

## **ELABORATION AND VALIDATION OF A MULTI-PROFESSIONAL EDUCATIONAL BOOKLET FOR CAREGIVERS OF PATIENTS IN HOME ENTERAL NUTRITION THERAPY**

Maria Gabriela Afonso<sup>1</sup>   
Elaine Gomes da Silva<sup>2</sup>   
Patricia Viganó Contri Degiovanni<sup>2</sup>   
Carla Viviane Georg Dressler<sup>2</sup>   
Jonathan Rodrigues de Almeida<sup>3</sup>   
Fernanda Berchelli Girão Miranda<sup>1</sup> 

<sup>1</sup>Universidade Federal de São Carlos, Departamento de Enfermagem. São Carlos, São Paulo, Brasil.

<sup>2</sup>Universidade Federal de São Carlos, Hospital Universitário Prof. Dr. Horácio Carlos Panepucci. São Carlos, São Paulo, Brasil.

<sup>3</sup>Universidade Federal de São Carlos, Departamento de Imagem e Som. São Carlos, São Paulo, Brasil.

### **ABSTRACT**

**Objective:** to elaborate and validate face and content of a multi-professional educational booklet for the education of caregivers of patients in use of Home Enteral Nutrition Therapy.

**Method:** a methodological study, conducted in two stages: (1) elaboration of the educational booklet, divided in four phases; and (2) validation of the educational material by 12 experts. A minimum agreement rate of 80% was considered to ensure validation of the material.

**Results:** the material is structured in 16 items that were considered pertinent by the experts. Content assessment by the experts presented a global Content Validity Index of 0.87. The agreement level of the categories assessed varied from 83% to 90%. The suggestions in relation to content, clarity, pertinence and relevance were addressed and modified for the final version of the material.

**Conclusion:** the educational booklet is considered valid regarding content. It is suggested that it may contribute to the understanding in health education in caregivers and family members of patients in use of enteral nutrition therapy.

**DESCRIPTORS:** Education in health. Enteral nutrition. Multi-professional team. Caregivers. Home care.

**HOW CITED:** Afonso MG, Silva EG, Degiovanni PVC, Dressler CVG, Almeida JR, Miranda FBG. Elaboration and validation of a multi-professional educational booklet for caregivers of patients in home enteral nutrition therapy. *Texto Contexto Enferm* [Internet]. 2021 [cited YEAR MONTH DAY]; 30:e20200158. Available from: <https://doi.org/10.1590/1980-265X-TCE-2020-0158>

# CONSTRUÇÃO E VALIDAÇÃO DE CARTILHA EDUCATIVA MULTIPROFISSIONAL PARA CUIDADORES DE PACIENTES EM TERAPIA NUTRICIONAL ENTERAL DOMICILIAR

## RESUMO

**Objetivo:** construir e validar a aparência e conteúdo de uma cartilha educativa multiprofissional para educação de cuidadores de pacientes em uso de Terapia Nutricional Enteral Domiciliar.

**Método:** estudo metodológico, desenvolvido em duas etapas: (1) construção da cartilha educativa, dividida em quatro fases; (2) validação do material educativo por 12 *experts*. Considerou-se o índice de concordância de, no mínimo, 80% para se garantir a validação do material.

**Resultados:** o material está constituído em 16 itens que foram considerados pertinentes pelos *experts*. A avaliação de conteúdo pelos especialistas mostrou Índice de Validação de Conteúdo global de 0,87. O nível de concordância das categorias avaliadas variou de 83 a 90%. As sugestões com relação ao conteúdo, clareza, pertinência e relevância, foram atacadas e modificadas para versão final do material.

**Conclusão:** a cartilha educativa é considerada válida quanto ao conteúdo. Sugere-se que possa contribuir para a compreensão na educação em saúde de cuidadores e familiares de pacientes em uso de terapia nutricional enteral.

**DESCRITORES:** Educação em saúde. Nutrição enteral. Equipe multiprofissional. Cuidadores. Cuidado domiciliar.

# ELABORACIÓN Y VALIDACIÓN DE UNA CARTILLA EDUCATIVA MULTIPROFESIONAL PARA CUIDADORES DE PACIENTES EN TERAPIA NUTRICIONAL ENTERAL DOMICILIARIA

## RESUMEN

**Objetivo:** elaborar y validar el aspecto y el contenido de una cartilla educativa multiprofesional para educar a cuidadores de pacientes en Terapia Nutricional Enteral Domiciliaria.

**Método:** estudio metodológico, desarrollado en dos etapas: (1) elaboración de la cartilla educativa, dividida en cuatro fases; (2) validación del material educativo a cargo de 12 expertos. Se consideró un índice de concordancia mínimo del 80% para garantizar la validación del material.

**Resultados:** el material está estructurado en 16 ítems que fueron considerados pertinentes por los expertos. En la evaluación del contenido a cargo de los especialistas se obtuvo un Índice de Validación de Contenido global de 0,87. El nivel de concordancia de las categorías evaluadas varió entre 83% y 90%. Las sugerencias en relación con el contenido, la claridad, la pertinencia y la relevancia fueron abordadas y modificadas para la versión final del material.

**Conclusión:** la cartilla educativa se considera válida en relación al contenido. Se sugiere que podrá contribuir al entendimiento en la educación en salud de cuidadores y familiares de pacientes e terapia nutricional enteral.

