Original Article

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CONSTRUCTION AND VALIDITY OF SCRIPTS FOR SKILLS TRAINING ON ENTERAL NUTRITIONAL THERAPY IN DEHOSPITALIZATION

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ABSTRACT

Objective: to construct and validate the content of two multidisciplinary scripts for the care of patients with chronic diseases using enteral nutrition therapy, based on skills training, using clinical simulation, in the dehospitalization process.
Method: this is a methodological study carried out at a federal public hospital in the Brazilian Midwest, between January and September 2022, in two phases: script construction and validity with 19 and 11 expert judges, respectively. Analysis occurred through the Content Validity Coefficient, the Content Validity Index and the Agreement Index.
Results: two scripts were constructed and validated for caregivers' skills training and qualification to care for patients using home enteral nutrition therapy in the process of dehospitalization by nasogastric tube and/or by gastrostomy. For construction, the study had the active participation of six experts, from a multidisciplinary perspective. For script validity, the following values of Content Validity Coefficient, Content Validity Index and Agreement Index were reached, respectively: 0.998, 1.000, and 100%. Most experts' suggestionswere met.
Conclusion: the scripts were considered valid in their content. They can be used by health professionals to carry out educational activities in the hospital environment regarding caregivers' preparation the management of home enteral nutrition therapy, when leaving the hospital.

DESCRIPTORS: Chronic Disease. Home Care Services. Caregivers. Enteral Nutrition. Simulation Training. Nursing.

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CONSTRUÇÃO E VALIDAÇÃO DE ROTEIROS PARA TREINAMENTO DE HABILIDADES SOBRE TERAPIA NUTRICIONAL ENTERAL NA DESOSPITALIZAÇÃO

RESUMO

Objetivo: construir e validar o conteúdo de dois roteiros multiprofissionais para cuidados de pacientes com condições crônicas em uso de terapia de nutrição enteral, baseados em treinamento de habilidades, com utilização de simulação clínica, no processo de desospitalização.
Método: estudo metodológico realizado em um hospital público federal do Centro-Oeste brasileiro, entre janeiro e setembro de 2022, em duas fases: construção e validação dos roteiros junto a 19 e 11 juízes especialistas, respectivamente. A análise ocorreu por meio do Coeficiente de Validade de Conteúdo, do Índice de Validade de Conteúdo e do Índice de Concordância.
Resultados: foram construídos e validados dois roteiros para treinamento de habilidades e capacitação de cuidadores para os cuidados com pacientes em uso de Terapia de Nutrição Enteral Domiciliar, no processo de desospitalização por sonda nasoenteral e/ou por gastrostomia. Para construção, o estudo contou com a participação ativa de seis especialistas, na perspectiva multiprofissional. Para a validação dos roteiros, foram alcançados os seguintes valores de Coeficiente de Validade de Conteúdo, Índice de Validade de Conteúdo e Índice de Concordância, respectivamente:0,998,1,000, e 100%. Foi atendido a maior parte das sugestões realizadas pelos especialistas.
Conclusão: os roteiros foram considerados válidos em seu conteúdo. Poderão ser utilizados por profissionais de saúde para a condução de atividades educativas no âmbito hospitalar, quanto ao preparo de cuidadores para o manejo da Terapia de Nutrição Enteral no domicílio, quando da desospitalização.

DESCRITORES: Doença Crônica. Assistência Domiciliar. Cuidadores. Nutrição Enteral. Treinamento por Simulação. Enfermagem.

CONSTRUCCIÓN Y VALIDACIÓN DE GUIONES PARA ENTRENAMIENTO DE HABILIDADES EN TERAPIA NUTRICIONAL ENTERAL EN DESHOSPITALIZACIÓN

RESUMEN

Objetivo: construir y validar el contenido de dos guiones multidisciplinarios para el cuidado de pacientes con condiciones crónicas en terapia de nutrición enteral, basados en el entrenamiento de habilidades, utilizando simulación clínica en el proceso de deshospitalización.
Método: estudio metodológico realizado en un hospital público federal del Medio Oeste brasileño, entre enero y septiembre de 2022, en dos fases: construcción y validación de los guiones con 19 y 11 jueces expertos, respectivamente. El análisis se realizó utilizando el Coeficiente de Validez de Contenido, el Índice de Validez de Contenido y el Índice de Concordancia.
Resultados: se construyeron y validaron dos guiones para la formación de habilidades y cualificación de cuidadores para el cuidado de pacientes que utilizan terapia de nutrición enteral domiciliaria en proceso de deshospitalización por sonda nasogástrica y/o por gastrostomía. Para la construcción, el estudio contó con la participación activa de seis especialistas, desde una perspectiva multidisciplinaria. Para la validación de los guiones se alcanzaron los siguientes valores de Coeficiente de Validez de Contenido, Índice de Validez de Contenido e Índice de Concordancia, respectivamente: 0.998, 1.000 y 100%. La mayoría de las sugerencias realizadas por los expertos se cumplieron.
Conclusión: los guiones fueron considerados válidos en su contenido. Pueden ser utilizados por profesionales de la salud para realizar actividades educativas en el ambiente hospitalario, en cuanto a la preparación de los cuidadores para el manejo de la terapia de nutrición enteral en el domicilio, al egreso del hospital.

