

Hemotherapeutic practice in Brazilian nursing: an integrative review

Enfermagem e a prática hemoterápica no Brasil: revisão integrativa

Enfermería y la práctica hemoterápica en el Brasil: revisión integrativa

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ABSTRACT

Objective: To assess the current level of nurses' knowledge and scientific publication regarding transfusion therapy. **Methods:** An integrative review of literature for the years 2005 – 2009 was conducted using LILACS, SciELO and MEDLINE databases. The study sample included nine studies that addressed nursing activities with blood donors and recipients. **Results:** The results show that nurses play a key role in transfusion safety, and that they require education to safely undertake this responsibility. **Conclusion:** There was a small volume of scientific output, which can be justified because this is a relatively new specialty within Brazilian nursing.

Keywords: Scientific and technical publications; Publications for science diffusion; Nursing; Hematology

RESUMO

Objetivo: Analisar o conhecimento produzido por enfermeiros a respeito da hemoterápica. **Métodos:** Realizou-se uma revisão integrativa da literatura nas bases de dados LILACS, SciELO e MEDLINE no período de 2005 a 2009. A amostra contou com nove estudos que abordam as atividades de enfermagem com doadores e receptores de sangue. **Resultados:** Os resultados evidenciam que os enfermeiros exercem papel fundamental na segurança transfusional, necessitando de formação adequada para assumir esta responsabilidade. **Conclusão:** Verificou-se uma produção científica reduzida, fato que pode ser justificado por esta ser uma especialidade ainda recente no País.

Descritores: Publicações científicas e técnicas; Publicações de divulgação científica; Enfermagem; Hematologia

RESUMEN

Objetivo: Analizar el conocimiento producido por enfermeros respecto a la hemoterápica. **Métodos:** Se realizó una revisión integrativa de la literatura en las bases de datos LILACS, SciELO y MEDLINE en el período de 2005 a 2009. La muestra contó con nueve estudios que abordan las actividades de enfermería con donadores y receptores de sangre. **Resultados:** Los resultados evidencian que los enfermeros ejercen un papel fundamental en la seguridad de la transfusión, necesitando de una formación adecuada para asumir esta responsabilidad. **Conclusión:** Se verificó una reducida producción científica, hecho que puede ser justificado por ser ésta una especialidad aun reciente en el País.

Descriptores: Publicaciones científicas y técnicas; Publicaciones de divulgación científica; Enfermería; Hematología

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INTRODUCTION

The administration of blood products is acknowledged as an important strategy in the implementation of several clinical treatments in addition to transplantation, chemotherapy and diverse surgeries. Even though new health treatments are being developed around the world with expressive progress, a replacement for human blood with therapeutic purpose has not been discovered yet⁽¹⁾.

Transfusion therapy is a process that involves sanitary risks even in the face of precise indication and correct administration, respecting all recommended practices. The safety and quality of blood and blood components should be ensured in the entire process from the reception of blood donors to the administration of blood to patients. The participation of nurses in all the process' phases from the reception of donors to the blood transfusion itself contributes to ensuring safe transfusions and providing quality products to blood donors and recipients, minimizing risks to health. Hence the importance of efficiently completing the hemotherapy cycle, which starts with the reception and selection of donors, followed by serological and immunohematological screening, processing and fractionating of collected units, dispensation, transfusion, and post transfusion evaluation⁽²⁾.

According to the Resolution n° 306/2006 of the Federal Council of Nursing, nurses have the competence and responsibility to: "plan, perform, coordinate, supervise and evaluate hemotherapy and nursing procedures in the units, to ensure the quality of collected and transfused blood and blood components"⁽³⁾.

As health professionals working in hemotherapy service, nurses evaluate and provide guidance to blood donors through clinical screening; deliver care and supervise potential interurrences during donation; deliver the results of serological exams and provide guidance; develop nursing prescriptions required during the hemotherapy process; evaluate and take notes jointly with the multi-professional team concerning donors and recipients; perform and/or supervise the administration and monitoring of the infusion of hemocomponents; detect potential side effects, record information and statistical data related to donors and recipients; participate of programs aimed to attract donors; develop and participate in research addressing hemotherapy and hematology⁽⁴⁾.

In this context, the adoption of measures to minimize the gap between scientific advancements and nursing care is urgent to enable nurses to develop competencies to promote the health of blood donors and recipients. This

need justifies the interest in developing an integrative literature review of the Brazilian publication of nursing studies addressing hemotherapy.

