RESEARCH

GOOD NURSING PRACTICES IN THE INTENSIVE CARE UNIT: CARE PRACTICES DURING AND AFTER BLOOD TRANSFUSION

BOAS PRÁTICAS DE ENFERMAGEM NA UNIDADE DE TERAPIA INTENSIVA: CUIDADOS DURANTE E APÓS A TRANSFUSÃO SANGUÍNEA

BUENAS PRÁCTICAS DE ENFERMERÍA EN LA UNIDAD DE CUIDADOS INTENSIVOS: ATENCIÓN DURANTE Y DESPUÉS DE LA TRANSFUSIÓN DE SANGRE

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ABSTRACT

This qualitative, convergent care study was conducted at the adult Intensive Care Unit of a public teaching hospital in the South of Brazil. The aim of this study was to collectively design, with the assistance of nursing professionals, a good practice tool for caring for patients during and after a blood transfusion. Data were collected through group discussions, which took place from June to July 2012, with the participation of 23 professionals. The collective subject discourse (CSD) technique was used to organize the collected data. Discussions revealed three central ideas: determining the infusion rate, care practices at the end of the infusion and care practices in the case of transfusion reactions. Together they compose the good practice tool for caring for patients during and after a blood transfusion. This tool, which was designed using convergent analysis, may become an important tool to help provide safer care for ICU patients in blood transfusion.
Keywords: Nursing Care; Blood Transfusion; Intensive Care Unit; Evidence-based nursing.

RESUMO

Trata-se de pesquisa qualitativa convergente assistencial realizada na Unidade de Terapia Intensiva de um hospital público de ensino da região sul que objetivou construir coletivamente, com os profissionais de enfermagem, um instrumento de boas práticas de cuidado a pacientes durante e após a transfusão sanguínea. As informações foram obtidas por meio de discussões em grupo em junho e julho de 2012 com a participação de 23 profissionais. O método do discurso do sujeito coletivo foi utilizado para a organização dos dados. Das discussões emergiram três ideias centrais: determinação da velocidade de infusão, cuidados ao término da infusão e condutas frente às reações transfusionais, que contemplaram o instrumento de boas práticas com as intervenções de enfermagem. O instrumento elaborado com a utilização da pesquisa convergente assistencial poderá se constituir em uma ferramenta para a prática de cuidado mais segura aos pacientes em transfusão sanguínea na unidade de terapia intensiva.
Palavras-chave: *Cuidados de Enfermagem; Transfusão de Sangue; Unidade de Terapia Intensiva; Enfermagem Baseada em Evidência.*

RESUMEN

Se trata de una investigación cualitativa convergente en el área de salud llevada a cabo en la unidad de cuidados intensivos de un hospital público de enseñanza de la región sur. Su objetivo fue construir juntamente con los profesionales de enfermería una herramienta de buenas prácticas de atención de pacientes durante y después de las transfusiones de sangre. La información se obtuvo a través de grupos de discusión en junio y julio de 2012, con la participación de 23 profesionales. El discurso del sujeto colectivo fue el método utilizado para la organización de datos. De las discusiones surgieron tres ideas centrales: determinación de la velocidad de infusión, cuidados al finalizar la infusión y conductas ante las reacciones de la transfusión, que contemplaron la herramienta de buenas prácticas con las intervenciones de enfermería. La herramienta, elaborada con el uso de la investigación convergente asistencial, podría ser utilizada para que la atención brindada a los pacientes que reciben transfusiones de sangre en la unidad de cuidados intensivos sea más segura.
Palabras clave*: Atención de Enfermería; Transfusión Sanguínea; Atención Prácticas de Enfermería en Cuidados Intensivos; Enfermería basada en la evidencia.*

INTRODUCTION

Transfusion therapy plays an important role in the treatment of several diseases. It is performed as a standardized technical practice, in which the safety and quality of blood or of blood components should be ensured. Transfusion medicine is a complex process that depends on several professionals. To do it safely, each professional depends not only on their own knowledge and skills, but also on the knowledge and skills of the entire team and on the efficiency of the system.[1]

The nurse plays a key role in this context, from donor recruitment to transfusion itself.[2] A competent professional practice is an essential requirement in transfusion medicine,because it prevents possible complications and transfusion reactions.[3] Due to the complexity and frequency of transfusion therapy in intensive care patients, it is necessary to use tools that guide quality nursing practice.