DESCRIPTORES: Enfermedad Crónica. Servicios de Atención de Salud a Domicilio. Cuidadores. Nutrición Enteral. Entrenamiento Simulado. Enfermería.

INTRODUCTION

Chronic diseases (CD) are important causes of morbidity and mortality because, in addition to triggering hospitalizations[1], they generate complications and disabilities that require a specific clinical and nutritional approach from health services, including in the context of home care (HC). HC aims to enable patients and their families to continue care at home as well as to optimize the use of resources and provide opportunities for cost mitigation by reducing the length of hospital stay[2]. After hospital discharge, patients may need care at home regarding the management of different therapeutic resources[3], such as enteral nutrition.

Enteral nutrition therapy (ENT) involves interventions that seek to maintain or restore the nutritional status through enteral nutrition (EN), in a hospital or home environment, for patients who are unable or have difficulty eating orally. This has the possibility of being performed through nasogastric tubes or ostomies in the gastrointestinal tract[4]. During the assistance provided in ENT, intercurrences related to mechanical complications may occur, such as dislocations, accidental removal and obstructions; metabolic complications, such as hypoglycemia or hyperglycemia, dehydration, electrolyte imbalance; gastrointestinal complications such as nausea, vomiting, diarrhea or constipation; respiratory or infectious complications, such as aspiration or contamination pneumonia, in addition to psychological disorders[5].

The process of dehospitalization combined with teaching and training of caregivers is essential to bring patients closer to the family during treatment, in addition to favoring rotation in hospital bed use, minimizing care costs and the risk of complications[3]. This training should take place throughout the period of hospitalization and continue in the home environment, be carried out by a multidisciplinary team, in order to offer clear and compatible information to caregivers' level of education[4,6]. In this way, it achieves greater caregiver adherence in the implementation of safe management of ENT and increases the competence of caregivers of dependent patients[7].

In home enteral nutritional therapy (HENT), most patients are functionally dependent on caregivers, who are characterized by a person with or without family ties, able to help with activities at home. Said aptitude must be provided by training, based on patients' needs[8,10]. Among the suggested strategies for preparing caregivers in the dehospitalization process, it is mentioned, for instance, the elaboration of a booklet for educating caregivers of patients using HENT[6]. With clinical simulation use, simulated scenarios are proposed together with educational videos to train informal caregivers on hygiene and comfort, care with enteral tubes and oxygen therapy[11].

In clinical simulation, the implementation of skills training (ST) is considered, enabling, several times, the execution of a technique or procedure to develop fewer complex skills. In clinical simulation for ST, also known as simulated class, an environment similar to the real place is organized, allowing participants to repeat pre-established techniques in low or medium fidelity simulators, discuss the technique and resolve doubts[11–12].

Considering the clinical simulation methodology, several modalities are found, depending on the simulated environment used, in order to use the technique that meets the proposed needs and objectives. There can be varying levels of technology, fidelity, and physiological function. Regarding the classification of simulators, the objective of learning and practicing skills are characterized by the integration of technology so that low-fidelity simulators are less realistic and commonly used for more specific situations[11,13]. Such a strategy is usually implemented with students, and therefore little experienced with informal caregivers.

It is believed that simulation-based education allows family members and caregivers to experience specific and also high-risk situations in preparation for HC by adopting repetitive practice with quick and easy answers, in which caregivers experience the opportunity to obtain learning and skills for any situation that may occur outside the hospital[7]. In view of this, it is important to highlight the urgency of construction and validity of two theoretical-practical scripts for ST of caregivers of patients in ENT, one of the scripts will guide care with nasoenteral tube use, and the other will guide care with tube inserted via gastrostomy for dehospitalization. Thus, it is possible to guide health professionals on how to implement ST with caregivers and thus bring clinical simulation practices closer to services' daily routine in the process of preparing for hospital discharge.

To this end, the present study raises the following question: what are the elements necessary to compose multidisciplinary itineraries in the care of patients with CD, in using ENT during dehospitalization, using ST with clinical simulation use? Thus, the objective is to construct and validate the content of two multidisciplinary scripts for the care of patients with CD using ST-based ENT using clinical simulation in the dehospitalization process.