An integrative literature review is one of the research methods used in Evidenced-Based Practice and allows the incorporation of evidence in care practice. The method can focus on the definition of concepts, review of theories, or the methodological analysis of studies for a given object, contributing to deepening knowledge concerning the studied theme⁽⁵⁾.

Aiming to produce evidence-based knowledge for nurses, reduce the obstacles in the use of scientific knowledge and make studies' results more accessible, this study presents the following guiding question: What is the scientific knowledge produced in the nursing field related to hemotherapy in Brazil?

To improve research and competency in nursing knowledge related to hemotherapy, this study analyzed the knowledge produced by nurses in relation to the hemotherapy practice in order to reflect upon the issue and encourage nurses to construct a new reality for care provided to blood donors and recipients. The more prepared nurses are to identify in donors potential risks that may harm recipients, the more nurses contribute to improving the quality of hemocomponents transfused in the Brazilian population.

METHODS

The following stages were followed during the review process: identification of the theme and selection of the guiding question; establishment of criteria to select the sample; definition of information to be extracted from the selected studies and categorization of studies; evaluation of studies included in the integrative review; and finally interpretation of results and presentation of review⁽⁶⁾.

The bibliographic search was performed in November 2009 in three indexed databases: Latin American Health Sciences (LILACS), Electronic Library Online (SciELO) and Medical Literature Analysis and Retrieval System Online (MEDLINE). The following descriptors controlled by the Virtual Health Library through Descriptors in Health Sciences were used: "nursing" and "blood transfusion" and "blood donors".

The following criteria were used to select the sample: full texts available online written either in Portuguese, English or Spanish; papers addressing nursing and hemotherapy (related to blood donors and recipients); studies carried out in Brazil and disseminated between 2005 and 2009; at least one nurse co-author. Papers were

analyzed just once even if found in several databases.

The initial search resulted in 252 papers: nine in LILACS, 71 in SciELO and 172 in MEDLINE. After reading the available abstracts, 169 papers retrieved from MEDLINE, 65 from SciELO and nine from LILACS were excluded due to duplicated results. A total of 23 papers were fully read, though only nine answered the study's guiding question and composed its final sample.

Data were collected using a specific instrument completed for each paper in the final sample. The instrument collected the following information: identification of paper and respective authors, database, objectives, design, methods and results⁽⁷⁾.

The articles were numbered according to the order of retrieval and data were organized based on the definition of information to be extracted from the selected studies. The essence of an integrative review is the categorization of studies. Therefore, results are presented and information is descriptively discussed through a synoptic table containing the code for the study

according to the researchers' classification, objectives, periodical, year of publication, and characteristics of the study.

RESULTS

Characterization of the analyzed studies

The nine papers were published after 2009 and most presented a qualitative approach: one experience report, one ethnographic study, one literature review, one reflective study, and three exploratory-descriptive papers. The remaining two were descriptive-exploratory studies but with quantitative and qualitative approaches. Studies with such approaches are used when there is limited knowledge concerning a given phenomenon. Therefore, most of the studies belong to this category because the work of nurses in the field of hemotherapy is relatively recent⁽⁸⁾. Descriptive exploratory studies allow developing a body of knowledge that supports other types of studies. Data in Table 1 present the papers selected in

Table 1 – Studies included in the integrative review concerning hemotherapy practice. Fortaleza, CE, Brazil – 2009