Quality nursing practice can be defined as the practice that uses the identification of the patient's needs, the planning and implementation of care practices as a strategy to achieve its goals. This practice encourages the creation of mechanisms for evaluating the care provided, and also allows the documentation and visualization of nursing actions and their results.[1]

In order to do so, we decided to design a good practice tool, which refers to a variety of phenomena, such as a validated procedure for performing a task or solving a problem. This validated procedure includes the scope where it can be applied and the practices are documented based on data from databases, manuals or guidelines.[2]

In view of these considerations, this study sought to answer the following guiding question: what care practices are considered by nursing professionals to be necessary in the design of a good practice tool for caring for critically ill patients during and after a blood transfusion?

Thus, we set as our study objective to collectively design with the assistance of nursing professionals working in a intensive care unit a good practice tool for caring for patients during and after a blood transfusion.

METHODS

This is a qualitative, convergent care study (CCS). This type of research is classified as field research. Seen in this perspective, in addition to investigating the research topic, it allows to share care practices with its participants in order to bring about changes judged necessary to remedy deficiencies in the research setting.[4] In this study, this practice evidenced itself as educational and occurred through discussion meetings with nursing professionals.

This study was conducted at the adult ICU of a public hospital in Santa Catarina, which exclusively treats patients from the Unified Health System (SUS). 23 professionals participated in the study: seven nurses, five nursing residents and 11 nursing technicians.

The study project was approved by the Research Ethics Committee of the UFSC (Protocol 2230/2011) and the researchers received the formal consent of the participating institution to collect data. Prior to data collection, participants were informed about the purpose of the study, as well as about the data collection technique that was going to be used. All participants signed an informed consent form.

Data were collected from June to July 2012 in a specific room of the unit, called Study Room, usually used for group meetings. The method used was group discussion. Participants were divided into two groups: one morning group and one afternoon group, according to the availability of participants. Three meetings per group were organized. There was an average of eight participants per group. Each meeting lasted around 90 minutes.

The aim of these meetings was to discuss and deepen the understanding of the topic 'nursing care to patients receiving blood transfusion', and to design a tool to guide good care practices. In this paper, we present an excerpt of all the care practices discussed during the last two meetings with the two groups, i.e., care practices during and after transfusion.

The meetings followed a sequence of actions: presentation of the problem situation together with the following question: You received a prescription requesting blood components for a patient under your responsibility in the ICU. What nursing care practices do you consider indispensable during and after transfusion? This question was asked at each meeting and to both groups. Then, participants would answer the question and their words would be recorded so that everyone could see them. Next, some of the care practices that had been previously selected by the researcher based on literature were distributed to participants.

Then, participants were asked to analyze what their speeches and the practices recommended in the literature had in common. We found that several of the care practices mentioned by the professionals were also present in the literature. Those care practices that had not been suggested by participants were then discussed with respect to the possibility of being implemented in the context of practice. At the end of each meeting, all nursing care practices were reviewed and in agreement with the participants, we selected those practices that would compose the good practice tool for caring for patients receiving blood transfusion, together with their scientific foundations. The selection of care practices was based on their feasibility and scientificity.

Participants' names were replaced with letters and numbers (eg. E1, E2, R1, R2, T1, T2). "E" stood for nurses, "R" for nursing residents and "T" for nursing technicians.

Data were processed using three methodological figures from the collective subject discourse technique (CSD): key expressions (KE), central ideas (CIs) and the CSD itself. KE are excerpts from statements that reveal the essence of the discursive content. CIs are linguistic expressions that reveal the meaning or the meaning and the theme of each homogeneous set of KEs and which will result in the CSD. Therefore, the CSD is a discourse-synthesis written in the first person singular, which combined key expressions (KE) containing similar central ideas (CI). The construction process of the CSD followed the following steps: reading of the individual statements collected and extraction of themes; grouping of individual statements according to the themes; extraction of KE from the individual statements; grouping of KEs with the same meaning, similar meanings or complementary meanings; extraction of the CIs of each group of KE, and the construction of the CSD, consisting of KE with the same CI related to the theme.[5] In this paper, we chose not to present the individual statements and KEs, but only the CIs and CSDs:

RESULTS AND DISCUSSION

The results led to three CIs and their respective CSDs, which together compose the good nursing care practice tool (Table 1) related to care practices during and after transfusion: determining the infusion rate, care practices at the end of the infusion and care practices in case of transfusion reactions.

