

Validation of manual to complement the transition of care at discharge from intensive care


Validação de manual para complementar a transição de cuidados na alta da terapia intensiva


Validación del manual para complementar la transición de cuidados al alta de cuidados intensivos

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ABSTRACT

Objective: To develop and validate an interprofessional manual for the transfer of care to critically ill adult patients.

Method: Methodological study, conducted from January to September 2019. The content of the manual was listed by the multidisciplinary team of an adult Intensive Care Unit, in southern Brazil. In the validation by the professionals, the content validity index (CVI) of the evaluation questions was calculated. Subsequently, a sample of 30 patients/caregivers evaluated the product, and the arithmetic mean of the questions was calculated.

Results: The manual addresses important information and care transition guidance for patients and caregivers, from admission to the intensive care to discharge to the inpatient unit. The professionals' CVI ranged from 0.9 to 1. The arithmetic mean of 17 patients and 13 caregivers was 3.8.

Final considerations: The validated manual can be used as a complementary material for health education and qualify the transition of care.

Keywords: Patient transfer. Continuity of patient care. Patient discharge. Intensive care units. Education.

RESUMO

Objetivo: Desenvolver e validar um manual interprofissional de transferência de cuidados ao paciente adulto crítico.

Método: Estudo metodológico, realizado de janeiro a setembro/2019. O conteúdo do manual foi elencado pela equipe multiprofissional de um Centro Terapia Intensiva adulto, do Sul do Brasil. Na validação pelos profissionais, foi calculado o índice de validade de conteúdo (IVC) das questões de avaliação. Posteriormente, amostra de 30 pacientes/cuidadores avaliou o produto, sendo calculada a média aritmética das questões.

Resultados: O manual aborda informações importantes e orientações de transição do cuidado, para pacientes e cuidadores, desde a admissão na terapia intensiva até a alta para unidade de internação. O IVC dos profissionais variou de 0,9 a 1. A média aritmética, de 17 pacientes e 13 cuidadores foi 3,8.

Considerações finais: O manual validado poderá ser utilizado como material complementar de educação em saúde e qualificar a transição de cuidados.

Palavras-chave: Transferência de pacientes. Continuidade da assistência ao paciente. Alta do paciente. Unidades de terapia intensiva. Educação.

RESUMEN

Objetivo: Desarrollar y validar un manual interprofesional para la transferencia del cuidado al paciente adulto crítico.

Método: Estudio metodológico, realizado de enero a septiembre/2019. El contenido del manual fue listado por el equipo multidisciplinario de un Centro de Cuidados Intensivos de adultos, en el Sur de Brasil. En la validación por los profesionales se calculó el índice de validez de contenido (IVC) de las preguntas de evaluación. Posteriormente, una muestra de 30 pacientes/cuidadores evaluó el producto, y se calculó la media aritmética de las preguntas.

Resultados: El manual aborda información importante y orientaciones de transición asistencial para pacientes y cuidadores desde el ingreso a los cuidados intensivos hasta el alta a la unidad de hospitalización. El CVI de los profesionales varió de 0,9 a 1. La media aritmética de 17 pacientes y 13 cuidadores fue de 3,8.

Consideraciones finales: El manual validado puede ser utilizado como material complementario para la educación en salud y la calificación de la transición de cuidados.

Palabras clave: Transferencia de pacientes. Continuidad de la atención al paciente. Alta del paciente. Unidades de cuidados intensivos. Educación.

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INTRODUCTION

In the hospital environment, adequate preparation for discharge has shown a decrease in morbidity and mortality, a reduction in the incidence of drug administration errors at home, a decrease in readmissions and costs. In addition, it promotes patient safety and satisfaction with treatment⁽¹⁻³⁾.

The theme is relevant worldwide, especially in critical units, such as intensive care units (ICU), where adequate preparation and planning for discharge can minimize possible adverse events and other unfavorable clinical outcomes^(1,3,4). From this, the development of an interprofessional care manual of an educational nature, aimed at patients in intensive care and/or their caregivers, becomes a feasible and essential strategy, since through it, transitional care can occur in a more effective, accurate and qualified way^(5,6).