| Code | Study's objectives | Periodical/Year | Study's characteristics |
|------|--|--|---|
| 1. | To report the experience of a school project to attract blood donors | Text & Context Nursing Journal / 2007 | Setting: Florianópolis, SC, Brazil Study design: Experience report Sample: 65,500 young individuals |
| 2. | To interpret the system of knowledge and meaning attributed to blood for transfusion by blood donors and recipients of a blood bank | Text & Context Nursing Journal / 2006 | Setting: Canoinhas, SC, Brazil Study design: Ethnographic Sample: 12 blood donors and 8 recipients |
| 3. | To characterize scientific nursing publications addressing Hematology, Hemotherapy and Bone Marrow transplantation. | <i>Acta Paulista de Enfermagem</i> / 2007 | Setting: Rio de Janeiro, RJ, Brazil Study design: Literature Review Sample: 88 abstracts of periodicals and annals of congress. |
| 4. | To determine the level of knowledge and adequacy of transfusion practices of nursing professionals. | Brazilian Journal of Hematology and Hemotherapy / 2007 | Setting: São Paulo, SP, Brazil Study design: Exploratory Sample: 46 nursing professionals |
| 5. | To identify the main difficulties found by nurses in hemotherapy. | <i>Conscientiae Saúde</i> /2007 | Setting: São Paulo, SP, Brazil Study design: Exploratory Sample: 18 nurses |
| 6. | To discuss nursing care in hemotherapy delivered to elderly blood donors. | <i>Revista Eletrônica de Enfermagem</i> / 2008 | Setting: Rio de Janeiro, RJ, Brazil Study design: reflection |
| 7. | To determine the signification of donating blood and elements linked to the decision to become a donor; identify the doubts related to the donation; identify strategies to develop a program of voluntary donation. | <i>Acta Paulista de Enfermagem</i> / 2009 | Setting: Rio Grande, RS, Brazil Study design: Exploratory Sample: 15 voluntary donors |
| 8. | To describe the education related to the transfusion practice of physicians and nurses working in ICU | Brazilian Journal of Hematology and Hemotherapy / 2009 | Setting: Uberaba, MG, Brazil Study design: Exploratory Sample: 44 physicians and nurses |
| 9. | To recognize the profile of blood donors and the motivational factors that effectively influence adherence to a blood donation program. | <i>Revista Brasileira de Promoção da Saúde</i> /2006 | Setting: Crato, CE, Brazil Study design: Exploratory Sample: 50 blood donors |

this review.

Five papers are published in nursing periodicals, two in a journal specialized in hemotherapy; and two in health science journals. In relation to the studies' objectives, five papers discussed the practice of nursing in hemotherapy, focusing on the practice of transfusion; three verified the profile of blood donors and strategies to attract voluntary blood donors; and one study emphasized the meaning attributed by blood donors and recipients to blood involved in blood transfusion.

In relation to the origin of studies and affiliation of authors, studies that originated from the Southeast region predominated (five studies), followed by the South (three studies). Only one paper originated in the Northeast region, in the state of Ceará. This predominance of the Southeast is explained by the concentration of nursing schools, hospitals and graduate programs in the region, information that corroborates the findings of another study addressing the scientific production of nurses in the fields of hematology, hemotherapy and bone marrow transplantation in Brazil between 2000 and 2004⁽⁹⁾.

DISCUSSION

Implications for nursing practice and research

Based on the analyzed studies, some important issues related to nursing practice in hemotherapy are implied.

The nursing care delivered to blood donors and recipients is a recent practice and little explored in Brazilian scientific studies⁽¹⁰⁾. Nurses should be able to develop a critical view of the transfusion practice in order to integrate the set of actions that contribute to the quality of life of blood donors and recipients, ensuring the safety of the components to be transfused throughout the entire blood cycle.

The hemotherapy service is a specialized unit that requires specific knowledge from health professionals to work responsibly and competently. Some studies, however, indicate difficulties reported by nurses who work in hemotherapy services such as: the requirement of specific knowledge; absence of or inefficient training provided when professionals are hired, and other training programs; handling and monitoring of specific equipments in the unit; and a feeling of not being sufficiently qualified to work in this field^(4,8,11).

Nursing professionals play an essential role in ensuring safety during transfusion. They not only administer transfusions but also should know why they are prescribed; check data to prevent errors; provide guidance to patients throughout the transfusion process;

detect, communicate and treat transfusion side effects; and record the entire process. These professionals can significantly minimize the risks to which patients of a transfusion are exposed and prevent consequent harm if they efficiently manage the transfusion process. On the other hand, professionals lacking hemotherapy knowledge, with insufficient skills can cause complications and significantly harm blood recipients^(4,8,11).

Nursing professionals are also responsible for the reception of responsible, aware and healthy donors, contributing to the safety and quality of blood used in transfusions, especially because blood is essential to the maintenance of life and also because there is not a substance able to totally replace it⁽¹²⁻¹³⁾.

Information concerning the opinion and feelings of donors are important to the organization and administration of services because it enables professionals to know the attributes they consider more important. Such information can support the development of strategies designed to educate, mobilize, attract, and retain a growing public, sensitizing them to the importance of voluntary and periodic blood donation, and encouraging them to actively participate in the process of blood donation in a conscious and responsible way⁽¹⁴⁻¹⁵⁾.

Hence, it is the role of nursing professionals and other professionals from hemotherapy services to collaborate in this connection of life, to ensure the quality of blood between donors and recipients. In this context, hemotherapy nurses have an important role and can assume the social and health commitment to quality of life and care delivered to the population.

Therefore, based on this study's results, it is recommended that nursing professionals play an essential role in ensuring transfusion safety and be appropriately prepared to assume such a responsibility, seeking to minimize the gap between normal knowledge and scientific knowledge, in order to reduce the risks posed to the health of the population.