**DESCRIPTORES:** Educación en salud. Nutrición enteral. Equipo multiprofesional. Cuidadores. Atención domiciliaria.

## INTRODUCTION

Enteral Nutrition Therapy (ENT) is a set of therapeutic procedures for the maintenance or recovery of the patient's nutritional status through enteral nutrition (EN), indicated for patients unable or impaired to perform an adequate oral intake of food or nutritional supplements in a hospital setting or in home care. EN can be administered by tubes or by ostomies, located in the gastrointestinal tract<sup>1-2</sup>.

Home Nutrition Therapy (HNT) presents advantages in nutrition assistance, as it has the objective of recovering or maintaining the maximum level of health, functionality and comfort of the patient, minimizing worsening of the nutrition status associated with the reduction of assistance costs resulting from dehospitalization and care humanization<sup>3</sup>.

According to a study<sup>4</sup>, adequate and healthy diet requires a dialog between the National Diet and Nutrition Policy (*Política Nacional de Alimentação e Nutrição*, PNAN) and the National Food and Nutrition Safety Policy (*Política Nacional de Segurança Alimentar e Nutricional*, PNSAN), as well as between the Unified Health System (*Sistema Único de Saúde*, SUS) and the National Diet and Nutrition Safety System (*Sistema Nacional de Segurança Alimentar e Nutricional*, SINAN). In the cases of patients functionally dependent, hygiene, preparation and administration of EN activities are performed by the caregiver<sup>5</sup>, and the literature reveals that, despite the advantages of HNT, complications can occur if the care actions are not properly guided.

The complications related to ENT administration are common and can be classified according to their nature into mechanic, due to the direct manipulation of the nasoenteric tube (NET), such as displacements, accidental removal and NET obstructions; metabolic, related to the lack or excess of EN administration, such as hypoglycemia or hyperglycemia, dehydration, electrolyte imbalance; gastrointestinal, such as nausea and vomiting, diarrhea or constipation; respiratory or infectious, such as pneumonia due to EN aspiration or contamination; and even psychological<sup>1,5</sup>.

In order to minimize the risk of complications and favor the continuity of adequate and safe home nutrition assistance, it is fundamental to train the caregivers of patients in the use of ENT. According to the literature, when the caregiver participates in the care actions during hospitalization and is timely trained by a multi-professional team, adherence to HNT is more associated with the reduction of the complication risks.

Accordingly, to better prepare the caregivers for the care actions in the administration, purchase of food products and equipment, and in the solution of problems, such as tube displacement and obstruction, their training must be initiated in the hospital during the hospitalization period and continue in the home modality by means of multi-professional interventions with objective and clear information, adequate to the schooling level of the family members and caregivers<sup>1</sup>.

However, what we experience is that most of the guidelines related to HNT are offered to the family members and/or caregivers at a specific moment, close to hospital discharge, which hinders understanding and assimilation of the contents. For part of the caregivers, the guidelines are highly complex, especially when the educational strategy is vertical and often subjective. The study<sup>6</sup> asserts that, frequently, when the family member takes care of someone with an enteral nutrition tube, feelings such as insecurity, fear, and nervousness are awakened due to the responsibilities faced, therefore requiring training.

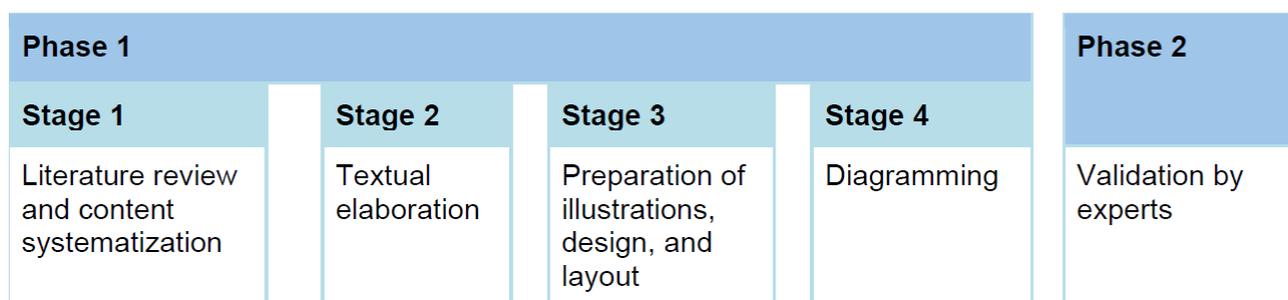
The need to elaborate tools and strategies becomes evident, as well as to develop education in health methods in a multi-professional context to create more active, committed, stable and emotionally prepared caregivers in favor of autonomous performance in the care of patients in use of HNT, in the resolution and analysis of problems, with the making of critical decisions of the practice and reduction of the occurrence of complications resulting from the use of this device<sup>7</sup>.

In this context, the use of printed educational material in the different areas of education in health is a usual practice in the SUS and has been used as a tool by health professionals as a reinforcement of the guidelines provided verbally to patients, caregivers, and family members in order to collaborate with knowledge, adherence and satisfaction with treatment and self-care. The teaching material can positively impact on their education, being able to help them to solve the doubts that can arise when they are not close to the health professionals<sup>7</sup>.

Considering the importance of these aspects in order to minimize such situation and propose multi-professional teaching-learning strategies, promote better quality in education in health, given the relevance of the caregiver's participation in the health-disease process, the objective was to elaborate and validate face and content of a multi-professional educational booklet for the education of caregivers of patients in use of HNT.