CI – Determining the infusion rate

CSD – *Observe the patient. I do not know the exact time, but I think for at least 15 minutes to see if he/she shows some reaction, and infuse the blood slowly during this period. Including because of possible reactions, because if the patient shows some reaction, he is already receiving less volume and the risk of reaction is lower. However, I still have doubts regarding the minimum time for blood component administration. In case a drug therapy has to be interrupted because there is no venous access available, could the blood be administered at a faster rate? Is there a set goal, a defined number of drops per minute? It would be nice to have a parameter, like after 15 minutes, if the patient is feeling well, is hemodynamically stable, then the infusion rate can be increased, for example. But then I think: increased how much? And how would this assessment be like, would be it be an individual assessment? It would be important to make us feel more secure. Another precaution is to record everything, every information, whether the patient showed some reaction, his/her signs and symptoms, complications, everything is very important. The notification too, everyone forgets to notify(R1, R3, R4, T2, T6, T7, T10, E1, E2, E5, E7, E8).*

In the case of transfusions, there is growing evidence that this may constitute a contributing factor to an increased risk of morbidity and mortality.[6,7] Thus, a wide understanding of the processes that are inherent to the transfusion process may contribute to the improvement of care and minimize risks and complications.

Thus, seeking to expand the knowledge base on this topic and elucidate possible discrepancies between practices, aspects related to the infusion rate, drip rate, drugs administered concomitantly to these patients, and whether or not there should be an exclusive venous access were issues that have been greatly discussed within both groups.

At the hospital where this study was conducted, the blood bank nursing staff is responsible for placing the blood or blood component, and is accompanied throughout the procedure by the ICU nursing staff. We found that these are important issues to be clarified and that there is need for continued education on blood transfusion. During the meeting, all doubts were discussed, resolved and recorded in the good practice tool.

A study conducted with nursing assistants at a university hospital has highlighted many difficulties related to procedures associated with time control and drip rate adjustment, as well as difficulties regarding the detection of immediate or delayed transfusion reactions and the definition of correct nursing practices.[6]

We observed that, in practice, there is often no criterion for evaluating an ideal transfusion time with a gradual increase of speed, given that some participants questioned whether there was a maximum time and/or a maximum administration rate. Levels at the initial time of infusion are not taken into consideration in order to increase the infusion speed, because normally the speed determined during the placement of the infusion will remain constant during the entire infusion period.

CI – Care practices at the end of the infusion

CSD – *With regard to the disposal of the infusion bag, it should only be discarded in infectious waste containers if the residual is greater than 50 mL of blood. If the bag is just dirty with blood and all its content has been infused, it may be discarded in normal trash receptacles. Another precaution is to record the volume of the blood bag in the patient´s hydric control record and the infusion time in the patient´s medical chart, because if there is a maximum infusion time, it is then possible to assess it later. It is very important to always register the start and finish time of infusion. And monitor the patient for at least 1 hour after the trasfusion is completed (R4, T5, T11, E3, E4).*

