

Motivators and barriers to blood donation among university students: An integrative review protocol

Motivadores e barreiras à doação de sangue entre universitários: Um protocolo de revisão integrativa

Motivadores y barreras para la donación de sangre entre estudiantes universitarios: Un protocolo de revisión integrativa

Received: 02/12/2025 | Revised: 02/21/2025 | Accepted: 02/22/2025 | Published: 02/25/2025

Vivian Menezes Irineu

ORCID: <https://orcid.org/0000-0003-4024-0271>
Universidade Municipal de São Caetano do Sul, Brazil
E-mail: vivian.irineu@online.uscs.edu.br

Eduarda Ribeiro Cassemiro

ORCID: <https://orcid.org/0009-0001-9580-2377>
Universidade Municipal de São Caetano do Sul, Brazil
E-mail: eduarda.cassemiro@uscsonline.com.br

Abstract

Objective: To explore and synthesize the existing scientific evidence regarding the key motivators and barriers that impact university students' decisions to donate blood. **Introduction:** Although blood donation is essential for public health, donation rates often do not meet the necessary demand. College students are a potential group for donation campaigns because they are young and healthy. Understanding the factors that influence this population to donate blood can contribute to more effective blood collection and retention strategies. **Inclusion criteria:** The research question that will guide the inclusion of studies was constructed by the PCC strategy, where P- population (students), C-concept (factors that influence blood donation) and C-context (higher education environments): "What are the barriers and motivations for donating blood among students in higher education settings?" **Methods:** An integrative literature review will be carried out according to the steps described by Souza, 2010. A search will be carried out in a database in the Virtual Health Library (VHL), in the Scientific Electronic Library Online (Scielo) and in PubMed as these are the databases which concentrate a higher degree of indexing of health periodicals. Two independent reviewers will select the studies by title and abstract using the blind on tool in the Rayyan software. The full texts of the included articles will be read and analyzed and data will be extracted using a specific form. **Results:** Results will be interpreted in light of the literature review and discussed in relation to existing theories on blood donation behavior and health communication.

Keywords: Blood donation; College students; Integrative review protocol.

Resumo

Objetivo: Explorar e sintetizar as evidências científicas existentes sobre os principais motivadores e barreiras que impactam as decisões dos estudantes universitários em doar sangue. **Introdução:** Embora a doação de sangue seja fundamental para a saúde pública, as taxas de doação muitas vezes não atendem à demanda necessária. Os universitários são um grupo potencial para campanhas de doação por serem jovens e saudáveis. Compreender os fatores que influenciam essa população a doar sangue pode contribuir para estratégias mais eficazes de captação e retenção. **Crerios de inclusão:** A questão da pesquisa que norteará a inclusão dos estudos foi construída pela estratégia PCC, onde P- população (estudantes), C-conceito (fatores que influenciam a doação de sangue) e C-contexto (ambientes de ensino superior): "Quais são as barreiras e motivações para a doação de sangue entre estudantes em ambientes de ensino superior?" **Métodos:** Será realizada uma revisão integrativa de literatura segundo os passos descritos por Souza, 2010. Será realizada busca em base de dados na Biblioteca Virtual de Saúde (BVS), na *Scientific Eletronic Library Online* (Scielo) e na PubMed por se tratarem das bases que concentram maior grau de indexação de periódicos da área de saúde. Dois revisores independentes realizarão a seleção dos estudos pelo título e resumo com auxílio da ferramenta *blind on* do software Rayyan. Os textos completos dos artigos incluídos serão lidos e analisados e os dados serão extraídos com um formulário específico. **Resultados:** Os resultados serão interpretados à luz da revisão da literatura e discutidos em relação às teorias existentes sobre comportamento de doação de sangue e comunicação de saúde.

Palavras-chave: Doação de sangue; Estudante universitário; Protocolo de revisão integrativa.