METHOD

This is a methodological study for content construction and validity of two theoretical-practical scripts for use in ST of caregivers of patients using ENT in the discharge process. The research was carried out in a hospital of a federal public university, in the Brazilian Midwest, between January and September 2022. It was carried out in two phases, the first one dealt with script construction, and the second, script content validity, contemplating the procedures recommended by the methodological framework, such as theoretical, empirical and analytical[14]. This research had intentional sampling for selecting expert judges during the two phases.

In the script construction phase, a narrative literature review was first performed, which supported content selection for constructing ST scripts on care for HENT that should be taught to caregivers of children and adults in the process of dehospitalization, which made it possible to find hospital manuals, legislation, protocols and scientific articles on the subject, following the guiding question "what HC should be taught to caregivers of patients using ENT in the dehospitalization process?".

A narrative review was used in order to intentionally select existing documents, which bring together ENT care and which, solely, served to support script construction. The intention was not, therefore, to issue definitions, map evidence, point out gaps, review theories or perform methodological analysis, purposes attributable to other types of literature review.

In parallel with the narrative review study, the definition of the items that structured the scripts took place[13,15]. The International Nursing Association for Clinical Simulation and Learning guidelines were used for this purpose[16], providing the conduction of a ST that results in learning through simulated activity. The Meaningful Learning Theory assumptions[17] were taken into account so that the scripts can favor the cognitive learning process focused on the skills that are intended to be developed in caregivers through ST. These procedures culminated in the elaboration of the scripts' initial version. It was decided that two scripts would be elaborated: one to guide care with using nasogastric tube and the other for care with using tube inserted via gastrostomy.

The scripts' initial version was presented on-site to local experts who collaborated with notes according to their knowledge and practices in a federal public hospital. Participants at this moment should meet the adapted Fehring criteria[18], in order to consider the minimum score for participation in the five-point study: master's degree in nursing (4); clinical practice of at least two years duration in clinical simulation or ENT (3); having expert certification in health sciences (2); doctoral degree in

health sciences (2); publication of research relevant to the area of interest, publication of an article on the subject in a reference journal for health sciences (2); and master's degree in specific areas (involving clinical simulation and/or ENT) (1). On the occasion, the main researcher explained the scripts, with examples of their use in the planned moments and with the resources listed for ST, including low-fidelity simulator use. Invitations were sent by email, clarifying the purpose of the research. Of the ten guest judges, six participated on the day of the meeting.

After the meeting of local experts, the participation of experts online took place, still for script construction, seeking a better understanding of items. These experts were selected through an advanced search in the *Plataforma Lattes* (http://lattes.cnpq.br), using the terms "clinical simulation" and "ENT" and included when they met the recommended criteria[18], following the minimum score of five points for participation in the study. Online experts were invited by email to, within 30 days, access and assess the scripts, and suggest adjustments in a single round through an instrument available via a Google Forms link. Of the 45 invited judges, 19 returned the completed instruments.

Experts issued suggestions according to the "structure and presentation", "language" and "organization" criteria. After responding to the suggestions, versions of the scripts and a checklist for each were prepared, aiming to enable facilitators to assess skills development. Scripts and checklist were then forwarded to the validity phase.

The content validity phase took place with the participation of expert judges using the Delphi technique. After the contributions made by expert judges in the first round, the scripts and checklist were sent in full in a new round, with the purpose of reaching agreement in relation to criteria and items that obtained disagreement answers. A total of 45 expert judges were invited, selected and included according to the adapted criteria[18], keeping the online judges who participated in script construction and their minimum scores of five points. Judges' data were collected in order to facilitate their characterization. Thus, the 11 judges who agreed to participate in validity were asked to access a Google Forms link, express their consent through the Informed Consent Form (ICF), fill out the characterization instrument, the validity questionnaire of the theoretical-practical script for skills training (ENT by enteral tube) and the validity questionnaire of the theoretical-practical script for skills training (ENT by gastrostomy tube).

The judges assessed the contents of the 12 items of each script, the checklist and responded to an agreement scale. The items were presented on a Likert-type scale, adapted for the study through four possible answers scored from one to four (1 – totally disagree; 2 – disagree; 3 – agree; and 4 – totally agree) regarding the content of the two scripts and the respective checklist. In addition to the 12 theoretical items, the judges assessed the scripts according to 12 suitability criteria for content validity, established based on the methodological framework as follows: behavioral, objectivity, simplicity, clarity, relevance, accuracy, variety, modality, typicality, credibility, breadth and balance[14].