## METHOD

This is a study of the methodological type designed in two phases, the first one being the elaboration of an educational booklet and the second being the validation of the educational material (Figure 1). Echer's assumptions<sup>8</sup> were adopted, which deal with the stages of the process for the elaboration of didactic materials for health care.



**Figure 1** – Process for the elaboration and validation of the booklet. São Carlos, SP, Brazil. (2020).

The first phase occurred in four stages: the first, literature narrative review, was to identify publications related to the theme, following the guiding question: “What are the available guidelines in the scientific literature about the adequate care actions with the multi-professional Enteral Nutrition Therapy for home caregivers?” In this stage, the survey allowed finding hospital handbooks, laws, protocols, and scientific articles on the theme. In addition to that, the participation of the multi-professional team of the reference University Hospital, composed of three nutritionist, three speech therapists, one pharmacist, and one nurse, all responsible for instructing the caregivers of the patients in use of HNT before hospital discharge, this collaboration being fundamental, making it possible to share knowledge, information, and common doubts by providing assistance to this target population. This process took place at different moments by means of in-person meetings with at least one professional from each category of the health team.

The second stage, that of textual elaboration, was based on the scientific literature<sup>4-6;9-12</sup> in order to ensure reliability. The guidelines related to the care measures with the use of the tube for home enteral nutrition were transcribed to the educational material at the time of its elaboration. In order to establish which information would be included, the publications were read and, therefore, the pertinent titles and information were screened through idea recording. In this phase, the Nutrition, Speech Therapy, Pharmacy and Nursing professionals supported the review and discussion process of the content elaborated. In the third stage, didactic images were selected and used as basis to prepare the photo session with a simulated patient to diagram the material. The design and diagramming of

the images to illustrate the material was carried out together with a student of the Image and Sound course of the University Campus.

Finally, in the fourth stage, the content produced was reviewed with diligence to the information considered essential by the multi-professional team, seeking to mainly prioritize ease of reading and clarity of content for the target population.

The second phase was developed by means of face and content validation of the material. In this phase, according to the literature, it is recommended that the assessment is carried out by professionals specialized in the thematic area (experts)<sup>8</sup>. For the selection of the experts, the snowball technique<sup>13-14</sup> was used, in which the researchers asked a professional (key-informant) to indicate the name and email address of other professionals who would meet the study inclusion criteria. Through this data, the invitations were sent by e-mail clarifying the research objective for each of them. The professionals were included for participation according to Fehring's adapted framework (1987)<sup>15</sup>, being identified as experts.

For their selection, it was considered necessary to be a nurse, speech therapist, pharmacist or nutritionist, who must be involved in clinical assistance with at least one year of experience, with some specialization (certificate of clinical practice) in the study area or with a master's or PhD degree with a dissertation in the area of interest of this study or, also, publication of relevant research studies for the area addressed and of papers on the theme in reference journals. To be considered an expert, the participant had to present at least one of the aforementioned items.

In this context, 59 professionals who met the adapted criteria were identified through the "snowball" technique<sup>14;16</sup>. The possible experts received an invitation to participate in the research through email with an access link through which, when clicking it, they were directed to the electronic form, made available by Google Docs Offline® with immediate opening of the Free and Informed Consent Form (FICF) to be filled in, being a mandatory condition for opening the following pages, which presented the biographical and professional characterization form, as well as the material to be validated in face and content.

During the validation process, the expert was presented an educational booklet and an agreement scale elaborated by the researchers with information regarding the face and content of the material, related to the adequacy of the information, language, and illustrations, following the framework called Suitability Assessment of Materials (SAM)<sup>17</sup>. For each topic of the booklet, only professionals assessed the adequacy and presentation of the information, considering the readers' perspective. This method used a Likert-type scale ranging from one to five points according to the experts' answers related to the degree of agreement in each item. Consequently, the answer could be classified as: (1) totally disagree, (2) disagree, (3) indifferent, (4) agree, and (5) totally agree. In this face and content validation phase, the Delphi technique<sup>18</sup> was used, whose purpose is to obtain maximum agreement in a group of specialists on a given theme.

Regarding language, they assessed ease of understanding, the importance of the concepts addressed, and convenience with clear and objective vocabulary, indicating the possible conceptual errors. When considering the images, the adequacy of the visual composition, organization, and attractiveness was weighed. At the end of the validation process, a general opinion of the material was requested from these professionals, and their recommendations were accepted and incorporated. Subsequently, the new version of the booklet was submitted to another editing and diagramming adjustment process.

In the descriptive contributions by the experts, content analysis<sup>14</sup> was performed and the Content Validation Index (CVI) was calculated according to three approaches to verify the experts' agreement regarding the representativeness of each item: 1) I-CVI (Level Content Validity Index), with the number of experts who assessed them as relevant or very relevant being computed; 2) S-CVI/Ave

(Scale-Level Content Validity Index Average Calculation Method), consisting in the proportion of the validity indexes of each criterion; and 3) S-CVI (Scale-Level Content Validity Index), referring to the proportion mean of the I-CVIs. For this study, the CVI considered as acceptable for content validation was a general index equal to or greater than 0.80 for each item of the chart<sup>13,19-20</sup>.

In the first series of the Delphi Technique, there was agreement by the experts regarding the material presented. Data collection was carried out with them from December 2019 to March 2020, after ethical authorization.

The data were organized in an electronic data template. After being tabulated, they were analyzed by means of descriptive statistics. The material was reformulated according to the experts' suggestions, which are presented in the discussion of the results.