Resumen

Objetivo: Explorar y sintetizar la evidencia científica existente sobre los motivadores y barreras clave que impactan la decisión de los estudiantes universitarios de donar sangre. **Introducción:** Aunque la donación de sangre es esencial para la salud pública, las tasas de donación muchas veces no satisfacen la demanda necesaria. Los estudiantes universitarios son un grupo potencial para las campañas de donación porque son jóvenes y saludables. Comprender los factores que influyen en esta población para donar sangre puede contribuir a estrategias más efectivas de recolección y retención de sangre. **Criterios de inclusión:** La pregunta de investigación que guiará la inclusión de los estudios fue construida mediante la estrategia PCC, donde P-población (estudiantes), C-concepto (factores que influyen en la donación de sangre) y C-contexto (entornos de educación superior): “¿Qué Cuáles son las barreras y motivaciones para donar sangre entre estudiantes en entornos de educación superior? **Métodos:** Se realizará una revisión integradora de la literatura según los pasos descritos por Souza, 2010. Se realizará una búsqueda en una base de datos en la Biblioteca Virtual en Salud (BVS), en la Biblioteca Científica Electrónica en Línea (Scielo) y en PubMed, ya que son las bases de datos que concentran un mayor grado de indexación de publicaciones periódicas de salud. Dos revisores independientes seleccionarán los estudios por título y resumen utilizando la herramienta ciega del software Rayyan. Se leerán y analizarán los textos completos de los artículos incluidos y se extraerán los datos mediante un formulario específico. **Resultados:** Los resultados se interpretarán a la luz de la revisión de la literatura y se discutirán en relación con las teorías existentes sobre el comportamiento de donación de sangre y la comunicación sanitaria.

Palabras clave: Donación de sangre; Estudiantes universitarios; Protocolo de revisión integrative.

1. Introduction

Blood donation plays a critical role in ensuring the availability of blood for urgent and emergent medical procedures, surgeries and the treatment of diseases with permanent or temporary bone marrow failure (Yosef et al., 2021). Every year, millions of lives are saved through blood transfusions (Casal-Otero et al., 2020). Advances in medicine have increased the demand for transfusions, making the blood donation essential to ensure the stability of supplies.

In this context, blood donation is a fundamental pillar of public health (Casal-Otero et al., 2020; Dawadi et al., 2020). University students represent a young and generally healthy population with the potential to be a significant and long-term source of blood donors. Additionally, they can act as promoters for donation, encouraging and influencing their peers to participate (Dawadi et al., 2020).

The medical literature has been concerned with ways of encouraging, attracting and retaining these young blood donors (Casal-Otero et al., 2020; Dawadi et al., 2020; Padilla-Garrido et al., 2021). Raising awareness and educating university students about the importance of blood donation are crucial steps in creating a sustainable donor base. However, it is essential to synthesize existing knowledge to identify the most effective ways to enhance donation rates and donor retention within this group.

Understanding the factors that influence blood donation among university students is key to developing targeted and effective strategies. Therefore, this study aims to evaluate and consolidate scientific evidence regarding the motivations and barriers affecting blood donation in this population. Through an integrative review, we seek to synthesize current knowledge and uncover insights that may inform evidence-based public policies and initiatives to promote and sustain blood donation among university students.

2. Methodology

This research will be conducted as an integrative literature review, following the systematic steps outlined by Souza (2010). The review protocol has been registered on the Open Science Framework (DOI: 10.17605/OSF.IO/YB6FU).

2.1 Elaboration of the research question

The research question guiding this review is: “What are the barriers and motivations for blood donation among university students?” The research question was constructed according to the PCC strategy, where: P (Population) - students, C

(Concept) - factors that influence blood donation; and C (Context) - higher education. The definition of eligibility criteria will follow the PCC acronym to answer the review question, where:

Population (P): Students - referring to young adults enrolled in a formal school or educational program, covering different fields of study and demographic characteristics.

Concept (C): Factors that influence blood donation, including both motivators (such as solidarity, influence of campaigns, and previous experience) and barriers (such as fear, lack of information, and logistical concerns) that impact the decision to donate blood.

Context (C): Scenario of blood donation among students in the environment of higher education institutions

Studies on blood donation that are not aimed at university students, that do not limit themselves to discussing the factors that influence donation among young university students and therefore do not answer the research question, will be excluded. Studies where it is not possible, after an exhaustive search, to make them available in full will be excluded.

2.2 Literature search or sampling

A comprehensive search will be conducted across multiple databases, including the Virtual Health Library (VHL), the Scientific Electronic Library Online (SciELO) and Medline (via PubMed), given their extensive indexing of health-related journals. This review will consider articles published in any language, in the public and private domain, and with different methodological approaches, with no time or language restrictions in the search for evidence.

As a search strategy to find the studies in this review, we used Health Sciences Descriptors (DECs) and the association between Medical Subject Headings (MeSH) in English to model the search string based on Boolean operators (Table 1).

Table 1 - Research strategy Databases searched, terms used and results found during the bibliographic review stage.

Database	Strategy
Pubmed	("Blood donation"[All Fields] OR "Blood donors"[All Fields]) AND ("student s"[All Fields] OR "students"[MeSH Terms] OR "students"[All Fields] OR "student"[All Fields] OR "students s"[All Fields])
BVS	((("Doação de sangue") OR ("Doador de sangue")) AND ((estudantes) OR (estudantes))
SciELO	((("Blood donation") OR ("Blood donors")) AND (students)
Total	

Source: Project authors (2024).

