

ORIGINAL ARTICLE

 OPEN ACCESS

Received: 19.03.2024

Accepted: 28.03.2024

Published: 19-04-2024

Citation: Sahiti S, Hemalatha A, Kalyani R, Supreetha MS, Chalapathi M. Change in the Knowledge, Attitude and Practices towards Blood Donation Before and After Awareness Programme . J Clin Biomed Sci 2024; 14(1): 19-22. <https://doi.org/10.58739/jcbs/v14i1.24.12>

* **Corresponding author.**

drhemashashi@gmail.com

Funding: None

Competing Interests: None

Copyright: This is an open access article distributed under the terms of the [Creative Commons Attribution License](https://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Published By Sri Devaraj Urs Academy of Higher Education, Kolar, Karnataka

ISSN

Print: 2231-4180

Electronic: 2319-2453



Change in the Knowledge, Attitude and Practices towards Blood Donation Before and After Awareness Programme

Sahiti Sukka¹, Hemalatha A^{1*}, Kalyani R^{1,2}, Supreetha M S¹, Chalapathi M²

¹ Department of Pathology, Sri Devraj Urs Academy of Higher Education and Research, Karnataka, Kolar

² Department of Transfusion Medicine, Sri Devraj Urs Academy of Higher Education and Research, Karnataka, Kolar

Abstract

Context: Blood donation is a vital life-saving endeavour facing the persistent challenge of demand consistently surpassing supply due to low donation rates. This study addresses this issue by assessing the impact of an awareness program on individuals' knowledge, attitudes, and practices (KAP) related to blood donation. **Aims:** • To assess the change in the level of knowledge, attitude, and practice of blood donation among participants before and after the implementation of the awareness program. • To determine the effectiveness of the awareness program in increasing the number of blood donors and its impact on the overall blood donation rates. **Study Design:** A Cross-Sectional Prospective Study conducted in a tier 2 city of Karnataka, India. Orientation programs were conducted from February to July 2023, targeting college students. Participants received information via a Google link before and after the awareness program. IBM SPSS version was utilized for data analysis. **Results:** The study revealed a substantial increase in awareness, evidenced by mean pre-test and post-test scores of 8.2 and 14.2, respectively. Notably, the misconception linking blood donation to HIV/AIDS was dispelled, altering the understanding of 57% of participants. **Conclusions:** The findings underscore the positive impact of the awareness program on college students' KAP concerning blood donation. Regular pre-donation awareness programs hold the potential to enhance donation rates and cultivate a proactive team capable of disseminating accurate information about blood donation.

Keywords: Awareness programmes; Blood donation; College students

Introduction

Blood donation is a crucial activity that saves countless lives each year. However, the demand for blood continues to outpace supply, and low donation rates remain a persistent challenge. Educating the public and increasing awareness about blood donation is essential for addressing this issue.¹ In this study, we sought to evaluate changes in the knowledge, attitudes, and practices of individuals towards blood donation before and after participation in an awareness program.

Numerous studies have assessed the knowledge, attitudes, and practices of individuals towards blood donation.² Awareness programs have been implemented worldwide to increase knowledge and promote blood donation. Recent research has demonstrated the effectiveness of these programs.^{1,3} A study in Iran found that a community-based education program significantly increased knowledge, attitudes, and practices of blood donation among participants.⁴ Similarly, a study in India found that an awareness program targeting college students resulted in a significant increase in the proportion of students willing to donate blood.³

However, despite the high demand for blood donations worldwide, there is a paucity of knowledge about the factors that impact people's willingness to donate blood. This lack of knowledge and understanding is a significant challenge in addressing the shortage of safe and sufficient blood supplies. Several studies have explored the knowledge, attitudes, and practices (KAP) of blood donors and potential donors towards blood donation. However, there is a need for more research to identify the factors that affect blood donation among different populations.

Objectives

- To assess the change in the level of knowledge, attitude, and practice of blood donation among participants before and after the implementation of the awareness program.
- To determine the effectiveness of the awareness program in increasing the number of blood donors and its impact on the overall blood donation rates.

Materials & Methods

Orientation programmes were conducted from February to July 2023, in undergraduate and postgraduate degree colleges of rural part of Karnataka to educate the students about blood donation. The google link containing details about the study, consent of the participant and questionnaire on KAP was sent to the participants before and after the awareness programme on mobile phone.

- Design of study - Cross-Sectional Prospective Study
- Number of study subjects - 315

- Mode of subject selection - College students consenting to attend orientation programme on blood donation
- Materials used - Google Forms on mobile phone

Institutional ethical clearance was taken before the start of study.

Statistical analysis

The information obtained was collected and entered into the IBM SPSS version for data processing and analysis. The responses to the questions were expressed where applicable as yes or no. All the information was compiled, tabulated and analyzed from the pre and posttests input gathered from the students involved in the study. Prevalence of both male and female blood donors was calculated with 95% confidence interval (CI). The statistical analysis revealed a p value of 1.46×10^{-10} , which is less than 0.05 indicating statistically significant difference in test scores before and after the awareness program based on paired t-test.