The discharge of patients admitted to critical units, such as an ICU, is a complex process and involves the implementation of interconnected transition strategies to strengthen care and attention^(3,7). The transfer or transition of care is configured in a wide range of conditions and services to ensure continuity of care and the prevention of undesirable consequences in vulnerable individuals, who are affected by changes in different care environments or caregivers⁽⁸⁾.

In order to improve the complex process that involves the discharge of critical patients, political-pedagogical strategies such as permanent health education, for the construction of the teaching-learning process and the development of critical and reflective thinking of the professional^(4,9), act as a way of qualifying transitional care^(1,3) and can be developed verbally and/or using alternative methods, such as guidance manuals⁽¹⁰⁻¹²⁾. In this scenario, critical patients, in the process of discharge from the ICU and transferred to inpatient units are predisposed to a greater risk of adverse events, due to the severity of the disease, multiple comorbidities and complexity of care. Also, interfere in the change of environment with different resources and technologies, the smaller number of professionals involved, the inexistence of transition programs, in addition to communication failures between professionals, patient and caregiver⁽¹⁾.

The study is justified by the need to lay out an educational material that can subsidize the guidance of care for critically ill patients at discharge from ICU, who demand complex care, and the lack of manuals developed and validated in the interprofessional perspective in the scientific literature. Thus, the guiding question is: what topics and content/care should have a care manual for critically ill patients and their caregivers to qualify the process of transition of care at intensive care?

It is believed that the manual can be used as a complementary material to the guidance and in the understanding of patients and their caregivers, with regard to the ICU discharge process. Therefore, this research aims to develop and validate an interprofessional manual for the transfer of care to critically ill adult patients. It is understood that innovative strategies are essential for patient safety and the improvement of transitional care.

METHOD

This is a methodological study^(6,13), which aims the elaboration and validation of a guidance manual for health care and its construction was based on recommendations, which describe the fundamental steps for the planning and execution of guidance manuals for health care⁽⁶⁾.

The research was conducted at the Intensive Care Center (ICC) of a general, public and high-complexity university hospital in the south of the country, from January to September 2019. The ICC has 48 beds and is composed of five clusters, which are critical care units (four clinical-surgical units and one for postoperative period of cardiac surgery).

The study population consisted of hospitalized patients and/or their caregivers, as well as professionals from the hospital's multiprofessional team. The convenience sample consisted of ICC patients and/or caregivers and professionals from the multiprofessional team (at least one from each profession), considering the eligibility criteria. Inpatients expected to be discharged to inpatient units in five days and/or their responsible caregivers were included. Patients with severe visual impairment, illiterate and without a responsible caregiver were excluded since patients and/or caregivers should read and evaluate the content of the manual. Regarding the professionals qualified to participate in the study, due to their clinical expertise, those with at least 12 months of work experience in the ICC in the study were included; and excluded those temporarily in the unit.

The sample size was 30 participants of patients and/or caregivers investigated, defined based on a previous study⁽¹⁴⁾. The structuring of the work took place in two stages, the first relative to the preparation of the pilot manual and the second its validation.

The elaboration phase of the manual occurred from January to June 2019 and initially, a meeting was held with the multiprofessional team (the same as the validation stage) lasting two hours, which aimed to discuss topics and the contents to be included in the pilot manual. After, there was a review of the literature on the proposed theme^(3,7,8,11,15).

The validation stage took place from July to September 2019, period in which the manual was evaluated by the multiprofessional team of the ICC (1st phase) regarding its content, form, structure and language and later by patients and/or their caregivers (2nd phase) who evaluated the presentation and importance of the contents addressed. In the first phase of validation, the pilot manual was sent by the researchers to the institutional email of each member of the multiprofessional team participating in the study, along with a link to an electronic form, with twelve questions with Likert-type scale alternatives and descriptive spaces to answer justifications, comments and suggestions.