FINAL CONSIDERATIONS

This integrative review enabled us to understand the importance of the role nurses play in hemotherapy in ensuring the safety of transfusions, though there is a limited number of Brazilian nursing studies addressing the field of hemotherapy.

We believe, among other factors, that the low number of Brazilian studies in the field may be explained by the fact that hemotherapy is a recent and

unconsolidated field in Brazil. The scarcity of studies in the field and the lack of visualization of the theme as a relevant subject for Brazilian nursing reflect the importance of this study.

The study's main limitation may be related to the fact that only DeCS descriptors were used to retrieve papers in the electronic databases. A discrepancy between these terms and the key words used by the authors of

the analyzed papers was found. Hence, it may be that many studies were not accessed.

Even though publications in the hemotherapy field have increased in recent years, further nursing research encouraging discussion in the field, is needed. It is believed that scientific development in the field will contribute to the consolidation of the nursing profession, enabling it to achieve professional valorization and status in the view of society and other professions.

REFERENCES

1. Ângulo IL. Hemoterapia moderna, práticas antigas: [editorial]. *Rev Bras Hematol Hemoter.* 2007;29(2):108.
2. Brasil. Ministério da Saúde. Agência Nacional de Vigilância Sanitária. Resolução RDC nº 153, de 14 de junho de 2004. Determina o Regulamento Técnico para os procedimentos hemoterápicos, incluindo a coleta, o processamento, a testagem, o armazenamento, o transporte, o controle de qualidade e o uso humano de sangue, e seus componentes, obtidos do sangue venoso, do cordão umbilical, da placenta e da medula óssea. Brasília: Ministério da Saúde; 2004.
3. Brasil. Conselho Federal de Enfermagem. Resolução COFEN nº 306/2006. Normatiza a atuação do Enfermeiro em Hemoterapia. Rio de Janeiro: Conselho Federal de Enfermagem; 2006.
4. Ferreira O, Martinez EZ, Mota CA, Silva AM. Avaliação do conhecimento sobre hemoterapia e segurança transfusional de profissionais de enfermagem. *Rev Bras Hematol Hemoter.* 2007;29(2):160-7.
5. Whittemore R, Knaf K. The integrative review: updated methodology. *J Adv Nurs.* 2005;52(5):546-53.
6. Galvão MC, Sawada NO, Rossi LA. A prática baseada em evidências: considerações teóricas para sua implementação na enfermagem perioperatória. *Rev Latinoam Enferm.* 2002;10(5):690-5.
7. Mendes KDS, Silveira RCCP, Galvão CM. Revisão integrativa: método de pesquisa para a incorporação de evidências na saúde e na enfermagem. *Texto & Contexto Enferm.* 2008;17(4):758-64.
8. Silva KFN, Soares S, Iwamoto HH. A prática transfusional e a formação dos profissionais de saúde. *Rev Bras Hematol Hemoter.* 2009;31(6):421-6.
9. Araújo KM, Brandão MAG, Leta J. Um perfil da produção científica de enfermagem em Hematologia, Hemoterapia e Transplante de medula óssea. *Acta Paul Enferm.* 2007;20(1):82-6.
10. Santos NLP, Stipp MAC, Leite JL, Nunes AS. O idoso doador de sangue e o cuidado da enfermagem hemoterápica. *Rev Eletrônica Enferm.* 2008;10(3):828-34.
11. Silva PS, Nogueira VO. Hemoterapia: as dificuldades encontradas pelos enfermeiros. *ConScientiae Saúde.* 2007;6(2):329-34.
12. Pereima RSMR, Arruda MW, Reibnitz KS, Gelbcke FL. Projeto Escola do Centro de Hematologia e Hemoterapia de Santa Catarina: uma estratégia de política pública. *Texto & Contexto Enferm.* 2007;16(3):546-52.
13. Benetti SRD, Lenardt MH. Significado atribuído ao sangue pelos doadores e receptores. *Texto & Contexto Enferm.* 2006;15(1):43-50.
14. Giacomini L, Lunardi Filho WD. Estratégias para fidelização de doadores de sangue voluntários e habituais. *Acta Paul Enferm.* 2010;23(1):65-72.
15. Moura AS, Moreira CT, Macjado CA, Vasconcelos Neto JA, Machado MFAS. Doador de sangue habitual e fidelizado: fatores motivacionais de adesão ao programa. *Rev Bras Promoc Saúde.* 2006;19(2):61-7.