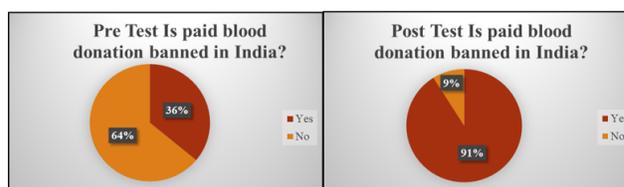
Results

A total of 315 respondents participated in the study. Among these 54% were males and 46% were females and the median age of all the respondents is 19 years, and the highest number of them were undergraduate students.

A series of questions were asked to assess respondents' knowledge, attitude and practices towards blood donation. The same is depicted in the table below:

A statistically significant correlation was found between the change in the knowledge, attitude and practices of the students before and after the awareness programme with the p value of 1.46×10^{-10} , which is less than 0.05 indicating statistically significant difference in test scores before and after the awareness program based on paired t-test.

- Is paid blood donation banned in India responses –



- Does blood donation cause HIV/AIDS responses –

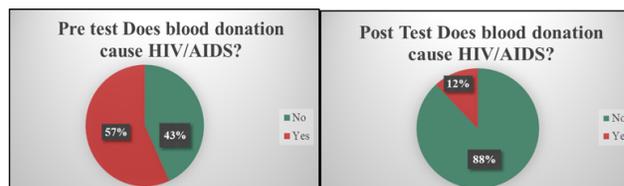
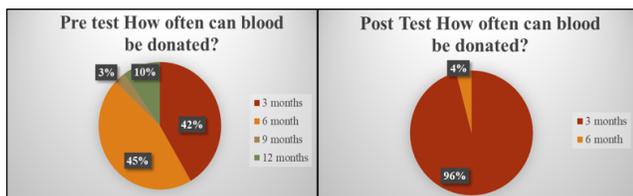


Table 1. Questionnaire

Question	Before awareness programme		After awareness programme	
	Correct answer	Wrong answer	Correct answer	Wrong answer
Will you donate blood in future?	Yes - 68.9% No - 31.1%		Yes - 95.2% No - 4.8%	
Minimum age required to donate blood?	64.7%	35.2%	94.6%	5.3%
Can human blood be artificially manufactured?	60%	40%	94.9%	5.1%
Minimum hb required for blood donation?	59.7%	40.3%	93.3%	6.7%
Avg. blood in the human body?	68.9%	31.1%	93%	7%
Does regular blood donation have medical benefits?	58.4%	41.6%	94.6%	5.4%
Is paid blood donation banned in india?	35.9%	64.1%	91.1%	8.9%
Does blood donation cause HIV/AIDS?	43.2%	56.8%	87.9%	12.1%
Minimum weight required to donate blood?	59.7%	40.3%	96.8%	3.2%
Universal recipient?	64.4%	35.6%	94.6%	5.4%
Universal donor?	49.8%	50.2%	98.1%	1.9%
Not a common side effect of blood donation?	40.3%	59.7%	93%	7%
How often blood can be donated?	41.9%	58.7%	96.2%	3.8%
Primary reason for blood donation?	66%	34%	98.4%	1.6%
Not a type of blood product?	62.2%	37.8%	96.8%	3.2%
Amount of blood collected during blood donation?	46.7%	53.3%	94.9%	5.1%

- How often blood can be donated responses –



This study demonstrated a noteworthy surge in awareness among the enrolled students, reflected in the mean pre-test and post-test scores of 8.2 and 14.2, respectively. Notably, 82% of participants had not engaged in blood donation prior to the program, yet an impressive 95.2% conveyed a newfound willingness to contribute in the future. A mere 67% were acquainted with their blood group before the intervention.

One particularly impactful outcome was the dispelling of the misconception associating blood donation with HIV/AIDS. This correction in perception was observed in 57% of the participants, underscoring the efficacy of the program in altering entrenched beliefs and fostering accurate understanding.

Discussion

Blood transfusion plays an indispensable and pivotal role in the realm of global healthcare, serving as a lifeline that annually rescues countless lives. This essential medical intervention stands as a testament to our collective commitment to preserving and enhancing human health. Every second,

someone in the world needs blood for surgical or gynecological conditions.⁵

In a study conducted by Devi *et al.*, the research aimed to evaluate the Knowledge, Attitudes, and Practices (KAP) of medical students in relation to blood donation. The study findings indicated that only 33.1% of the students possessed sufficient knowledge in this area.⁶ Interestingly, a substantially higher percentage, 89.8%, expressed their strong willingness to participate in future blood donation activities. In the present study, it was observed that prior to the implementation of the awareness program, students exhibited an average knowledge level of 59%. Remarkably, following the awareness program, there was a significant and noteworthy increase in knowledge, with the average knowledge level rising to an impressive 94%. An overwhelming 95.2% of individuals exhibited a resounding eagerness to actively engage in future blood donation endeavors. Moreover, an elevated inclination towards future blood donation emerges consistently across numerous studies. These outcomes underscore the imperative for consistent educational initiatives and training programs tailored for college students. Such programs should emphasize the principles of safe and voluntary blood donation, thereby not only addressing knowledge gaps but also facilitating the transformation of willingness into tangible blood donation actions.