Next, judges' agreement on items and criteria assessed was statistically analyzed, verifying whether the expected level of suitability was reached. For the constructed products to be considered valid, they should reach a Content Validity Coefficient (CVC) >0.80%[19]. With regard to the CVC, the data for this analysis resulted from completing the Likert scale sent to judges in each Delphi round. The Content Validity Index (CVI) was used to measure the proportion of judges agreeing on the aspects assessed in the scale format[14]. A minimum value of 80% was chosen for the CVI, and three types of CVI were adopted: I-CVI (Item Content Validity Index); S-CVI/AVE (scale-level Content Validity Index based on the average method); and S-CVI/UA (scale-level Content Validity Index based on the universal agreement method)[19].

The Concordance Index was calculated through the ratio between the number of positive responses observed, depending on each script, in each assessment round, and the total number of possible positive responses (264) was obtained by multiplying the number of items contained in the assessment instrument (24) and the number of experts (11). The cut-off point for the Agreement Index was 80%.

The Cronbach's alpha coefficient was calculated from the variance of individual items and the variance of the sum of the items for each evaluator and all items in the questionnaire, in addition to considering the following alpha classification: $\alpha \leq 0.30$ – Very low; $0.30 < \alpha \leq 0.60$ – Low; $0.60 < \alpha \leq 0.75$ – Moderate; $0.75 < \alpha \leq 0.90$ – High; $\alpha > 0.90$ – Very high. Data were organized in electronic spreadsheets. Expert and judge characterization variables as well as the answers obtained for each item in script assessment were analyzed using descriptive statistics.

This study was approved by the Research Ethics Committee, and the ethical precepts contained in Resolution 466/2012 were respected. Study participants as experts and judges signed the ICF.

RESULTS

Two theoretical-practical scripts for ST were obtained using a low-fidelity simulator, for caregivers of patients using ENT in the dehospitalization process, elaborated with multiprofessional language and titled as: *Roteiro para Treinamento de Habilidades: Nutrição Enteral por Sonda Nasoenteral* (RTH-SNE) and *Roteiro para Treinamento de Habilidades: Nutrição Enteral por Sonda de Gastrostomia* (RTH-Gastro) (available as supplementary material).

The narrative review used as a base to list the contents to be included in the scripts resulted in the identification of methodological studies aimed at the construction and validity of a multiprofessional educational booklet for caregivers of patients with ENT at home and an instrument to assess nurses' knowledge about ENT[5,20]; study that summarized evidence regarding the strategies employed by the nursing team in the prevention of adverse events related to nasoenteral and nasogastric tubes[5]; study about the preparation for hospital discharge of caregivers of children with special health needs using simulation[21]; and gray literature, with technical concepts and scientific evidence relevant to the thematic area[22–23].

The information presented in the two scripts was structured in a logical order for understanding the content so that health professionals can prepare caregivers who have not yet participated in any educational activity, but who have some knowledge on the subject arising from the hospitalization experience of their family member. In line with the objectives defined for ST, the scripts were divided into two moments: the first, intended for guidance regarding materials, devices and general care, with an explanation of what EN is, tubes for enteral feeding, all materials that can be used during ENT, and general care at home; and the second works with the ST steps to teach ENT care. It was used in writing the scripts, an easy-to-understand language and, when necessary, applying technical terms that were conceptualized.

In order to organize the content, 12 items were inserted: theme; model; performance scenario; participants; facilitators; skills training objectives; brief description of skills training; skills training resources; guidelines for participants; guidelines for facilitators; skills training script: enteral feeding by enteral tube in enteral or gastric position, which will take place in two moments: the first for general guidelines and the second for caregivers to perform care in a low-fidelity simulator and repeat it as many times as necessary for learning, allowing facilitators to assess knowledge and the development of skills proposed in the scripts. Checklists were also prepared, which favor the identification of the need for caregivers to repeat the techniques/procedures whenever and as much as necessary.

Another important point was the planning of all the material resources needed to carry out the ST; therefore, participants' daily routines at patients' homes were taken into account, giving greater realism to care training. Moreover, a low-fidelity simulator was selected in line with the learning objective to be achieved, intending to enable using more accessible technologies aimed at learning and practicing simple skills, but in a way that favors using the scripts in other similar institutions.

Six local experts participated in a meeting to construct the scripts (Table 1) in person at the Skills Laboratory of a federal public hospital, with the aim of knowing the scripts, their application and collaborating with content description. Table 1 below brings the characterization of local experts as well as those who participated online and the judges participating in validity.