Table 1 - Care practices when placing blood components, Florianópolis, 2013

Care practices when placing blood components	
Interventions	**Explanation**
– Before transfusion, immediately identify the patient at the bedside, and check if his/her data match the blood component data (full name of the recipient, hospital record number, bed number, recipient's ABO and RhD group/type, identification number and ABO and RhD group/type of the blood component bag, name of the person responsible for conducting pretransfusion testings and authorizing the release of the blood component). – Inform the patient (if conscious) or family members about the administration of the blood component and the transfusion risks, and instruct him/her to immediately communicate any different reaction. When the patient is unconscious, the nursing staff needs to constantly monitor the patient. – If there are any discrepancies regarding the identification, the transfusion should be postponed until the problem is resolved. Misidentification should be immediately corrected.	The transfusion of blood to the wrong patient is the most important avoidable mistake in transfusion and is typically the result of failing to match the information on the bag with the patient's information at the bedside.[9]
– Register the numbers and the origin of the transfused blood components in the medical record, as well as the date on which the transfusion was performed.	This is important for monitoring transfusion reactions resulting from the therapeutic use of blood and blood components. This action is aimed at patient safety.[9]
– Always wash hands before and after any procedure performed in the patient.	Hospital infection prevention measure.[10]
– Check and record vital signs (temperature, respiratory rate, blood pressure and pulse), at least immediately before the start, during the first 10 minutes after start and after completion of the transfusion.	During the transfusion, the patient should be periodically monitored in order to enable an early detection of possible adverse reactions.[9]
– Wear examination gloves while placing the bag, and preferably through exclusive venous access. Wear masks and goggles when handling central or peripheral catheters.	Infection prevention measure and personal protective equipment use.[10]
Determining the infusion rate	
Interventions	**Explanation**
– Start the transfusion of blood components with a slow drip and stay close to the patient during the first 10 minutes. **Formula:** number of drops/min = volume/(Tx3)	The infusion rate should be determined according to the patient's clinical status. Patients in need of volume replacement (due to major bleedings and multiple traumas) should receive a fast transfusion with free drip. Patients with heart or kidney disease, elders and children should receive a slow transfusion, and the hemodynamic conditions should be considered. It is common for the most serious transfusion reactions to occur at the beginning of the transfusion. A close monitoring and observation facilitates immediate intervention in case of adverse reactions. After 10 minutes of infusion, if there are no changes in vital signs, the drip rate may be increased. The relationship between the time and the volume to be administered, and the general state of the patient should be observed.[11]
– Administer the blood products in hemodynamically stable patients, according to the appropriate average time – Suggested blood component drip rate: ***Red cells concentrate (RCC) and whole blood (WB):** ideal transfusion time: 2 hours. Maximum time: 4 hours. Drip rate: 10 drops/min (for 5 minutes); 20 drops/min (for 10 minutes), up to 50 drops/min (remaining transfusion). ***Fresh Plasma (FP):** ideal transfusion time: 20 to 40 minutes. Maximum time: 4 hours. Drip rate: 10 drops/min (for 5 minutes); 20 drops/min (for 5 minutes), up to 200 drops/min (remaining transfusion). ***Platelet concentrate (PC):** ideal transfusion time: 30 to 60 minutes. Maximum time: 4 hours. Drip rate: 10 drops/min (for 5 minutes); 20 drops/min (for another 5 minutes), up to 200 drops/min (remaining transfusion).[11]	If this time is exceeded, the transfusion should be discontinued and the bag should be discarded, because of the possible loss of its properties caused by its exposure to an uncontrolled temperature.[11]
Blood components should be infused without the use of an infusion pump or a pressurizer.	The pressure exerted by these devices may cause hemolysis.[11]
Increase the drip rate. In case of changes in vital signs, take the prescribed measures and wait until they normalize before starting the transfusion. In case of any reaction, fever, chills, rash, cough, back pain, chest pain, pain in the upper limbs, nausea and vomiting, anxiety, respiratory distress, diuresis (alone or combined), immediately discontinue the infusion.	In order to detect any systemic adverse reactions (after control, check vital signs every hour).[12]
Register all information relating to the procedure in the medical record. The record of the following information is mandatory: start and completion time of the transfusion; volume and product infused; product identification number; vital signs before and after the transfusion period; professional responsible for placing and monitoring the transfusion.	