## RESULTS

As a result of the stages described above, a multi-professional booklet for education in health of caregivers of patients in use of Home Enteral Nutrition Therapy was obtained. The elaboration of the booklet was supported by professionals from the Nutrition, Nursing, Speech Therapy and Pharmacy areas, as well as by students attending the undergraduate course in Nursing and the Image and Sound Course of a Federal University.

Textual elaboration was developed by means of a script with multi-professional text content. The educational booklet was called "Manual of Guidelines for the use of Home Enteral Nutrition for Adults".

There was also a subsequent script of images to conduct the photo session of a female volunteer who played the role of a simulated patient of the material, signing a consent form for the use of her image, in order to promote an approximation to the reality of most of the family members and caregivers at the home setting. The photographs were edited and added in the diagramming of the booklet.

The final version of the multi-professional educational booklet is in the A5 dimension, with landscape orientation (14.8 x 21 cm) and booklet-type handling, with its text arranged horizontally, justified, or aligned to the left. The predominant colors used in the layout of the material were white for the background, black for the text, and multiple colors for the images. The booklet has 40 front and back pages, with cover, inside cover, summary and, at the end, a summary table with spaces to fill and lines for notes. It was printed with colored ink and bound in a stapled booklet format.

The font used in the texts was "Calibri", for being a rounded and easy-to-read font with the objective of easing the reading difficulties of the target population, with size 15 and 18 pt. spacing between lines. For the titles, "Gill Sans Ultra Bold" Size 18, 20-pt spacing was chosen, since the material is intended for adults. Bold text was used in the titles, subtitles or highlights, choosing colors with sensitivity and caution so that the material was not visually polluted, with too much color. Images were given priority over texts, given that not all readers will be able to read and interpret only the words.

It was sought to present complete ideas in both sides of the sheet, without being necessary to turn the page and break the message by turning the page and forgetting it. Ideas and/or important key phrases were highlighted with an emphasis so that the reader could return to that information more easily.

The diverse information presented in the manual of guidelines was displayed thinking in a logical order of content comprehension. The starting point was to explain what NET is, presenting its materials, accompanied by photographs, which eases understanding through the process; subsequently, the modes/handling methods and administration were presented, followed by the recommendations and, finally, what to do in case of any complication with the use of the NET. It was decided to use popular

language in the booklet writing and, when necessary, to apply technical terms. All were contextualized in their textual insertion.

With the objective of better organizing the guidelines, the material was divided into 17 items, namely: cover, summary; 1. What is Enteral Nutrition?; 2. Materials and equipment; 3. Types of diet; 4. Personal and environmental hygiene; 5. Recipe and method of preparation of the semi-homemade enteral nutrition; 6. List of ingredient substitutions; 7. Method of preparation of the semi-homemade enteral nutrition; 8. Recipe of industrialized enteral nutrition; 9. Method of preparation of industrialized enteral nutrition; 10. Administration of enteral nutrition; 11. Water for hydration; 12. Administration of medications; 13. Recommendations; 14. Complications; 15. References; 16. Administration of enteral nutrition and medication through the tube; and 17. Notes. Subsequently, the constitutive definitions about the content of each category were identified for developing the educational booklet. The cover and initial pages of each chapter of the booklet are presented in Figure 2.



Figure 2 – Illustrative representation of the educational booklet presented to the experts. São Carlos, SP, Brazil, 2020.

After the elaboration phase, face and content validation of the educational booklet was conducted by the experts. Table 1 below presents the characterization data of the experts who participated in the validation of the material.

Among the experts of the first phase, none of the participants stated working in the primary health care level, one (8.3%) in the secondary level, and three (25.0%) in the tertiary care level. Regarding their training time, four (33.3%) experts stated having studied from 5 to 15 years; four (33.3%), from 15 to 25 years; and other four (33.3%), reported from 25 to 35 years of training.

In relation to having assistance or managerial experience in the assistance to patients using NET, 11 (91.7%) of the experts answered positively and 11 (91%) mentioned experience in the training of caregivers or family members and/or care actions with NETs and their care actions. Most of the experts (n=11, 91.7%) reported having experience in the development and assessment of educational materials targeted at patients or caregivers. Of all the experts, three (25%) stated having published scientific research studies on the validation of educational materials.

Regarding the content validation process, the experts developed a positive assessment of the booklet and registered the material as an excellent complement to the practical guidelines, especially due to the approximation to the daily life with which it was exposed.

**Table 1** – Characterization of the experts who participated in the validation of the educational booklet. São Carlos, SP, Brazil, 2020. (n=12)

Variables	n*	f%†
Gender		
Male	0	0%
Female	12	100%
Professional Training		
Nursing	2	16.7%
Speech Therapy	2	16.7%
Nutrition	6	50%
Pharmacy	2	16.7%
Maximum academic degree		
Specialization	3	25%
Master's Degree	1	8.3%
PhD	8	66.7%
Current professional practice area‡		
Assistance	9	75%
Teaching	5	41.7%
Assistance and teaching	2	16.7%
Publication of research studies and/or articles on the theme	7	58.4%

\*n: number of participants. †f: frequency. ‡The experts reported more than one current area of professional performance.

For the 16 items composing the material sent, the experts made 115 considerations, and 88 of these were accepted after review by the multi-professional team. Such changes are related to the correct spelling, ease of understanding of the content, structuring of the discourse, agreement, use of the active voice with simple and familiar words and definitions, emphasis on the important points and ideas of the text, pagination and page layout, aiming to be considered suitable for the target population.