In a study by Bachhotiya *et al.* has underscored the significance of conducting interactive awareness sessions with students. Their research findings also highlighted the remarkable effectiveness of field visits to blood donation centers in fostering a heightened sense of motivation and commitment towards voluntary blood donation.⁷ The objective of

this study was to evaluate the transformation in knowledge, attitudes, and behaviors regarding voluntary blood donation among college students residing in and around the Kolar district.

Three hundred and fifteen students were included in the study out of which 59% were males and 46% were females. Understanding one's blood group holds significant importance, as it facilitates swift arrangements for blood in times of emergencies. This knowledge not only benefits the individual in need but also enables them to assist others efficiently. In this study 67.3% of students were already aware of their blood group which is comparatively high level of awareness compared to study done by Kumari and Raina.⁸

A remarkable 95.2% of the study participants not only recognized the importance of blood donation but also expressed a genuine willingness to actively participate in the process themselves. This high percentage of willing potential donors is a sign in favor of voluntary blood donation.

The prevalence of blood donors in this study was 18.1%, out of which 22% were males and only 11% were females. Similar findings have been reported in studies by Kumari and Raina (13.81%)⁸ and Desai and Satapara (21.3%).⁹ During interactive sessions with the study participants, a prevalent sentiment emerged. While they expressed a genuine desire to contribute to blood donation, many expressed their ineligibility due to specific criteria such as the minimum hemoglobin requirement of 12.5 gm% or being underweight, defined as less than 45 kg. While maintaining stringent donor selection criteria is vital for ensuring donor safety, the notable number of students reporting anemia and low body weight raises legitimate concerns within this context.

The findings of the current study unveiled a noteworthy correlation between knowledge and attitude, suggesting that addressing specific knowledge gaps has the potential to positively influence attitudes. In other words, by mitigating these knowledge gaps, there is a likelihood of fostering more favorable attitudes towards the subject under consideration. Also screening of college students fitness for blood donation will highlight bring forward those who have anemia or other diseases. This also helps us to provide appropriate management of such students.

Conclusion

The findings of this cross-sectional prospective study highlight the positive impact of the awareness program on the KAP of college students regarding blood donation. However, the prevalence of blood donation among the students is still

low, especially among the girls. This reflects a need for ongoing, educational and motivational activities for encouraging voluntary blood donation by the students. Regular health checkups along with provision of nutritious meals in college canteens and hostel mess, etc., should be ensured for the students.

Key Messages

This study illuminates the substantial positive influence of targeted awareness programs on college students, demonstrating significant increases in awareness and dispelling misconceptions. By evaluating changes in KAP, the research emphasizes the potential of regular pre-donation awareness initiatives to not only boost donation rates but also foster a dedicated team capable of disseminating accurate information about blood donation. The findings underscore the pivotal role of education in bridging the gap between demand and supply in the context of blood donation.

References

- 1) World Health Organization. Blood safety and availability. 2023. Available from: <https://www.who.int/news-room/fact-sheets/detail/blood-safety-and-availability>.
- 2) Adediran SA, Adegbola JA, Alada RA, Akinbola IA, Bolarinwa OA. Knowledge, attitude, and practice towards blood donation among Nigerian blood donors: a cross-sectional study. *BMC Public Health*. 2021;21(1):1–9.
- 3) Khan MS, Dar O, Khattak IU, Shah SH. Awareness and attitude towards blood donation among university students: a cross-sectional study. *J Ayub Med Coll Abbottabad*. 2022;34(1):29–32.
- 4) Pourfathollah AA, Kaviani S, Sadeghi K. Impact of a community-based education program on knowledge, attitude and practice of blood donation. *Transfus Clin Biol*. 2021;28(1):43–50.
- 5) World Health Organization: Universal Access to Safe Blood Transfusion. WHO, Geneva, Switzerland. Geneva, Switzerland. 2008.
- 6) Devi HS, Laishram J, Shantibala K, Elangbam V. Knowledge, attitude and practice (KAP) of blood safety and donation. *Indian Med Gaz*. 2012;1:1–5.
- 7) Bachhotiya A, Arora VK, Mahashabde P. Evaluation of intervention on voluntary blood donation among 1st prof medical and dental students of index medical college, Indore (MP), India. *National J Community Med*. 2014;5(2):223–229. Available from: <https://njcmindia.com/index.php/file/article/view/1370>.
- 8) Kumari S, Raina T. Knowledge, attitude and practices (KAP) regarding voluntary non-remunerated blood donation (VNRBD) among the students of colleges of Jammu, India. *International Journal of Community Medicine and Public Health*. 2015;2(1):45. Available from: <https://dx.doi.org/10.5455/2394-6040.ijcmph20150210>.
- 9) Desai K, Satapara V. A study on knowledge, attitude, and practice on blood donation among health professional students in Anand: Gujarat. *Journal of Applied Hematology*. 2014;5(2):51–53. Available from: <https://dx.doi.org/10.4103/1658-5127.137140>.