1. Content						
a) The purpose is evident	2	2	2	2	2	2
b) The content approaches behaviors	2	2	1	2	1	2
c) The content is focused on the purpose	2	2	1	2	1	2
d) The content highlights the main aspects	2	2	2	2	1	2
2. Literacy requirement						
a) Reading level	2	2	2	2	2	1
b) Writes using the active voice	2	2	2	2	2	2
c) Uses common words vocabulary	2	2	2	2	2	2
d) Context comes before information	2	2	2	2	2	2
e) Learning is facilitated by topics	2	2	2	2	1	2
3. Illustrations						
a) The purpose of the illustrations referring to the text is clear	2	2	2	2	1	2
b) Types of illustrations	2	2	2	2	2	2
c) Figures/illustrations are relevant	2	2	2	2	2	2
d) Lists, tables, etc. have explanations	N/A	N/A	N/A	N/A	N/A	N/A
e) Illustrations have captions	0	0	0	0	0	0
4. Layout and presentation						
a) Layout characteristic	2	2	2	2	2	2
b) Font size and type	2	2	2	2	2	2
c) Subheadings are used	2	2	2	2	2	2
5. Stimulates/motivates learning						
a) Uses interaction	2	2	2	2	2	2
b) Guidance is specific and provide examples	2	2	2	2	2	2
c) Motivation and self-efficacy	2	2	2	2	1	1
6. Cultural suitability						
a) Similar to their logic, language, and experience	2	1	2	2	2	2
b) Cultural image and examples	2	1	2	2	2	2
Total Adjusted Score	40	38	38	40	34	38
Score Percentage (%)	95	90	90	95	80	90

Captions: *Score attributed by the target audience: 2 – great; 1 – suitable; 0 – unsuitable; N/A: Cannot be assessed.



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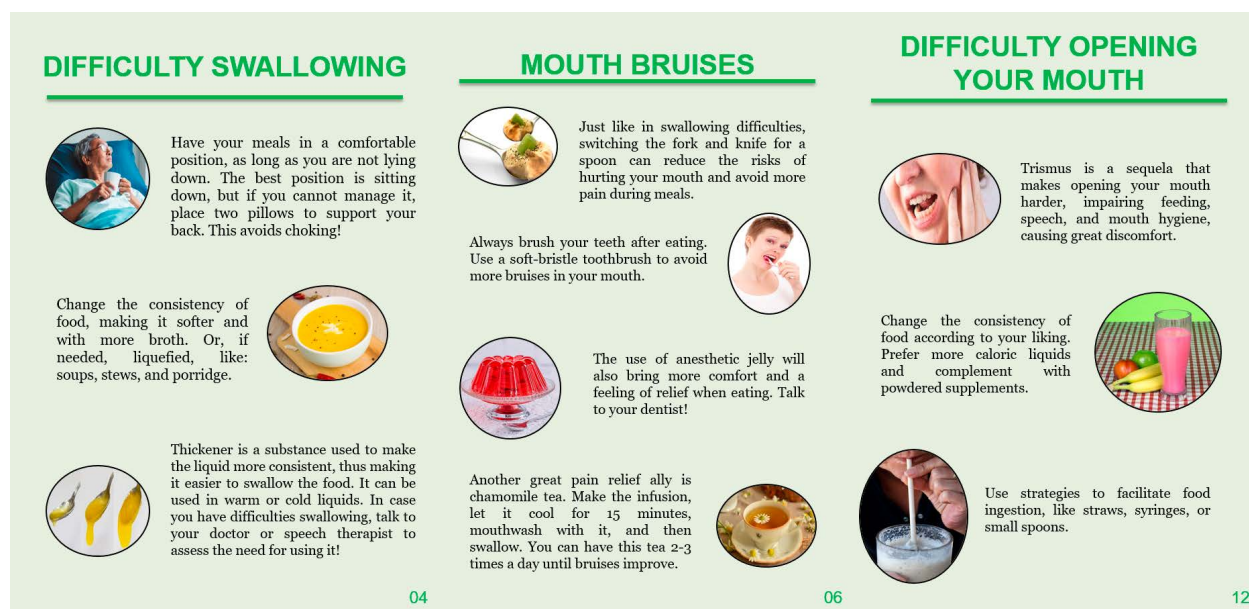


Figure 1. Pages of the booklet's validated version
Source: Maciel LF, Lima ENS, Borges IF, Pena GG²².

