



Original article

Transfusion medicine in medical education: an analysis of curricular grids in Brazil and a review of the current literature



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ARTICLE INFO

Article history:

Received 27 April 2016

Accepted 31 May 2016

Available online 27 June 2016

Keywords:

Education

Medical

ABSTRACT

Background: Blood transfusions are one of the most performed medical procedures in the world. Thus, as education in transfusion medicine is vital to medical care, it should aim to promote a responsible practice with the rational use of blood by doctors. This study aims to investigate the situation of the teaching of transfusion medicine in medical schools in Brazil.

Method: The websites of the 249 Brazilian medical schools in operation in June 2015 were visited and the curricula of the medical courses were investigated in respect to the presence or absence of a transfusion medicine discipline. When available, the subject grids were analyzed to verify whether a description of content regarding transfusion medicine was given within other disciplines.

Results: Of the 249 medical school sites visited, information on the curriculum was obtained from 178. Of the medical schools that published their curriculum, 132 (74.1%) did not have disciplines of transfusion medicine or hematology and only seven (3.9%) had a discipline of transfusion medicine in the curricular grid.

Conclusions: Education on transfusion medicine is of fundamental importance for safe and efficient transfusion practices. Deficiencies in medical knowledge of this subject have been found worldwide. The results of this study indicate a possible deficiency in teaching the basics of this specialty. Thus, additional prospective studies to assess the knowledge and practice of transfusion medicine in Brazilian medical schools are warranted, which could prompt a discussion on the importance of offering training in transfusion medicine to medical students.

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<http://dx.doi.org/10.1016/j.bjhh.2016.05.013>

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Introduction

Blood therapy, hemotherapy, or transfusion medicine is the medical specialty that deals with the use of blood, blood components and blood products as treatment. In Brazil, despite the first transfusions dating from the early twentieth century, this specialty only gained real importance in the 80s with the advent of acquired immunodeficiency syndrome (AIDS).¹ Transfusion medicine is a heavily regulated practice, with specific laws guiding the complete process of blood manipulation, from collecting, processing and storage to the transfusion of blood components, as described in the Brazilian norms.²⁻⁴

Blood transfusions are the most performed procedure in American hospitals.⁵ In Brazil, according to the Hemovigilance Report of the Brazilian Government Health Department (Agência Nacional de Vigilância Sanitária – ANVISA) published in 2014, 3,127,957 transfusions were conducted during 2012.⁶ Despite becoming increasingly safe due to the improvement of serological tests, transfusions still expose the recipient to numerous risks such as transfusion-transmitted infections, sepsis, hemolytic transfusion reactions due to human error, immunomodulation and others. As most medical specialties request transfusions, critical knowledge regarding the correct indication of blood products, potential risks and expected benefits of the procedure is important in all areas for the rational use of blood.^{7,8}

Despite the relevance of the aforementioned factors, studies conducted in different countries around the world have demonstrated insufficient knowledge of physicians on this subject. Studies have been conducted in countries such as the United States, United Kingdom, Tunisia, Canada and Iran to assess the degree of knowledge about transfusion medicine of newly graduated doctors; all studies reported lower than expected results.⁹⁻¹² In a poll conducted in 86 medical schools in the United States, most had less than three hours in the curricular grid dedicated to transfusion medicine.⁵ This study aims to investigate the situation of the teaching of transfusion medicine in medical schools in Brazil, by analyzing curricular grids available on the internet and reviewing the literature.

Method

The websites of the 249 Brazilian medical schools in operation in June 2015 were visited. The number of medical courses was obtained by accessing www.escolasmedicasdobrasil.com.br and the Ministry of Education website, www.emec.mec.gov.br. The curricula of the medical courses were investigated on the websites of medical schools in respect to the presence or absence of a transfusion medicine discipline. If such a specific discipline was not found, the subject grids were searched for any mention of transfusion medicine (transfusion indications or treatment of blood loss) within other disciplines, such as hematology, internal medicine or surgery.

Each undergraduate course was classified in one of the following groups:

- (i) The course presents a transfusion medicine discipline in the curriculum.

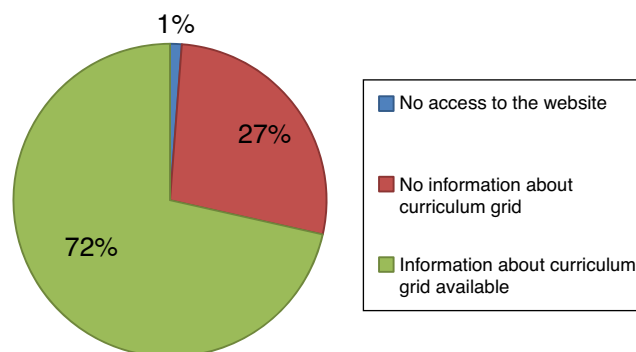


Figure 1 – Profile of the websites of Brazilian medical schools.

- (ii) The course presents transfusion medicine as a topic within the hematology discipline, but does not have a transfusion medicine discipline.
- (iii) The course does not present a transfusion medicine or hematology discipline in the curriculum.
- (iv) The course has no transfusion medicine or hematology discipline in the curriculum, but content on transfusion medicine is mentioned in the grid of another discipline.

Results

Of the 249 medical school sites visited, information on the curriculum was obtained from 178, nearly 70% of the total. Information on the curricula of the medical course was not available in 68 sites of medical schools, and access to three sites was unavailable and so they were excluded. Figure 1 shows the profile of medical schools whose sites were visited.

Of the schools that displayed their curriculum, about three-quarters (74.1%) did not have transfusion medicine and hematology disciplines. A smaller portion, 17.4% of the medical schools had a hematology discipline and 4.4% did not present transfusion medicine or hematology, but blood transfusions were mentioned in the grid of another discipline. Only 3.9% had a transfusion medicine discipline. The distribution frequency for the respective groups is shown in Figure 2.

Discussion

The rational use of blood is regarded as a major issue for public health, due to poor inventory, high cost, and concerns on patient safety. Another factor to be noted is that blood, in most countries, is a product that cannot be bought, that is, its availability depends on donations. Therefore, the appropriate use of blood components avoids waste, providing proper stock maintenance to meet the needs of patients who actually have indications for blood transfusions.¹¹

Several studies have shown the inappropriate use of blood and blood components by health professionals.¹³ Two systematic reviews that included intervention studies to improve transfusion practices indicate that medical education is significantly helpful in this process.^{14,15}

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