To evaluate the agreement rate among the professionals of the team and, later, to validate the material, it was used a content validity index (CVI), which consists of a measure capable of measuring the proportion or percentage of judges – in this case, professionals with expertise in a specific area – who agree on aspects of an instrument and its items. This method uses a Likert-type scale with a score of one to four and evaluates the relevance/representativeness of the questioning, with the answers representing, for example, the number “1” being irrelevant and the number “4” being a very relevant item⁽¹³⁾. The CVI score is calculated by the sum of agreement of the items that were marked “3” or “4” by the experts, using the following formula: $CVI = \text{number of answers "3" or "4"} / \text{total number of answers}$ ⁽¹⁴⁾.

Furthermore, it was stipulated the acceptable agreement rate between the judges, since studies^(16,17) argue that in the process of evaluating individual items the number of judges should be considered. For the manual to be considered validated, each question should have an agreement rate ≥ 0.78 ^(16,17).

In the second phase of validation, with the patients and/or caregivers, the product was distributed to the participants, along with a questionnaire composed by nine questions to evaluate the material. A four-point Likert scale, designed by the researchers, was used for participants to evaluate their understanding of the manual as a whole and for each of the items. The minimum value used was 1 (which includes answers such as “I did not understand anything”, “They are not important” or “It will not contribute at all”) and the maximum value was 4 (which includes answers such as “I understand perfectly”, “It is extremely easy” or “It is very suitable”). For the manual to be considered understandable and, thus, validated for patients or their caregivers, a mean score equal to or greater than three was stipulated, that is, corresponding to “I understood almost everything”⁽¹⁴⁾.

The project comply with the guidelines and standards involving research with human beings⁽¹⁸⁾ and was approved by the Research Ethics Committee of the study institution,

via *Plataforma Brasil* (CAAE: 04447918.0.0000.5327). Patients and/or their caregivers agreed to participate by signing a Free and Informed Consent Form and, in order to maintain their anonymity, the documents were coded. The team professionals agreed to participate in the study, by attending the initial meeting to discuss the topics and content to be included in the manual and return the filled electronic form. It contained the following information in the body of the text for consent to participate in the study: “By responding, you agree to the use of data in the research.” The participating professionals were mentioned in the manual as collaborators.

■ RESULTS

At least one professional from each specialty part of the multiprofessional ICU team participated in the first validation phase: medicine (two), physical therapy (two), psychology (one), speech therapy (one), pharmacy (one), social worker (one), nursing (one) and nutrition (one). Of the 10 professionals, one has a doctoral degree, seven have a master's degree and two have a specialization in intensive care. The team's mean time of work in intensive care was 9.6 years, with the professional with the longest working time being 18 years and the one with the shortest time being five years.

The topics and contents addressed in the manual were based on the clinical experience of professionals and literature review and are summarized in the chart (Chart 1) below:

The consensus of the professionals occurred in a face-to-face meeting in which everyone expressed their views and agreed on the contents and topics addressed. The first version of the pilot manual was developed by the researchers and sent by e-mail to each member of team, together with the evaluation instrument, which contained 12 questions and descriptive spaces for suggestions. Thus, it was calculated the CVI of the answers to each question, obtaining agreement values from 0.9 to 1, being validated according to Table 1.

As a way of corroborating this validation stage, at the end of the evaluation form, there was the option to indicate whether the manual was “validated”, “validated with suggestions” or “not validated”. For the manual to be considered validated, each question should have an agreement rate ≥ 0.78 .

Thus, six professionals considered the manual “validated” and four considered the manual “validated with suggestions”, describing their contributions and proposals for improvement. Thus, changes were made in relation to the first version of the manual, according to their observations for modification and/or adequacy of the content of some items, to improve its understanding and clarity: the title “Interprofessional manual for the transition of care in intensive care” was changed for “Care manual for critically ill patients”;