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Table 1 - Care practices when placing blood components, Florianópolis, 2013

Determining the infusion rate	
Interventions	**Explanation**
Infuse erythrocyte components (RCC and WB) that remained at room temperature for up to 30 minutes before starting the transfusion. After the maximum time is reached, the blood component should be immediately placed back in the refrigerator (4°C+- 2°C). If stored at 22°C, the plasma components must be transfused within six hours after thawing. If stored at between 2°C and 6°C, the plasma components may be transfused within 24 hours after thawing.	Once this period is exceeded, the transfusion should be discontinued, the component must be sent back to the blood bank to be discarded, for being out of temperature control. The blood component may lose its therapeutic properties due to hemolysis.[11]
Administer the blood components using pyrogens-free disposable sets which include a filter capable of retaining clots and aggregates (170 microns). Do not reuse the set if the patient needs to receive more than one blood component bag.	To prevent the infusion of clots and possible complications arising from it.[11]
Care practices at the end of the infusion	
Interventions	**Explanation**
Report any transfusion incidents or possible complications that occur during transfusion to the nurse and/or attending physician and to the blood bank. Describe any transfusion incidents or possible complications that occurred during the transfusion in the nursing reports.	During the transfusion, the patient should be periodically monitored in order to enable an early detection and intervention of possible adverse reactions. This communication should be made immediately due to the possible lethal risk associated with these reactions.[13]
At the end of each blood component transfusion, the time should be registered in the prescription and in the nursing report, and the bag identification label should be filed in the medical record, and include the types and numbers of the transfused blood components, the vital signs before and after the transfusion and the date of the transfusion. Register the volume in the patient´s hydric control record. Check the prescription.	The identification of transfusion reactions and their relationship with the transfusions performed allow the construction of specific indicators that should be constantly monitored in order to assess changes over time in certain service trends.[13]
After the transfusion is completed, collect the bag and discard it in the medical waste collector (milky-white plastic bag). If the residual volume is <50 ml, the bag can be discarded in normal trash receptacles, unless some kind of adverse event is identified. In this case, it should be sent to the blood bank.	In the case of adverse events, the bag should be sent to the blood bank to investigate the adverse reaction and, if necessary, conduct subsequent actions directed towards the blood donor.[13]
Monitor patients for at least one hour after the transfusion.	For the early identification of possible delayed transfusion reactions, such as transfusion related acute lung injury (TRALI), a graft versus host disease and seroconversion.[12]
Care practices in case of transfusion reactions	
Interventions	**Explanation**
Immediately recognize and treat a reaction. Most transfusions occur without complications. However, when an adverse event occurs it is important that the nursing team is prepared.	Due to the great variety of types of reactions and symptoms - which may be nonspecific-, transfusions should be monitored and discontinued as soon as a reaction is suspected.[12]
Detect, report and evaluate transfusion complications. Patient in a semi-upright, Fowler's position. Make sure all the necessary material to perform oxygen therapy are available and at hand in case of breathing difficulty; observe urine color and volume, warm the patient (in case of hypothermia) and administer medications. One hour after the placement of the component, the vital signs should be checked again.[13]	Because in suspected transfusion reaction the patient should receive immediate care and the attending physician and hemotherapy service that prepared the transfusion must be notified.[9]
Recognize the signs and symptoms typically associated with acute transfusion reactions: – Fever with or without chills (defined as an increase of 1°C in the body temperature, which is associated with the transfusion). – Shivering with or without fever. – Pain at the infusion site, chest, abdominal or flank pain. – Usually acute blood pressure changes (hypertension or hypotension). – Shock in combination with fever and/or intense chills. – Changes in breathing pattern such as dyspnea, tachypnea, hypoxia. – Appearance of hives, itching or localized edema. – Nausea with or without vomiting. – Presence of blodd in the urine (hematuria). – Bleeding or other coagulation changes.	Knowing the signs and symptoms and being able to identify them early is essential to avoid complications resulting from transfusion reactions.[11]

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Table 1 - Care practices when placing blood components, Florianópolis, 2013