Table 1 – Characterization of local and online experts and expert judges participating in the construction and validity phases of scripts and checklist from a university hospital, Midwest region, Brazil, 2022 (n=19)

Variable	Construction phase				Validity phase	
	Local experts (N=6)		Online experts (N=19)		Expert judges (N=11)	
	N	%	n	%	N	%
Sex						
Female	5	83.3	14	73.7	9	81.8
Male	1	16.7	5	26.3	2	18.2
Age group						
From 25 to 35 years old	1	16.7	6	31.6	3	27.3
From 36 to 46 years old	5	83.3	12	63.1	7	63.6
47 years old or older	-	-	1	5.3	1	9.1
Professional class						
Nursing	5	83.3	14	73.7	8	72.7
Nutrition	1	16.7	2	10.5	2	18.2
Pharmacy	-	-	1	5.3	-	-
Medicine	-	-	2	10.5	1	9.1
Job tenure*						
More than 2 years	6	100	19	100	11	100
Less than 2 years	-	-	-	-	-	-
Clinical practice length*						
More than 2 years	6	100	19	100	11	100
Less than 2 years	-	-	-	-	-	-
Specialization in health sciences						
Yes	4	66.6	19	100	11	100
No	2	33.4	-	-	-	-
Master's degree in nursing						
Yes	2	33.4	5	26.3	5	45.4
No	4	66.6	14	73.7	6	54.6

Table 1 – Cont.

Variable	Construction phase				Validity phase	
	Local experts (N=6)		Online experts (N=19)		Expert judges (N=11)	
	N	%	n	%	N	%
Master's degree in specific areas						
Yes	-	-	3	15.8	1	9.1
No	-	-	16	84.2	10	90.9
Doctoral degree in health sciences						
Yes	-	-	5	26.3	1	9.1
No	-	-	14	73.7	10	90.9
Article published in a reference journal						
Yes	4	66.6	12	63.2	10	90.9
No	2	33.4	7	36.8	1	9.1

* Related to the thematic area.

The scenario was presented with the aid of a low-fidelity simulator, in order to demonstrate all the items proposed in the two scripts. Before starting the ST example, experts received the explanation of the 12 items of the scripts and the documents, which were also sent by email.

During the demonstration, local experts were invited to make written suggestions. Among them, those referring to language stand out, in the sense of making it clearer and more accessible, such as adapting/inserting some terms used by caregivers, as "*roldana*" (to refer to "*pinça*"), "*puxar*" ("*tracionar*") or "*posto de saúde*" (instead of "*unidade de atenção primária*"). They also suggested technical issues and resources related to patient positioning, diet temperature and volume, infusion speed and use of materials commonly made available by the Municipal Health Department.

In this line, aspects related to the demonstration of techniques/procedures were also pointed out, in order to provide greater detail, in this case, of gauze fixation on the spatulas for oral hygiene, how to cut the microporous tape or adhesive tape for fixing the gauze in the gastrostomy dressing in the first weeks after tube introduction. Suggestions on how facilitators (health professionals) can use the script, with attitudes (e.g., presenting the environment where ST will take place) and questions (e.g., asking caregivers what type of bed patients have at home) for participants (caregivers). There were scores regarding the execution duration of ST using the scripts, such as the establishment of a minimum of 45 minutes and the consideration that one hour and ten minutes (1h10min) would be ideal for completing the ST. Local experts suggested, more specifically, guiding the need for using pillows, fixing gauze on spatulas for cleaning, with emphasis on participants always observing tube marking and the volume of diet to be infused, in addition to the importance of be guided by diet temperature.

After local experts' contributions, the collaboration of 19 expert judges was resorted to online (Table 1), in the search for higher levels of suitability, even during script construction. The notes made by online experts indicated that the scripts were considered good, clear, coherent, with a well-defined structure, organized and with detailed information. On the other hand, other notes pointed out that the scripts were extensive and needed to have more directive guidelines for the facilitating professionals and to be more objective. An important question was about the activity to which the scripts were

directed, whether it would be ST or clinical simulation, given that the simulated scenario composes well-defined steps that do not fit when working only with ST for informal caregivers.

Suggestions regarding the future use of the script in educational interventions were observed, associated with illustrations, leaflets or booklets, as a way of reinforcing caregivers' knowledge and skills, in addition to minimizing the chances of caregivers forgetting what they learned after returning home. Experts stressed the need for facilitators to be trained in advance to use the scripts. They suggested delimitation to differentiate care between nasogastric tube (NET) and gastrostomy tube use, specification of care with patient positioning after diet infusion and with connection disinfection.

For a better script description, with the correct progression of facilitators' and participants' actions, an adequate time for its execution of at least one hour (1h) and at most one hour and ten minutes (1h10min) was evident; this time was divided into 15 minutes for the first moment and 45 minutes for the second moment. The longer time is related to the fact that participants may need more repetitions of techniques/procedures to develop skills.