Topics addressed	Description/Content
Presenting the manual	Explains who developed the manual and its main objective. It also features a character – an illustrated infusion pump in – to serve as a “guide” while reading the manual.
Knowing the scenario	Guides the patient and/or their caregivers about what an ICC is; its human and material resources, introducing the team and equipment; practices and routines of the place, highlighting the importance of hand hygiene, the different patient identification wristbands, the shift change, the multiprofessional rounds, visiting hours, medical and health information ⁽¹⁵⁾ .
Transfer of care	Clarifies the transfer of patient care from the ICC to the inpatient units, addressing ^(7,8) : <ul style="list-style-type: none"> • What is this transfer of care? • How does it happen? • What are inpatient units?
Information and important care for discharge from the ICC	Guides the patient and/or their caregivers about information and general care, which need attention in the transition between the ICC and the inpatient units: <ul style="list-style-type: none"> • Clinical signs that deserve attention: unrest or abnormal sleepiness, significant differences in blood pressure and heart rate, signs of respiratory effort, difference between pupils, pale, cold, sticky skin. • Devices: tubes, oxygen catheter, vascular access. • Food: types of diet, routes of administration, proper placement, and maintenance of fasting. • Care in drug administration. • Care with patient mobilization. • Possible effects of hospitalization: delirium, swelling, difficulty speaking and swallowing, weakness, difficulty in mobilization and weight loss. • Care in airway aspiration^(11,15).
Customization of care	Space for registering doubts of patients and/or their caregivers ^(3,19) regarding the reading of the manual or that may arise during hospitalization in the ICC and/or inpatient unit.
Deserve attention	Space for team professionals to record with which devices the patient is being discharged ⁽³⁾ , in case he/she has any pressure ulcer, allergy, colonized by a multidrug-resistant organism or in respiratory isolation.
Descriptive space	Extra space for care team records ⁽³⁾ .

Chart 1 – Topics and contents addressed in the manual. Porto Alegre, Rio Grande do Sul, Brazil, 2019

Source: Data from bibliographic review, 2019.

in the “Food” topic, a picture of the patient’s positioning during feeding was included; in “Drug administration”, where the word prescription was included, it was changed to the patient’s prescription made by the doctor; in the topic “Airway suction”, it was highlighted the importance of not using the same suction tube for the upper airways and tracheostomy

cannula, and in the “Possible effects of hospitalization”, a figure was replaced by another that better represented the difficulty of swallowing.

In addition, the information in continuous text was changed to information in items and with the use of markers and the topic “Deserves attention” was included

Table 1 – Validation stage by the multiprofessional team. Porto Alegre, Rio Grande do Sul, Brazil, 2019

Questions	CVI
1. Are the guidance contained in the manual relevant?	1
2. Is the language of the manual accessible to the target audience?	0.9
3. Will the content of this manual contribute to clarify doubts of patients and caregivers?	0.9
4. Is the amount of information adequate?	1
5. Does the information favor the performance of patient care?	1
6. Is the manual applicable in team work practice?	1
7. Is the font size and style adequate?	0.9
8. Do the illustrations used in the manual contribute to a better understanding by the reader?	1
9. Is the layout and organization of information adequate?	0.9
10. Is the information easily located?	1
11. Is the main title consistent with the manual's proposal?	0.9
12. Are the internal titles and subtitles consistent with the manual's proposal?	1

Source: Research data, 2019.

the presence of a multidrug-resistant organism and a phonatory valve.

Next, the final version revised was sent to the institutional email of each professional on the study team, and all of them approved the validated manual.

The second phase had the participation of 31 participants, 18 of whom were hospitalized in the ICC and 13 were caregivers. However, one patient was excluded from the study because he was illiterate and had no family member present until his discharge from the ICC, totaling a sample of 30 participants. The median stay of patients in intensive care was 4.6 days (maximum 16 days and minimum 2 days). For 21 of the participants, it was the first time they were in contact with the scope of the ICC.

The participants were invited to read, review, and handle the manual, as well as, after, answering a form with nine questions regarding the structure, contents, and overall format. It also had descriptive spaces for possible justifications or suggestions.

The answers to each question could range from 1 to 4 (with "1" being the most negative answer possible and "4" the most positive answer possible). Thus, the values indicated by the 30 participants in each of the nine questions were summed. Then, it was divided by the total number of participants, obtaining the mean score of values (Table 2). For the manual to be considered validated, each question should have a simple arithmetic mean ≥ 3 points.

Figure 1 shows the layout of the cover of the developed and validated manual, entitled “Care manual for critically ill patients”⁽²⁰⁾ and the infusion pump called “Bombito”, which interacts with the reader, and highlights important points throughout the text.