Care practices in case of transfusion reactions	
Interventions	Explanation
Register all transfusion reactions and the actions taken in the patient's medical record. Volume received and infusion time.	A key aspect in a blood-surveillance system is to ensure the traceability of a blood component, i.e., the precise identification of who received the blood components and which blood components a patient received.[13] Immediate complications should be assessed and monitored, and its register in the nursing records is mandatory.[6]
Intervene in the event of immediate transfusion complications: – Immediately discontinue the transfusion and notify the physician responsible for the transfusion. – Keep the IV line open with saline (0.9% NaCl). – Check the bag labels and all relevant records in order to determine whether there was an error in patient identification or in the identification of the transfused bags; and the ABO and RH group/type. – Check the vital signs and observe the cardiorespiratory status. – Report to the attending physician and/or to the physician of the transfusion service. – Work as a team to care for the patient.	In case of a suspected reaction, the blood bank assesses the need to collect blood samples from the receiver. These samples, properly labeled, and the blood component bag that needs to be analyzed, even if empty, must be quickly sent to the hemotherapy service in order to investigate the reaction.[6]
Check and record the patient's vital signs (blood pressure, heart rate, respiratory rate, axillary temperature).	The investigation should be done as quickly as possible, so as not to delay the appropriate treatment of the patient.[13]
Record all interventions and occurrences. Register the reaction in the transfusion request (TR) form and in the patient's medical record. Request the blood bank to provide the Transfusion Reaction Notification form. This form should be completed by the responsible physician and should contain his/her signature, as well as the signature of the nurse.	The monitoring and evaluation of transfusion reactions are necessary in order to identify preventable causes in the transfusion chain, as well as to disseminate strategic actions in blood-surveillance and to implement corrective and preventive measures.[13]
Evaluate whether a reaction occurred, classify it together with the medical professional and/or hemotherapist in order to take the appropriate actions.	In cases of urticaria reaction or circulatory overload, the collection of a post-transfusion sample is not necessary, as these are not considered to be immune reactions.[13]
Classify the reactions into the following categories: Mild reactions • **Signs / Symptoms:** Localized skin reaction (hives, rash), pruritus. • **Etiology:** hypersensitivity (mild). • **Treatment:** discontinue the infusion/ discuss with attending physician and/or blood bank before restarting the infusion. Moderate reactions • **Signs/symptoms:** hives, shivering, chills, tachycardia, agitation, flushing, fever, anxiety, pruritus, palpitation, mild dyspnea, headache. • **Etiology:** moderate to severe hypersensitivity; contamination with bacteria or pyrogens; febrile nonhemolytic reaction (FNHR), leukoplaquetary alloimmunization; antibodies against plasma proteins (IgA). • **Treatment:** discontinue the transfusion; keep the venous access open with saline; immediately notify the attending physician and the hemotherapy service; antihistamines, antipyretics and/or corticosteroid/IV bronchodilator (anaphylaxis) depending on the symptoms; investigate the reaction; a lack of improvement in 15 minutes comes to be considered as a severe reaction. Make sure that all drugs, materials and equipments required for emergency care (intubation equipment) are available and at hand in the case of moderate or severe reaction. Severe reactions • **Signs:** shivering, chills, fever, agitation, hypotension (more than 20% decrease in systolic blood pressure, tachycardia, more than 20% increase in heart rate, hemoglobinuria, unexplained bleeding, DIC). • **Symptoms:** anxiety, chest pain, pain close to the infusion site, respiratory distress, low back pain, headache. • **Etiology:** Acute intravascular hemolysis, bacterial contamination/septic shock, circulatory overload, anaphylaxis, transfusion related acute lung injury (TRALI). **Treatment:** discontinue the transfusion; keep the venous access open with saline; immediately notify the attending physician and the Hematherapy Service; supportive measures: the airways, volume, drugs (diuretics, steroids, bronchodilators, inotropic agents, epinephrine, dopamine), vital signs, diuresis, dialysis, therapy with antibiotics, etc.; investigate the reaction.	The evaluation of transfusion reactions during or after transfusion may trigger interventions across the blood chain.[13] Because of the risk that is inherent in transfusion practice, it is necessary to know the incidents related to it as well as their impact, in order to apply corrective and preventive measures that help increase transfusion safety.[13]

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Table 1 - Care practices when placing blood components, Florianópolis, 2013

Care practices in case of transfusion reactions	
Interventions	Explanation
Collect a new blood sample from the patient and send it to the blood bank, together with the blood component bag and the blood transfusion set. Register the reaction in the medical record.	To assess the type of reaction, the samples should be collected preferably using a different access than the one used for transfusion.[13]
In the case of suspected transfusion reactions due to the microbial contamination of blood components, collect microbiological culture from the bag and from the patient.	This reaction is one of the most frequent and it is up to each blood center to control the contamination of blood components.[14]
Discontinue transfusion in case of fever with an increase in body temperature of more than 1°C, provided that the final body temperature exceeds 37°C, and the blood component may no longer be reinfused into the patient. Compare with the temperature measured at the start of the transfusion.	All cases of suspected infection transmission due to the transfusion should be evaluated.[15]

Participants discussed matters pertaining to the organization of the ICU, such as availability of infectious waste containers, as well as what criteria should determine the appropriate place to dispose empty blood bags.