CONCLUSION

The nutritional booklet was validated according to content, appearance, and semantics, obtaining an overall CVI of 0.97, AVI-T of 0.84, and SVI-T of 90%, respectively. The developed material is relevant and effective in its purpose and can be employed in the nutritional guidance of oncological patients with HNC, promoting autonomy and self-care.

CONTRIBUTIONS

Marina Gonçalves dos Reis, Lanna Freitas Maciel, Emanuelle do Nascimento Santos Lima, and Isabela Borges Ferreira have substantially contributed to data acquisition, analysis, and interpretation, as well as the wording. Elizabeth Teixeira and Geórgia das Graças Pena have substantially contributed to the study design, planning, and critical review with intellectual contribution. All the authors approved the final version for publication.

DECLARATION OF CONFLICT OF INTERESTS

There is no conflict of interest to declare.

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REFERENCES

1. Neoh MK, Abu Zaid Z, Mat Daud ZA, et al. Changes in nutrition impact symptoms, nutritional and functional status during head and neck cancer treatment. *nutrients*. 2020;12(5):1225. doi: <https://doi.org/10.3390/nu12051225>
2. Instituto Nacional de Câncer. Estimativa 2023: incidência de câncer no Brasil [Internet]. Rio de Janeiro: INCA; 2022. [acesso 2025 mar. 3]. Disponível em: <https://www.inca.gov.br/sites/ufu.sti.inca.local/files/media/document/estimativa-2023.pdf>
3. Dechaphunkul A, Martin L, Alberda C, et al. Malnutrition assessment in patients with cancers of the head and neck: a call to action and consensus. *Crit Rev Oncol Hematol*. 2013;88(2):459-76. doi: <https://doi.org/10.1016/j.critrevonc.2013.06.003>
4. Simon SR, Pilz W, Hoebbers FJP, et al. Malnutrition screening in head and neck cancer patients with oropharyngeal dysphagia. *Clin Nutr ESPEN*. 2021;44:348-55. doi: <https://doi.org/10.1016/j.clnesp.2021.05.019>
5. Ferreira IB, Lima EDNS, Canto PPL, et al. Oral Nutritional supplementation affects the dietary intake and body weight of head and neck cancer patients during (Chemo) radiotherapy. *Nutrients*. 2020;12(9):2516. doi: <https://doi.org/10.3390/nu12092516>
6. Pootz SC, Boff DG, Canuto R, et al. Aconselhamento nutricional em pacientes com câncer de cabeça, pescoço e esôfago em tratamento (químio) radioterápico. *Rev Bras Cancerol*. 2020;66(1):e-13531. doi: <https://doi.org/10.32635/2176-9745.RBC.2020v66n1.531>
7. Instituto Nacional de Câncer José Alencar Gomes da Silva. Consenso Nacional de Nutrição Oncológica [Internet]. 2. ed. rev. ampl. atual. Rio de Janeiro: INCA; 2015. [acesso 2025 mar 18]. Disponível em: <https://www.inca.gov.br/>