The product has 24 pages and illustrations throughout the text, with the objective of making reading more fluid, clear and interesting to the target audience (Figure 2).

Table 2 – Validation stage by patients and caregivers. Porto Alegre, Rio Grande do Sul, Brazil, 2019

Questions	Arithmetic mean of each answer
1. Are the guidance contained in the manual important?	3.7
2. Is the writing of the manual easy to understand?	4.0
3. Will the content of this manual help to clarify your doubts?	3.7
4. Is the amount of information adequate?	3.9
5. Will the information help you or your family member?	4.0
6. Did reading this manual help to reduce your doubts?	3.7
7. Is the font size and style adequate?	3.5
8. Do the illustrations used in the manual help to better understand the text?	4.0
9. Is the information easily located in the manual?	3.7
Total	3.8

Source: Research data, 2019.

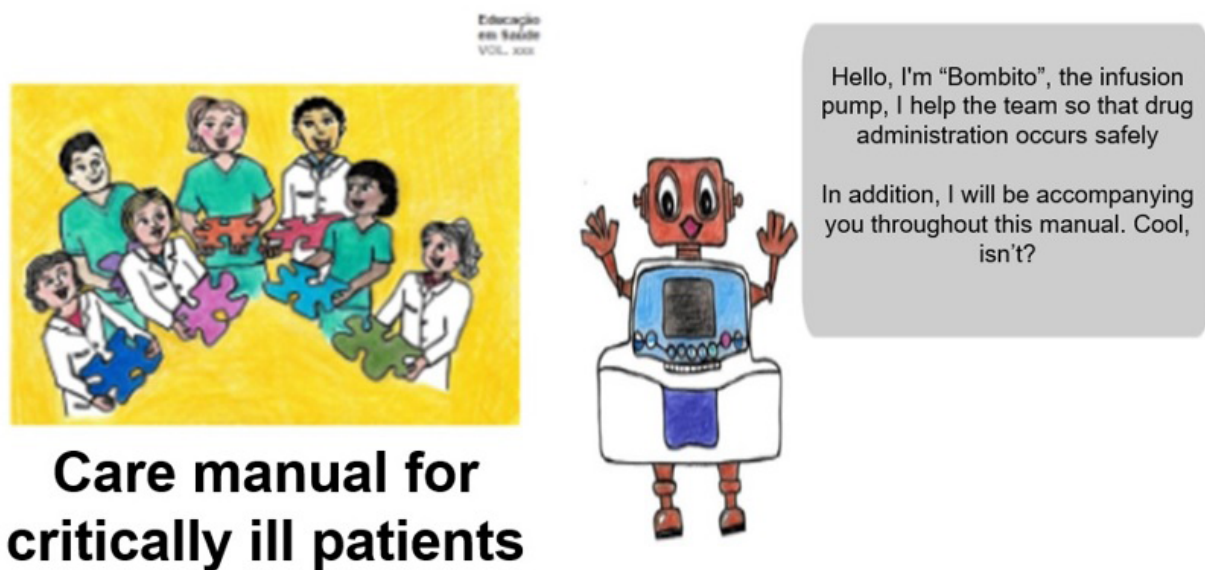


Figure 1 – Layout of the manual cover and the “Bombito” character”.Porto Alegre, Rio Grande do Sul, Brazil, 2019
Source:Research data, 2019.