The importance of keeping records of the transfusion process, registering the administered volume, and the start and finish time of transfusion was mentioned once again by the professionals. This emphasizes the need to control the volume administered to patients and to have means to evaluate the patient in case of a transfusion reaction.

Records are a way of ensuring and verifying the correct care performance. They serve as a source of information on the health status of the patient and its evolution, in addition to being an aid to supporting discussions about the improvement of the care provided.[8]

CI – Care practices in case of transfusion reactions

CSD – *Observe if the patient shows some transfusion reaction; in case he does, make the appropriate notifications and stop the transfusion. Here in the ICU the patient is more constantly monitored and thus it is easier to identify when he/she shows some kind of reaction. There should be a classification guide saying what symptoms are related to a severe reaction, after which reactions the transfusion should be discontinued. The investigation of the transfusion reaction, and the reason why there was a reaction should be registered in the medical record. In case of a transfusion reaction, we should remember to save the bag for investigation. I used to believe that a patient could only show a reaction during the time of transfusion, but there are also delayed reactions, and it would be important to clarify the types of reaction in the tool, because if the patient shows some delayed reaction, we may not be able to associate it with the transfusion. Especially in the ICU, because ICU patients are already unstable. I think it is difficult to classify patients according to the type of reaction, we would have to get some information from a hemotherapist, because even a general practitioner may not be able to differentiate between the reactions. They are all very similar. In case a new sample needs to be collected after transfusion, the doctor classifies the reaction and requests it (R2, R3, R4, T4, T6,T8, E1, E4, E5, E6).*

Professionals had doubts regarding possible transfusion reactions and some aspects could be discussed during the meetings. The decision of when to stop a blood transfusion due to a reaction generated numerous controversies. The professionals said that this something feasible in intensive care and that in case of any suspected transfusion reaction the transfusion should be immediately discontinued, and the staff should discuss with the physician which steps should be taken next.

Another aspect mentioned by the participants was the perception of professionals regarding the communication among the team, especially in shift changes, which may be characterized as a fragility of identification of a transfusion reaction – both an immediate reaction or a delayed reaction – depending on the quality and quantity of information disclosed during shift changes. If professionals starting a new shift do not have all the information on the procedures performed, they might mistakenly identify some signs and symptoms showed by the patient/receiver as a reaction. This may even indicate the there is an underreporting of reactions.

CONCLUSION

The good nursing practice tool for caring for patients during and after a blood transfusion, which was collectively designed by nursing professionals working in an ICU, addressed the following aspects: care practices during the placement of

blood components, determining the infusion rate, care practices at the end of the infusion and care practices in case of transfusion reactions.

The use good practice tools for caring for patients is important in the decision-making process of nurses, because it prioritizes and organizes nursing actions directed to ICU patients receiving blood transfusion, who are usually in critical condition and require constant monitoring. We believe that the way in which the care practices were presented, followed by the explanation, helps professionals understand how and why each care practice should be taken and facilitates learning and the acquisition of new knowledge.

We hope that the implementation of this tool help improve care practice and contribute to transfusion safety. However, changes in the care context will only occur when the professionals involved in care delivery become aware and accountable practitioners. We believe that the methodology used to design good practice tool, which counted with the active participation of professionals throughout the entire process, might be a favorable factor to achieve these changes. Participants were more than mere respondents, playing an active role in the actual construction of the tool.

Thus, we suggest the conduction of further studies focusing on the role and performance of nurses in hemotherapy, as well as the creation of new good practice tools to guide the provision of care to patients – not only to patients in the ICU, but also to patients in other hospital wards.

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