Another proof was the accuracy of applying the script in two moments, aiming to favor caregivers' learning, with the facilitation of introduction of guidelines on materials, devices, general care, tubes for enteral feeding, all instruments that can be used during ENT at home, and, later, present the skills script steps during ENT care, performed in a low-fidelity simulator. Another important aspect was checklist construction and use, which tends to identify whether participants managed to develop the necessary skills for HC.

After constructing the scripts, empirical procedures were implemented concomitantly with analytical procedures for content validity. Eleven expert judges participated, characterized according to Table 2 as well as the experts consulted in the construction phase.

In the first round, the general values verified in relation to RTH-SNE were: average CVI=0.996, S-CVI/UA=0.958, CVC=0.983 and General Agreement Index=0.996. Even though the script received the lowest agreement on the typicality criterion (I-CVI=0.91), with an answer of 2 (disagree), there was no considerable interference in the general agreement. It took another round according to the Delphi technique after the contributions made by expert judges in the first round.

In the second round, the values verified were the following: mean CVI =1.000, S-CVI/U =1.000, CVC=0.998 and General Agreement Index =100%. Regarding the values per item, they can be seen in Table 3.

Table 2 – Distribution of judges' answers (n=11) in Delphi II round, Item Content Validity Index and Content Validity Coefficient of *Roteiro para Treinamento de Habilidades – Sonda Nasoenteral* from a university hospital, Midwest region, Brazil, 2022 (n=11).

Item	Distribution of answers					CVI†		CVC‖	
	1	2	3	4	Answers 3 and 4	UA§	I-CVI‡	Mean/ item	ICVC¶/ item
	N								
Behavioral	0	0	0	11	11	1	1.00	4.00	1.00
Objectivity	0	0	0	11	11	1	1.00	4.00	1.00
Simplicity	0	0	0	11	11	1	1.00	4.00	1.00
Clarity	0	0	0	11	11	1	1.00	4.00	1.00
Relevance	0	0	0	11	11	1	1.00	4.00	1.00
Accuracy	0	0	1	10	11	1	1.00	3.91	0.98
Variety	0	0	0	11	11	1	1.00	4.00	1.00
Modality	0	0	0	11	11	1	1.00	4.00	1.00
Typicality	0	0	0	11	11	1	1.00	4.00	1.00
Credibility	0	0	0	11	11	1	1.00	4.00	1.00
Breadth	0	0	1	10	11	1	1.00	3.91	0.98
Balance	0	0	1	10	11	1	1.00	3.91	0.98
1 – Theme	0	0	0	11	11	1	1.00	4.00	1.00
2 – Model	0	0	0	11	11	1	1.00	4.00	1.00
3 – Performance scenario	0	0	0	11	11	1	1.00	4.00	1.00
4 – Participant	0	0	0	11	11	1	1.00	4.00	1.00
5 – Facilitador	0	0	0	11	11	1	1.00	4.00	1.00
6 – ST* objectives	0	0	0	11	11	1	1.00	4.00	1.00
7 – ST* description	0	0	0	11	11	1	1.00	4.00	1.00
8 – Resources for ST*	0	0	0	11	11	1	1.00	4.00	1.00
9 – Guidelines to participants	0	0	0	11	11	1	1.00	4.00	1.00
10 – Guidelines to facilitators	0	0	0	11	11	1	1.00	4.00	1.00
11 – 1st moment	0	0	0	11	11	1	1.00	4.00	1.00
12 – 2nd moment	0	0	0	11	11	1	1.00	4.00	1.00

*ST – Skills Training; †CVI – Content Validity Index; ‡I-CVI – Item Content Validity Index; §UA – universal agreement; ||CVC – Content Validity Coefficient; ¶ICVC – Item Content Validity Coefficient.

With regard to the first round, there was an increase in the results of CVI and CVC, which can be seen in Table 3, in order to reach again the Content Agreement Index above the established cut-off point, with a degree of agreement above 80% and 0.80%. Thus, answers are presented on a Likert-type scale greater than 3 (agree) and 4 (completely agree), ideal for content validity.

RTH-Gastro assessment generated the following results in the first round: mean CVI=1.000, S-CVI/UA=1.000, CVC=0.983 and General Agreement Index =100%, with only concordant answers (3 and 4) being recorded with script suitability according to the criteria and items assessed.

Finally, in the second round, RTH-Gastro assessment resulted in the following values: mean CVI=1.000, S-CVI/UA=1.000, CVC=0.998 and General Agreement Index =100%. The number of answers 3 (partially agree) was lower in the second round compared to the first. Table 3 shows the specific values per item.