- sites/ufu.sti.inca.local/files//media/document//consenso-nacional-de-nutricao-oncologica-2-edicao-2015.pdf
8. Fonseca LMM, Leite AM, Mello DF, et al. Tecnologia educacional em saúde: contribuições para a enfermagem pediátrica e neonatal. *Esc Anna Nery*. 2011;15(1):190-6. doi: <https://doi.org/10.1590/S1414-81452011000100027>
 9. Oliveira SC, Lopes MVO, Fernandes AFC. Development and validation of an educational booklet for healthy eating during pregnancy. *Rev Latino-Am Enfermagem*. 2014;22(4):611-20. doi: <https://doi.org/10.1590/0104-1169.3313.2459>
 10. Sugisaka ACA, Andrzejewski VMS, Rotta I. Validação de materiais educativos para orientação de pacientes em tratamento de câncer de mama com hormonioterapia. *Rev Bras Cancerol*. 2020;66(4):e-051079. doi: <https://doi.org/10.32635/2176-9745.RBC.2020v66n4.1079>
 11. Melo ES, Antonini M, Costa CRB, et al. Validação de livro eletrônico interativo para redução do risco cardiovascular em pessoas vivendo com HIV. *Rev Latino-Am Enfermagem*. 2022;30:e3512. doi: <https://doi.org/10.1590/1518-8345.5568.3512>
 12. Cruz FOAM, Faria ET, Reis PED. Validation of an educational manual for breast cancer patients undergoing radiotherapy. *Rev Latino-Am Enfermagem*. 2020;28:e3384. doi: <http://dx.doi.org/10.1590/1518-8345.3197.3384>
 13. Dias FGD. Manual de orientação nutricional para indivíduos após tratamento de câncer de cabeça e pescoço: elaboração e validação de conteúdo. São Paulo: Universidade de São Paulo; 2022. doi: <https://doi.org/10.11606/D.25.2022.tde-25012023-161714>
 14. Pasquali L. Princípios de elaboração de escalas psicológicas. *Rev Psiq Clín* 1998;25(5):206-13.
 15. Benevides JL, Coutinho JFV, Pascoal LC, et al. Development and validation of educational technology for venous ulcer care. *Rev Esc Enferm USP*. 2016;50(2):309-16. doi: <https://doi.org/10.1590/S0080-623420160000200018>
 16. Teixeira E, organizadora. Desenvolvimento de tecnologias cuidativo-educacionais. Porto Alegre: Moria; 2020. v.2.
 17. Leite SS, Áfio ACE, Carvalho LV, et al. Construction and validation of an educational content validation instrument in health. *Rev Bras Enferm*. 2018;71(supl 4):1635-41. doi: <https://doi.org/10.1590/0034-7167-2017-0648>
 18. Souza ACC, Moreira TMM, Borges JWP. Development of an appearance validity instrument for educational technology in health. *Rev Bras Enferm*. 2020;73(Suppl 6):e20190559. doi: <https://doi.org/10.1590/0034-7167-2019-0559>
 19. Sousa CS, Turrini RNT, Proveda VB. Tradução e adaptação do instrumento “suitability assessment of materials” (sam) para o português. *Rev enferm UFPE on line*. 2015;9(5):7854-61. doi: <https://doi.org/10.5205/1981-8963-v9i5a10534p7854-7861-2015>
 20. Doak CC, Doak LG, Root JH. Learner verification and revision of materials. In: Doak CC, Doak LG, Root JH, editores. *Teaching patients with low literacy skills 2*. Philadelphia: Lippincott Company; 1996. p. 167-88.
 21. Conselho Nacional de Saúde (BR). Resolução nº 466, de 12 de dezembro de 2012. Aprova as diretrizes e normas regulamentadoras de pesquisas envolvendo seres humanos. *Diário Oficial da União, Brasília, DF*. 2013 jun 13; Seção I:59.
 22. Maciel LF Lima ENS, Borges IF, Pena GG. Cartilha Nutricional. Uberlândia: UFU; 2023 (No Prelo).
 23. Nietzsche EA, Teixeira E, Medeiros HP, organizadores. *Tecnologias cuidativo-educacionais: uma possibilidade para o empoderamento do(a) enfermeiro(a)*. Porto Alegre: Moria; 2014.
 24. Weissheimer A, Rech ARA. O papel da terapia nutricional nos tumores de cabeça e pescoço. *Nutrivisa*. 2017;4:80-86. doi: <https://doi.org/10.59171/nutrivisa-2017v4e9019>
 25. Paz JMB, Teixeira E. Tecnologia educacional sobre viver melhor com insuficiência cardíaca: estudo de validação. *Rev Fundam Care Online*. 2021;13:428-33. doi: <https://doi.org/10.9789/2175-5361.rpcfo.v13.7140>
 26. Afonso MG, Silva EG, Degiovanni PVC, et al. Construção e validação de cartilha educativa multiprofissional para cuidadores de pacientes em terapia nutricional enteral domiciliar. *Texto Contexto enferm*. 2021;30:e20200158. doi: <https://doi.org/10.1590/1980-265X-TCE-2020-0158>
 27. Sena JF, Silva IP, Lucena SKP, et al. Validação de material educativo para cuidado de pessoas com estoma intestinal. *Rev Latino-Am Enfermagem*. 2020;28:e3269. doi: <https://doi.org/10.1590/1518-8345.3179.3269>
 28. Berardinell LM, Guesdes NA, Ramos JP, et al. Tecnologia educacional como estratégia de empoderamento de pessoas com enfermidades crônicas. *Rev Enferm UERJ*. 2014;22(5):603-9.
 29. Lacerda RA, Nunes BK, Batista AO, et al. Evidence-based practices published in Brazil: identification and analysis of their types and methodological approaches. *Rev esc enferm USP*. 2011;45(3):773-82. doi: <https://doi.org/10.1590/S0080-62342011000300033>
 30. Jesus GJ, Caliri JS, Oliveira LB, et al. Construction and validation of educational material for the health promotion of individuals with HIV. *Rev Latino-Am Enfermagem*. 2020;28:e3322. doi: <https://doi.org/10.1590/1518-8345.3748.3322>

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