Two independent reviewers will perform an initial screening using the Rayyan Qatar Computing Research Institute software's (Ouzzani et al., 2016) blind review feature to select studies based on title and abstract. Discrepancies will be resolved through discussion before proceeding to full-text analysis. The results of the search and the process of including studies will be reported in full and presented according to the PRISMA-ScR flowchart (Moher et al., 2009).

2.3 Data collection

Data extraction will be carried out using a custom-designed form on a Google Sheets platform. The form will capture essential details such as the article title, journal, publication year, authors, study location, design, sample size, identified motivators and barriers, and main conclusions. This preliminary tool (Chart 1) may be refined during the data extraction phase to ensure all relevant information is captured accurately.

Chart 1 - Data extraction tool.

Number	Article title	Journal	Year publication	Author(s)	Place	Type of study	Sample size	Motivators	Barriers	Conclusions

Source: Project authors (2024).

3. Critical analysis of included studies

The included studies will be classified according to a hierarchical system of evidence levels, based on the methodological approach adopted. The classification will follow Souza et al. (2010):

Level 1: Evidence from meta-analyses of multiple randomized controlled trials.

Level 2: Evidence from individual studies with an experimental design.

Level 3: Evidence from quasi-experimental studies.

Level 4: Evidence from descriptive (non-experimental) studies or qualitative research.

Level 5: Evidence from case reports or experiential studies.

Level 6: Evidence based on expert opinions.

The synthesized data will be critically analyzed and interpreted in light of the existing literature and relevant theoretical frameworks. This evaluation will allow for the identification of strengths and limitations within the body of evidence, contributing to a more comprehensive understanding of the topic. Furthermore, this critical appraisal will highlight knowledge gaps and inform future research priorities.

4. Discussion of Results

As proposed by Souza et al. (2010), the findings from the included articles will be analyzed in comparison with the theoretical framework. This discussion will help to identify inconsistencies, gaps in knowledge, and areas requiring further investigation. By synthesizing the evidence, this study aims to provide insights that may guide the development of targeted strategies to encourage blood donation among university students. Additionally, the discussion will address the practical implications of the findings, considering their potential impact on public health policies and donor retention initiatives.

References

- Casal-Otero, L., Marques, E., Martínez-Santos, A.-E., Rodríguez-González, R., & Fernández-de-la-Iglesia, J. del C. (2020). Conhecimento de estudantes portugueses de enfermagem sobre doação de sangue. *Acta Paul. Enferm. (Online)*, 33 eAPE20190166–eAPE20190166. <https://doi.org/10.37689/actaape/2020ao0166>
- Conner, M., Godin, G., Sheeran, P., & Germain, M. (2013). Some feelings are more important: Cognitive attitudes, affective attitudes, anticipated affect, and blood donation. *Health Psychology: Official Journal of the Division of Health Psychology, American Psychological Association*, 32(3), 264–272. <https://doi.org/10.1037/a0028500>
- Dawadi, P., Khadka, S., Khanal, M. C., & Thapa, R. K. (2020). Blood Donation Practice among Undergraduate Students in a Tertiary Care Hospital: A Descriptive Cross-sectional Study. *JNMA J Nepal Med Assoc*, 58(232), 998–1004. MEDLINE. <https://doi.org/10.31729/jnma.5288>
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & PRISMA Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *PLoS Medicine*, 6(7), e1000097. <https://doi.org/10.1371/journal.pmed.1000097>
- Ouzzani, M., Hammady, H., Fedorowicz, Z., & Elmagarmid, A. (2016). Rayyan—A web and mobile app for systematic reviews. *Systematic Reviews*, 5(1), 210. <https://doi.org/10.1186/s13643-016-0384-4>

Padilla-Garrido, N., Fernández-Herrera, M. D., Aguado-Correa, F., & Rabadán-Martín, I. (2021). Motivators, barriers and communication channels for blood donation in relation to students at a university in Spain. *Transfus Apher Sci*, 60(6), 103270–103270. MEDLINE. <https://doi.org/10.1016/j.transci.2021.103270>

Souza, M. T. de, Silva, M. D. da, & Carvalho, R. de. (2010). Revisão integrativa: O que é e como fazer. *einstein (São Paulo)*, 8, 102–106. <https://doi.org/10.1590/S1679-45082010RW1134>

Yosef, T., Wondimu, W., Tesfaye, M., & Tesfaw, A. (2021). Knowledge and attitude towards blood donation among college students in Southwest Ethiopia. *Pan Afr Med J*, 38, 249–249. MEDLINE. <https://doi.org/10.11604/pamj.2021.38.249.22411>