The agreement between the experts in relation to the educational material was calculated by the S-CVI/AVE (average of the content validation indexes for all indexes of the scale) proportion of relevance. Table 2 shows the I-CVI and S-CVI /Ave of each validated item in terms of their language clarity, relevance and pertinence, obtaining a global S-CVI of 0.87, with an S-CVI of 1 for the relevance domain, an S-CVI of 0.83 for the language clarity domain, and S-CVIs of 0.89 for relevance and of 0.90 for the relevance of the content. The agreement between the experts as to the appearance of the educational material obtained an I-CVI mean of 0.90.

The index score was calculated through the sum of agreements of the items marked as “4” or “5” by the experts<sup>21</sup>. Despite the fact that some items were well assessed by the experts, such as the illustrations (91%), correct information in the material (91%), clarity of the information (0.91), appearance (0.86) and language (0.83), the authors chose not to adhere to some suggestions and perform the due changes.

In case the expert considered the “indifferent” option, it was considered as discordant in the calculation. For the calculation of I-CVI, the total number of experts was changed in the items in which they chose the “I don’t know how to assess” option, possibly related to the fact that it was multi-professional content. Items with agreement proportion lower than 0.80 were verified; with I-CVI not being reached for clarity in items 1,8, and 10; relevance and S-CVI in item 3, as the expert considered the “indifferent” option, being necessary to readjust the items according to the descriptive contributions of the experts, although it was not necessary to exclude them.

**Table 2** – Distribution of the Content Validity Indexes according to the experts' assessment of the Language Clarity (I-CVI (LC)), Relevance (I-CVI (R)) and Pertinence (I-CVI (P)). São Carlos, SP, Brazil, 2020. (n=12)

Items Assessed	I-CVI* (LC)	I-CVI* (R)	I-CVI* (P)	S-CVI
Cover: "Manual of Guidelines for the use of Home Enteral Nutrition for Adults"	0.83	0.91	0.91	0.89
Item 1: What is Enteral Nutrition?	0.75	0.91	0.91	0.86
Item 2: Materials and equipment	0.83	0.83	0.91	0.86
Item 3: Types of enteral nutrition	0.83	0.75	0.75	0.77
Item 4: Personal and environmental hygiene	0.91	0.91	0.91	0.91
Item 5: Recipe and method of preparation of the semi-homemade enteral nutrition	0.83	0.83	0.83	0.83
Item 6: List of ingredient substitutions	0.83	0.91	0.83	0.86
Item 7: Method of preparation of the semi-homemade enteral nutrition	0.83	0.83	0.83	0.83
Item 8: Recipe of the industrialized enteral nutrition	0.75	0.91	0.91	0.86
Item 9: Method of preparation of the industrialized enteral nutrition	0.83	0.91	0.91	0.89
Item 10: Administration of enteral nutrition	0.75	0.91	0.91	0.86
Item 11: Water for hydration	0.91	0.91	0.91	0.92
Item 12: Administration of medications	0.83	1	1	0.94
Item 13: Recommendations	0.83	0.83	0.83	0.83
Item 14: Complications	0.91	0.91	1	0.94
Item 15: References and Notes	0.91	1	1	0.97
S-VCI/Ave <sup>‡</sup>	0.83	0.89	0.9	0.87

\*I-CVI: Individual-Item Content Validity Index; <sup>†</sup>S-CVI: Scale-Level Content Validity Index; <sup>‡</sup>S-CVI/Ave: Scale-Level Content Validity Index/Average Calculation Method.

In this sense, the change made in item 1 was related to the clarity of language of the nasogastric tube; in item 8 on language, the volume to be administered in 24 hours was detailed; and, in item 10, the minimum intervals for administration of the enteral nutrition were changed. Item 3 suffered changes according to the experts' suggestions about the types and definitions of enteral nutrition and the supplements described.

## DISCUSSION

The choice of the theme for the educational booklet emerged from the needs reported by the caregivers of patients who participated in the multi-professional meetings of the Orientation Group on Enteral Nutrition Therapy (*Grupo de Orientação em Terapia Nutricional Enteral*, GOTNE) developed at the Prof. Dr. Horácio Carlos Panepucci University Hospital - Federal University of São Carlos. This group was created in 2016, in which the professionals presented the best practices for the care related to HNT weekly, avoiding the overload of information in a single moment, before hospital discharge. Since its creation, 231 family members and/or caregivers of patients were guided.

A number of authors<sup>6,22</sup> assert the importance of professional guidance for the adequate care and prevention of risks for home-treated patients, as well as they highlight the importance of this professional approximation during the hospitalization period in order to meet the needs of individualized education, training, and other types of support throughout the assistance period, since these people do not always have guidelines or are linked to the health service to know the adequate practices and the benefits for the person who is cared for.

The elaboration of an educational material is an opportunity to summarize, standardize and make official the various conducts related to the patient's health care when different professionals are involved in their treatment. On the other hand, the validation process is the stage to establish what was not understood and the distance existing between what we write and what it is, and how it is understood, mainly focusing on education in health for families and caregivers<sup>7-8</sup>.

The validation process by experts represented a positive contribution to the quality of the end product. The experience of each expert enabled adaptations of the material since, unintentionally, some aspects can often go unnoticed.

The experts suggested the substitution of terms classified as technical or confusing for the target population. Many times, the addition of important information becomes necessary, as the professional language can be limiting, and it is known that, when guidelines are provided to the population, they should be transmitted with clarity; they cannot be distorted, different or conflicting. Accessible language is essential as a misunderstood reading can significantly compromise the objectives of the educational material<sup>8,18</sup>.