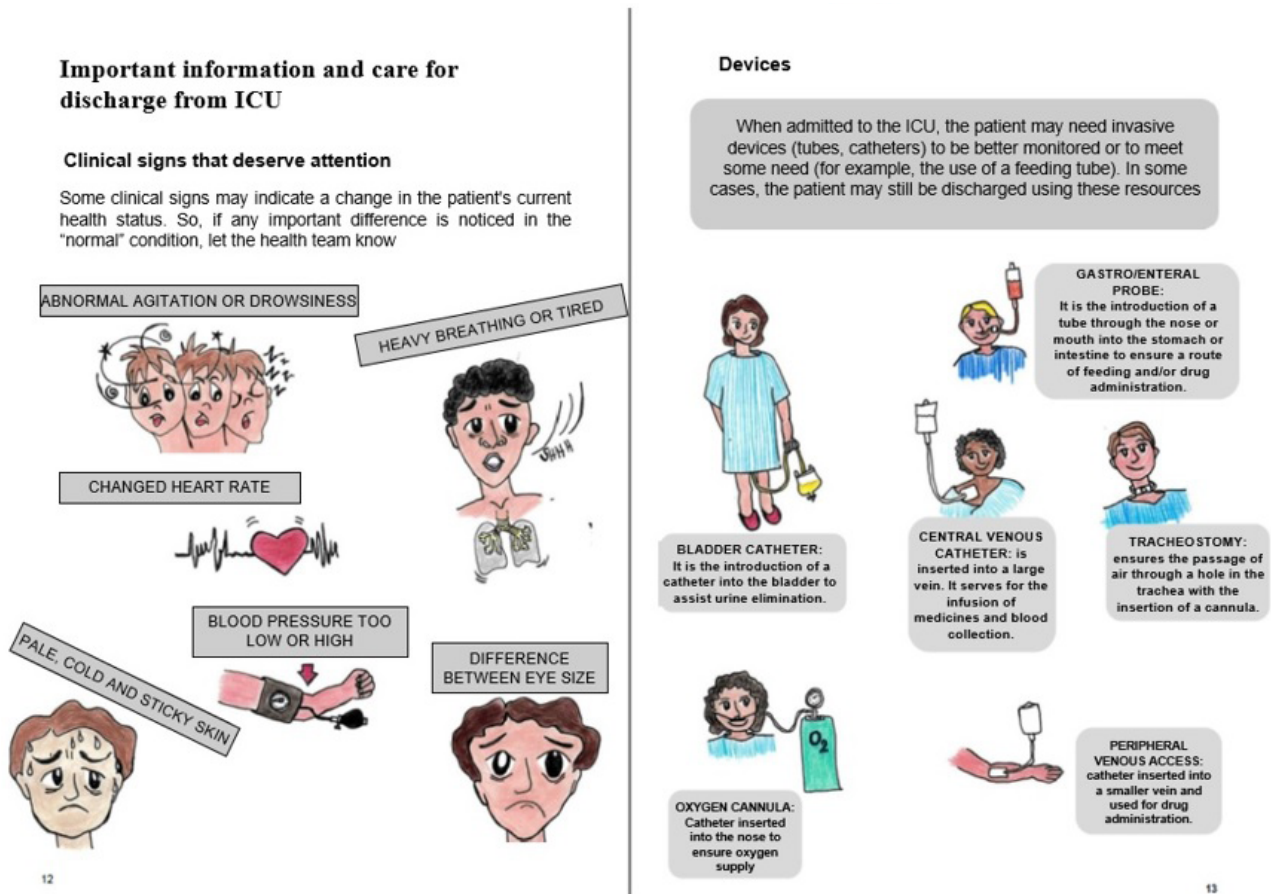


Figure 2 – Layout of clinical signs that can occur and invasive devices that can be used on the patient during hospitalization. Porto Alegre, Rio Grande do Sul, Brazil, 2019
Source: Research data, 2019.

DISCUSSION

The development and validation of a care manual for patients and/or their caregivers, from an interprofessional perspective, helps the target audience to understand the process of hospitalization and discharge from the ICU, impacting on the safety and quality of care.

The positive impact of the transition of care from the ICU to the inpatient unit is documented in different national and international studies, highlighting the use of multimodal educational strategies, such as health education manuals, combined with verbal and written communication with the team of different units involved, to an institutional culture and appreciation of the transition of care process^(1,5-7,19,20).

The product of this study is a technological innovation in health, aimed at meeting the needs of critical adult patients, in their transition of care from ICU to inpatient units. It can be used by different health institutions that provide care

to critically ill patients in intensive care, from admission to discharge; by the professionals of the multidisciplinary team, helping in the integrated and collaborative work and by the patients themselves and their caregivers in the hospital environment, as well as in the return to the community.