Table 3 – Distribution of judges' answers (n=11) in Delphi II round, Item Content Validity Index and Content Validity Coefficient of *Roteiro para Treinamento de Habilidades – Tube de Gastrostomia* from a university hospital, Midwest region, Brazil, 2022 (n=11)

Item	Distribution of answers					CVI†		CVC‖	
	1	2	3	4	Answers 3 and 4	UA§	I-CVI‡	Mean/ item	ICVC¶/ item
	N(%)								
Behavioral	0	0	0	11	11	1	1.00	4.00	1.00
Objectivity	0	0	0	11	11	1	1.00	4.00	1.00
Simplicity	0	0	0	11	11	1	1.00	4.00	1.00
Clarity	0	0	0	11	11	1	1.00	4.00	1.00
Relevance	0	0	0	11	11	1	1.00	4.00	1.00
Accuracy	0	0	0	11	11	1	1.00	4.00	1.00
Variety	0	0	0	11	11	1	1.00	4.00	1.00
Modality	0	0	1	10	11	1	1.00	3.91	0.98
Typicality	0	0	0	11	11	1	1.00	4.00	1.00
Credibility	0	0	0	11	11	1	1.00	4.00	1.00
Breadth	0	0	0	11	11	1	1.00	4.00	1.00
Balance	0	0	0	11	11	1	1.00	4.00	1.00
1 – Theme	0	0	0	11	11	1	1.00	4.00	1.00
2 – Model	0	0	0	11	11	1	1.00	4.00	1.00
3 – Performance scenario	0	0	1	10	11	1	1.00	3.91	0.98
4 – Participant	0	0	0	11	11	1	1.00	4.00	1.00
5 – Facilitador	0	0	0	11	11	1	1.00	4.00	1.00
6 – ST* objectives	0	0	0	11	11	1	1.00	4.00	1.00
7 – ST* description	0	0	0	11	11	1	1.00	4.00	1.00
8 – Resources for ST*	0	0	0	11	11	1	1.00	4.00	1.00
9 – Guidelines to participants	0	0	0	11	11	1	1.00	4.00	1.00
10 – Guidelines to facilitators	0	0	0	11	11	1	1.00	4.00	1.00
11 – 1st moment	0	0	0	11	11	1	1.00	4.00	1.00
12 – 2nd moment	0	0	0	11	11	1	1.00	4.00	1.00

*ST – Skills Training; †CVI – Content Validity Index; ‡I-CVI – Item Content Validity Index; §UA – Universal Agreement; ||CVC – Content Validity Coefficient; ¶ICVC – Item Content Validity Coefficient.

Internal consistency analysis of script assessment questionnaires related to ENT with an enteral tube reached Cronbach's alpha values – 0.942 and 0.696 in Delphi I and II rounds, expressing "very high" and "moderate" internal consistency, respectively. For assessing a script related to ENT via gastrostomy, Cronbach's alpha value was 0.953 in the Delphi I round, and 0.522 in the Delphi II round so that alpha values indicated "very high" and "low" internal consistency of the questionnaire, respectively. The drop in Cronbach's alpha values in the second round is related to the greater presence of items with variance equal to 0.

DISCUSSION

RTH-SNE and RTH-Gastro were constructed and considered valid. In the literature and in care practice, there are few resources aimed at preparing caregivers in relation to the management of ENT aimed at patients with CD in the process of being dehospitalized, i.e., who would need HC. Thus, there was a need to develop two scripts, with the aim of training the skills of caregivers of

patients in ENT. The construction of an educational material provides an opportunity to summarize, standardize and formalize the actions and conducts related to patient care in their homes[6,11,20]. In this context, the construction and validity of the instruments paid attention to different aspects related to the main care at home, reaching satisfactory levels of validity.

Due to the increase in the number of people with CD who require HC, health services are faced with the challenge of adapting assistance to individuals, whose profile is marked by functional limitations that negatively influence these people's quality of life[24]. Sometimes, care will be provided by family members or caregivers who need ST to deal with complications[7].

Performing ENT care at home requires basic knowledge of potential complications, such as the risk of constipation, diarrhea, aspiration pneumonia, tube displacement and obstruction, nasopharyngeal irritation, hyperglycemia, dehydration, and azotemia. These and other possible complications are related to the nutritional composition, but also to the management regarding diet infusion and contamination, which sometimes refer to HC[25]. Therefore, the urgency of strategies that promote the improvement of caregivers' skills is emphasized so that they contribute to the safety of patients in HENT[6]. Thus, clinical simulation can provide opportunities for preparation in a safe environment[24].