In this regard, item 3, which addresses all the types of available diets and their definitions, reached an S-CVI of 77%, below the goal established<sup>19</sup>. The considerations made by the experts about it were related to the substitution of terms in order to make the material more appropriate, and they were accepted for changes. As an example of these substitutions, it is possible to mention the review of the definition of concepts, in which it was decided to use the term "semi-homemade enteral nutrition" instead of "homemade enteral nutrition", as the latter *does not necessarily offer the patients' nutritional goal* (E8); and, *in this case, as they are going to include a supplement, it cannot be considered homemade...* (E2) In this same item, the supplements described were reassessed and a definition for them was introduced<sup>23</sup>.

The literature refers to the food offered through the tube as "diets"; in this regard, one of the experts stated the following: *I suggest reviewing the term "enteral diet", replacing it by "enteral nutrition" and standardizing...* (E10) In this way, the multi-professional team was called to action, agreeing with the change suggested. In the item addressing the recommendations, the term "*higiene bucal*" ("mouth hygiene") was substituted with "*higiene oral*" ("oral hygiene") (E6). This recommendation was also valid for the substitutions of the term "*passado pela sonda...*" ("passed through the tube...") with "*administrado pela sonda...*" ("administered through the tube") (E3) *and of the term "medicação" ("medicine") with "medicamento" ("medications") ...* (E7).

According to the experts' recommendations, other changes are related to the organization of the text, addition of terms to ease understanding, such as the insertion of the word "Adults" on the cover of the booklet to clarify who the target population is, *it would be interesting to make it clear if this booklet is directed to adult patients* (E4). The literature<sup>8</sup> asserts that, in order to give significant and easy-to-understand guidance, it is necessary to meet the specific needs; therefore, with the change, the target population of the approach is made explicit.

The entire layout and the illustrations were developed by a student who works with creation. The recommendations to be made regarding the association of texts with the illustrations were accepted. For that, keys highlighted in the photos and their indications throughout the text content were included. In this category, the experts assessed *...the fact of having colored photos of the spoons and food used in the homemade diet contributed to the preparation in the dosage of the ingredients...* (E5).

The use of illustrations in printed educational resources is considered pertinent for making them more attractive, enhancing the understanding of the target population, regardless of their schooling<sup>24</sup>. The decision was to use good-quality and high-definition photos due to their similarity with the home environment and profile of the target population, using a simulated patient in a simulated home

environment of a health unit of the university campus to make it more real and within the possible context of the target population, trying to present fundamental messages visually, without any type of distraction<sup>17</sup>. The photos and keys were placed as close as possible to the text to which they referred, easing understanding and the connection of what is written to the images.

The experts agreed that the booklet is a relevant resource so that the health team can guide patients and caregivers and that enables the standardization of the team's guidance conduct. They presented considerations such as *This study will be of great value for the home care area* (E2); *I believe that the material covers the main doubts of caregivers and patients in use of NET* (E11); *Complete material, considering the most important aspects for the home nutrition therapy* (E5).

The guidelines provided by the health professionals must be verbal and written<sup>9</sup>. A number of studies<sup>12,22</sup> assert that the caregivers who receive educational booklets with professional guidelines consider the didactic material as positive, proposing care to the patients that requires NT at their homes, recovering or maintaining the maximum levels of patient health, functionality and comfort to promote quality of life through education in health and its subjective contexts. In this regard, the experts conceive the following: *Comprehensive, multi-professional, well-explained material so as to ease the caregiver's understanding*; (E7); *Extremely complete, easy-to-understand material, and uses adequate language for its target population* (E5).

According to the appreciations, *The material is clear and addresses the points that are relevant to the theme* (E9; E12). The literature highlights that educational materials are capable of exploring resources that meet recognized and valued meanings in the contexts of the users and the community, regardless of the cultural or social environment to which the individual belongs, especially if they are used by older adults who need accessible, clear and objective language, which favors understanding and reflection on the subject<sup>24-25</sup>. This is identified as a possible limitation of the study, in which only professionals participated in the validation process of the material.

With multi-professional collaboration in health, not only during the creation process but also during validation, this study represents an important social contribution. A North-American study<sup>26</sup> asserts that HNT presents multidisciplinary needs, with health professionals such as nurses, pharmacists, nutritionists, physicians and social workers, among others, recognizing that dedicated multidisciplinary teams and trained and empowered families are essential to optimize the results in this scenario.

## CONCLUSION

The educational booklet was elaborated and validated aiming at contributions for the health professionals, patients, and community present in the services of the different health care levels.

Educational works conducted in the form of booklets provide significant benefits in the context of public policies, facilitating access to the information to users from different socioeconomic and cultural levels.

The online version of the booklet is available in the Internal System of Prof. Dr. Horácio Carlos Panepucci University Hospital - Federal University of São Carlos. In addition to that, the booklet is available in its printed version to be distributed to the GOTNE participants, and efforts are being made so that it is available for other public health institutions of the city.

It is highlighted that, despite the feasibility of the results presented, we suggest conducting other studies to investigate the effectiveness of the material as a didactic resource and the knowledge acquisition of the caregivers based on its use.