For the process of transition and continuity of care centered on the patient and adequate to their needs to be effective, mechanisms are needed materialized by tools, such as health education manuals, with the objective of multiplying and recording important information and care for the patient discharge, becoming an important safety barrier or facilitator of the process^(3,12,19-21).

The manual developed presents information on the scenario of the ICC and the inpatient unit; explanations on how the transition of care occurs between these areas and uses illustrations, highlighting the patient's clinical signs, that deserve attention after discharge; care with invasive devices such as probes, oxygen catheters and vascular accesses; care

with food, medication, mobilization and airways aspiration; in addition to drawing public attention to the effects of hospitalization on patients.

Regarding the factors related to hospitalization outcomes, a recent scoping review identified that among the conditions that can predispose to worse occurrences after ICU discharge are the severity of the patient at the time of admission and a greater need for supportive therapies such as invasive devices⁽¹⁾.

Intensive care patients, submitted to ineffective transitions of care and without integration between those involved, are at greater risk of adverse events and gaps in care^(19,22). A study that analyzed instruments (leaflets, manuals and videos) used in transitions of patients discharged from the ICU to the ward, identified barriers in its use, such as the understanding and emotional capacity of the patient and the caregiver and as facilitators the use of an inclusive language, which balances technical vocabulary and lay language; information consistent with what is being said by health professionals; in addition to being adaptable to the patient's conditions⁽²²⁾.

In this same study, it was evidenced that the instruments of transition of care should facilitate collaboration between those involved and that can be effected, including in the leaflets or manuals, spaces dedicated to questions and comments from the patient and their caregiver⁽²²⁾.

In the research presented, the developed and validated product has a space for registering doubts, from patients and/or their caregivers, which may arise when performing care in the inpatient unit or at home. This space strengthens the relationship between the multiprofessional team, the patient, and their caregiver, as it allows doubts to be welcomed and clarified, even during hospitalization.

The transition process can be improved by obtaining knowledge about the challenges related to hospitalization and care in the ICU, as well as the organization of an environment and learning conditions⁽²³⁾, as the preparation of the patient and his/her family needs to be expanded considering their individual needs⁽¹⁹⁻²³⁾.

From this, it is highlighted the importance of addressing, during discharge preparation, the use and care of tubes and drains, adequate food and mobilization, use of medications and even aspiration of the airways in, patients who need it, facilitating the coordination of care between the multidisciplinary team and the understanding of the patient/family^(21,22).

Furthermore, it was verified the importance of inserting the patient and their caregivers in the care process and the

potential of soft-hard technologies, providing the sharing of information and the co-responsibility of care, through the culture of feedback, in order to minimize doubts and anxieties of hospitalization in intensive care and the subsequent change of scenery to the ward. Thus, allowing the transfer of care to occur in a dialogic and humanized way, respecting the needs of patients and their caregivers⁽²⁴⁾.

In view of this, the "Care manual for critically ill patients" configures as a collective and collaborative construction, which can assist in care, in its management and in teaching about transition of care.

As limitations of this study, it is highlighted the fact that it was conducted in a single center, as it is believed that other professionals could have participated, according to the eligibility criteria, since they are in contact with patients and their caregivers, whether directly during the care provided, or through information on the place logistics.

■ FINAL CONSIDERATIONS

This study allowed the development and validation of an interprofessional manual for the transfer of care to critically ill adult patients, considering the time of continuous and intensive care in the ICC. The team construction with different perspectives on the patient's care needs required flexibility and discussion to contemplate the suggestions received throughout the process of its elaboration.

Initially, the elaboration of this work aimed, above all, to assist the multiprofessional team in the standardization of discharge guidance for patients admitted to the ICC. However, throughout its development, it was possible to perceive other positive implications for clinical practice and care management, such as greater team interaction and articulation, in the spaces of collective decisions, as in the rounds of care planning.

Therefore, the use of strategies such as the development of a care manual for critically ill patients, elaborated and validated grounded on a scientific method, contributes to qualify the transition of care, through the approximation between the multiprofessional team and patients/caregivers.

The manual is considered an instrument that facilitates care practice, which values the participation of patients and their family in following the care and treatment plan. Thus, corroborating the promotion of an institutional culture of patient-centered care.

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