ST must seek to respect caregivers' learning characteristics, contextualize the problem and recover prior knowledge at the household level, in addition to making use of the assumptions of meaningful learning so that caregivers are initially exposed to a practical situation, playing an active role in acquiring the concepts necessary for understanding and possibilities in the development of skills[17]. According to the Healthcare Simulation Standards of Best Practice, the preparation of a simulated activity must be aligned with a learning objective and based on problem situations related to the reality of care[16].

Considering the above, when aiming to produce scripts that support a safe practice by caregivers, scientific evidence on best practices for preventing adverse events to patients using ENT was considered. Therefore, essential general care for people using ENT stands out as: prevention of tube obstruction through maceration of solid drugs associated with dilution in water; infusion of filtered or boiled water after each administration of medication or diet; obstruction reversal; hydration according to daily prescription; oral hygiene care; hygiene of caregivers' hands before handling the devices; observation of changes related to tube use duration; daily assessment and care regarding skin integrity and tube fixation[4,5,9,20].

Together with the scripts, checklists were validated for facilitators to assess the development of caregivers' skills, which enables the realization of the moment called debriefing. A checklist assessed the actions that caregivers must develop during simulated practice, representing an instructional resource for both facilitators and participants, as it directs learning[13].

If ST facilitators (health professionals) have theoretical knowledge and practical experience on ENT, they can enhance the application of scripts with caregivers. In this regard, nurses can be indicated as facilitators of bringing the service closer to caregivers, in order to promote interventions that optimize preparation for hospital discharge[26–27].

During this study, it was possible to show that the presentation of using scripts on-site had a fundamental role in its construction. When staging ST, with the respective necessary materials, it was verified that there was a detailed assessment among the local judges, according to their experience, collaborating in more detail with the material. This observation was also denoted in other studies that validated technologies aimed at the context of enteral feeding and nursing care for patients with colostomy[7,28]. Another point addressed by online experts was the adequacy of resources and objectives to ST, since there were resources and objectives that could confuse caregivers. The complexity of the problem to be solved should determine the magnitude of the objectives and resources to be used[15].

The time established for carrying out the scripts was fixed because participants were caregivers with no previous experience in simulation situations. It was observed that simulation causes feelings of stress and anxiety in participants, which can compromise learning, and may depend on a longer time for facilitators to promote adaptation[29]. The intention is that participants needsseveral repetitions to reach their abilities to the proposed care[17]. So far, studies have not determined the time for ST of caregivers.

The entire period of hospitalization can generate opportunities for guidance to caregivers. However, the opportune moment for carrying out ST with caregivers seems to be the one during the stay in the hospital unit, in which discharge using ENT devices is already foreseen. It is important for the multidisciplinary team to approach the family regarding the prediction of discharge, the indication and the importance of verifying the possibility for the family to define a caregiver. With this, the recommendation is that the team assist patients more directly to enable an environment that provides training.

In view of other guidelines in discharge planning, discussing the case, forecasting discharge in a multidisciplinary team and extending ST conduction can be strategies that optimize the educational process for discharge, minimizing information overload for caregivers and enabling coordinated team work. However, it is important to emphasize the continuity of caregivers' educational process, which must follow a longitudinal perspective. For that, other strategies are needed that can be implemented within the scope of Primary Health Care (PHC). In care transition, contact between the hospital and Primary Care will be essential.

The present study is limited by the fact that it did not assess the clinical validity and usability of the scripts to be developed.

CONCLUSION

The RTH-SNE and RTH-Gastro construction relied on experts' collaboration, which contributed to the quality of the material initially prepared. The scripts' content validity reached CVC, CVI and Agreement Index values above the established cut-off points. It is recommended that future studies be carried out to investigate the effects of applying the scripts in clinical simulation for ST with health professionals, caregivers and patients with CD as well as the association of scripts with other educational resources or tools during the dehospitalization process.

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NOTES

ORIGIN OF THE ARTICLE

Article extracted from the dissertation – *Construção e validade de roteiros para treinamento de habilidades de cuidadores de pacientes em uso de Terapia de Nutrição Enteral na desospitalização*, presented to the Graduate Program in Nursing, *Universidade Federal de Mato Grosso do Sul*, defended in January 2023.

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CONFLICT OF INTEREST

There is no conflict of interest.

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SUPPLEMENTARY MATERIAL

The following online material is available for this:

Supplementary – ROTEIRO TEÓRICO- PRÁTICO PARA TREINAMENTO DE HABILIDADES: TERAPIA DE NUTRIÇÃO ENTERAL POR SONDA NASOENTERAL-THCTNE-SNE.

Supplementary – ROTEIRO TEÓRICO- PRÁTICO PARA TREINAMENTO DE HABILIDADES: TERAPIA DE NUTRIÇÃO ENTERAL POR SONDA DE GASTROSTOMIA- THCTNE-GASTRO.