## REFERENCES

1. Lim ML, Yong BYP, Mar MQM, Ang SY, Chan MM, Lam M, et al. Caring for patients on home enteral nutrition: Reported complications by home carers and perspectives of community nurses. *J Clin Nurs* [Internet]. 2018 [cited 2020 Jul 11];27(13-14):2825-35. Available from: <https://doi.org/10.1111/jocn.14347>
2. Naves LK, Tronchin DMR. Home enteral nutrition: profile of users and caregivers and the incidents related to feeding tubes. *Rev Gaúcha Enferm* [Internet]. 2018 [cited 2020 Mar 28];39:e2017-0175. Available from: <https://doi.org/10.1590/1983-1447.2018.2017-0175>
3. Menezes CS, Fortes RC. Nutritional status and clinical evolution of the elderly in home enteral nutritional therapy: a retrospective cohort study. *Rev Latino-Am Enfermagem* [Internet]. 2019 [cited 2020 Jul 12];27:e3198. Available from: <https://doi.org/10.1590/1518-8345.2837.3198>
4. Alves KPS, Jaime PC. A Política Nacional de alimentação e Nutrição e seu diálogo com a Política Nacional de Segurança alimentar e Nutricional. *Ciênc Saúde Coletiva* [Internet]. 2014 [cited 2020 Jul 14];19(11):4331-40. Available from: <https://doi.org/10.1590/1413-812320141911.08072014>
5. Libório É, Fietz V. Vivências dos cuidadores em relação à terapia nutricional enteral domiciliar. *Rev Labore em Ensino de Ciências* [Internet]. 2016 [cited 28 Mar 2020];1(Spe):126-39. Available from: <https://periodicos.ufms.br/index.php/labore/article/view/5493>
6. Ferreira RS, da Rocha Pereira L, Teles MAB, Oliveira KCF, Barbosa-Medeiros MR. Perception of caregivers about the assistance to patients under household enteral nutrition. *Rev Enferm UFPE on line*. 2017 [cited 28 Mar 2020];1(11):303-38. Available from: <https://doi.org/10.5205/reuol.7995-69931-4-SM.1101sup201708>
7. Oliveira SC, Oliveira Lopes MV, Fernandes AFC. Development and validation of an educational booklet for healthy eating during pregnancy. *Rev Latino-Am Enfermagem* [Internet]. 2014 [cited 2020 Mar 08];22(4):611-20. Available from: <https://doi.org/10.1590/0104-1169.3313.2459>
8. Echer IC. Elaboração de manuais de orientação para o cuidado em saúde. *Rev Latino-Am Enfermagem* [Internet]. 2005 [cited 2020 Mar 28];13(5):754-7. Available from: <https://doi.org/10.1590/S0104-11692005000500022>
9. Carrasco V, Silva D, Silva P. Reflection on the need for permanent education in nutritional therapy. *J Nurs UFPE on line* [Internet]. 2018 [cited 2020 Jul 12];12(12):3500-5. Available from: <https://doi.org/10.5205/1981-8963-v12i12a237459p3500-3505-2018>
10. Silva AST, Pinto RLG, Rocha LR. Prevenção de eventos adversos relacionados à sonda nasogástrica e nasoenteral: uma revisão integrativa. *J Nurs Health* [Internet]. 2020;10(Spe):e20104003. Available from: <https://periodicos.ufpel.edu.br/ojs2/index.php/enfermagem/article/view/16947/11303>
11. Pironi L, Arends J, Bozzetti F, Cuerda C, Gillanders L, Jeppesen PB, et al; Home Artificial Nutrition & Chronic Intestinal Failure Special Interest Group of ESPEN. ESPEN Guidelines on chronic intestinal failure in adults. *Clin Nutr* [Internet]. 2016 [cited 2020 Jul 12];35(2):247-307. Available from: <https://doi.org/10.1016/j.clnu.2019.04.022>
12. Gramlich L, Hurt R, Jin J, Mundi M. Home enteral nutrition: towards a standard of care. *nutrients*. MDPI AG [Internet]. 2018 [cited 2020 Jul 12];10(8):1020. Available from: <https://doi.org/10.3390/nu10081020>
13. Polit DF, Beck CT. *Essentials of nursing research: appraising evidence for nursing practice* [Internet]. 7th ed. Philadelphia (US): Wolters Kluwer Health /Lippincott Williams & Wilkins; 2010 [cited 30 Mar 2020]. Available from: <https://doi.org/10.1016/j.aorn.2011.10.009>

14. Oliveira D. Theme/category-based content analysis: a proposal for systematization. *Rev Enferm UERJ* [Internet]. 2008 [cited 30 Mar 2020];16(4):569-76. Available from: <http://files.bvs.br/upload/S/0104-3552/2008/v16n4/a569-576.pdf>
15. Fehring R. Methods to validate nursing diagnoses. *Heart & Lung: J Critical Care* [Internet]. 1987 Nov [cited 2020 May 08];16(6):625-9. Available from: [https://epublications.marquette.edu/cgi/viewcontent.cgi?article=1026&context=nursing\\_fac](https://epublications.marquette.edu/cgi/viewcontent.cgi?article=1026&context=nursing_fac)
16. McGee J, Peterson M, Mueller S, Sequeira J. Entrepreneurial Self-Efficacy: Refining the Measure. *Entrep Theory Pract* [Internet]. 2009 [cited 2020 Mar 31];33(4):965-88. Available from: <https://doi.org/10.1111/j.1540-6520.2009.00304.x>
17. Doak CC, Doak LG, Root JH. Teaching patients with low literacy skills. 5th ed. Philadelphia (US): JB Lippincott Company; 1996. p. 41-59. Available from: <https://www.hsph.harvard.edu/healthliteracy/resources/teaching-patients-with-low-literacy-skills/>
18. Scarparo AF. Reflexões sobre o uso da técnica delphi em pesquisas na enfermagem. *Rev RENE* [Internet]. 2012 [cited 30 Mar 2020];13(1):242-51. Available from: <http://www.periodicos.ufc.br/rene/article/view/3803/3000>
19. Polit D, Beck CT. The Content Validity Index: are you sure you know what's being reported? Critique and recommendations. *Res Nurs Health* [Internet]. 2006 [cited 2020 Apr 30];29(5):489-97. Available from: <https://doi.org/10.1002/nur.20147>
20. Gonçalves ATP. Content analysis, discourse analysis, and conversation analysis: preliminary study on conceptual and theoretical methodological differences. *Adm Ensino Pesq* [Internet]. 2016 [cited 2020 Apr 02];17(2):275-300. Available from: <https://doi.org/10.13058/raep.2016.v17n2.323>
21. Grant JS, Davis LL. Selection and use of content experts for instrument development. *Res Nurs Health* [Internet]. 1997 [cited 2020 Mar 04];20(3):269-274. Available from: [https://doi.org/10.1002/\(SICI\)1098-240X\(199706\)20:3<269::AID-NUR9>3.0.CO;2-G](https://doi.org/10.1002/(SICI)1098-240X(199706)20:3<269::AID-NUR9>3.0.CO;2-G)
22. Jukic P N, Gagliardi C, Fagnani D, Venturini C, Orlandoni P. Home Enteral Nutrition therapy: Difficulties, satisfactions and support needs of caregivers assisting older patients. *Clin Nutr* [Internet]. 2017 [cited 2020 Jul 12];36(4):1062-1067. Available from: <https://doi.org/10.1016/j.clnu.2016.06.021>
23. Gonçalves EC, Morimoto IMI, Ribeiro CSG, Cunha TR, Corradi-Perini C. Bioethics and the human right to adequate feeding during enteral nutritional therapy. *Rev Bioét* [Internet]. 2018 [cited 2020 Jul 12];26(2):260-70. Available from: <https://doi.org/10.1590/1983-80422018262247>
24. Cordeiro LI, Lopes TO, Lira LEA, Feitoza SMS, Bessa MEP, Pereira MLD, et al. Validation of educational booklet for HIV/Aids prevention in older adults. *Rev Bras Enferm* [Internet]. 2017 [cited 2020 Apr 12];70(4):775-82. Available from: <https://doi.org/10.1590/0034-7167-2017-0145>
25. Rosa BVC, Girardon-Perlini NMO, Guerrero Gamboa NS, Nietsche EA, Beuter M, Dalmolin A. Development and validation of audiovisual educational technology for families and people with colostomy by cancer. *Texto Contexto Enferm* [Internet]. 2019 [cited 2020 Apr 27];28:e20180053. Available from: <https://doi.org/10.1590/1980-265X-TCE-2018-0053>
26. Bonnes SL, Salonen BR, Hurt RT, McMahan MT, Mundi MS. Parenteral and Enteral Nutrition-From Hospital to Home: Will It Be Covered? *Nutr Clin Pract* [Internet]. 2017 [cited 2020 Jul 12];32(6):730-8. Available from: <https://doi.org/10.1177/0884533617734491>

## NOTES

### ORIGIN OF THE ARTICLE

Extracted from the Scientific Initiation (2019/15536-0) – Use of different teaching and learning strategies with a multi-professional team for patients in Home Enteral Nutrition Therapy: Knowledge gain perceived by caregivers”, funded by the Research Support Foundation of the State of São Paulo, linked to the Nursing Department of the *Universidade Federal de São Carlos*, in 2020.

### CONTRIBUTION OF AUTHORITY

Study design: Afonso MG, Miranda FBG, Degiovanni PVC, da Silva EG, Dressler CVG, de Almeida JR.  
Data collect: Afonso MG, Miranda FBG.

Data analysis and interpretation: Afonso MG, Miranda FBG.

Discussion of the results: Afonso MG, Miranda FBG, da Silva EG.

Writing and/or critical review of the content: Afonso MG, Miranda FBG.

Review and final approval of the final version: Afonso MG, Miranda FBG, Degiovanni PVC, da Silva EG, Dressler CVG, de Almeida JR.

### ACKNOWLEDGMENT

Prof. Dr. Horácio Carlos Panepucci University Hospital: Federal University of São Carlos (HU-UFSCar); Skills Laboratory of the UFSCar Nursing Department (DEnf-USFCar); School Health Unit (USE-UFScar); Dean of Undergraduate Courses (ProGrad UFSCar); Dean of Extension (ProEx UFSCar).

### FUNDING

Research Support Foundation of the State of São Paulo; process No. 2019/15536-0.

### APPROVAL OF ETHICS COMMITTEE IN RESEARCH

Approved in the Research Ethics Committee of the *Universidade Federal de São Carlos*, opinion No.3,556,901/2019, and Certificate of Presentation for Ethical Appreciation No. 17428819.0.0000.5504.

### CONFLICT OF INTEREST

There is no conflict of interest.

### EDITORS

Associated Editors: Selma Regina de Andrade, Gisele Cristina Manfrini, Natália Gonçalves, Monica Motta Lino.

Editor-in-chief: Roberta Costa.

### HISTORICAL

Received: May 14, 2020.

Approved: October 21, 2020.

### CORRESPONDING AUTHORS

Fernanda Berchelli Girão Miranda

fernanda.berchelli@ufscar.br

