

Blood donation awareness among university students in Haryana: A cross sectional study

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ABSTRACT

Background: Blood donation is a critical component of modern healthcare systems, yet many countries face chronic shortages due to low voluntary donation rates. University students represent a key demographic population for addressing this gap, but limited awareness and misconceptions often hinder participation. **Methods:** A cross-sectional survey was conducted among 500 university students to assess their awareness, attitudes, and practices regarding blood donation. Data were collected using a structured 10-item questionnaire covering donation history, knowledge of eligibility, perceived barriers, willingness to donate, and perceived importance. Descriptive statistics and visual analyses were used to interpret the results. **Results:** A cross-sectional study involving 500 university students (mean age: 21.4 years) were examined for knowledge, attitudes, and practices related to blood donation. Of the participants, 53% were male and 47% female. Only 28% had ever donated blood, with most donating just once. While 64% were aware of blood donation eligibility criteria and 60% knew the minimum age requirement. Key barriers to donation included fear of needles (36%) and lack of information (30%). Despite this, 62% expressed willingness to donate if a drive was organized on campus, and 70% believed in health benefits of donating blood. Awareness was considered highly important by the majority, with 72% rating it 4 or 5 on a 5-point scale. **Conclusion:** Although blood donation rates remain low among university students, the findings reveal a strong potential for increased participation through targeted awareness programs and on-campus donation drives. Addressing informational gaps and dispelling myths may significantly improve voluntary blood donation rates in this population.

Keywords: Blood donation, Blood bank, Awareness study, Socio- demographic factors.

INTRODUCTION

Blood donation is a vital, life-saving practice that plays a crucial role in healthcare system worldwide. Despite advancements in medical science, there is no substitute for human blood, and voluntary donations remain the primary source for transfusions needed in surgeries, trauma care, and for patients suffering from conditions like anemia, cancer, and blood disorders. However, blood shortages persist in many countries, largely due to a lack of awareness, misconceptions, and low participation, particularly among young adults [1].

University students represent a key demographic population with the potential to become regular voluntary blood donors. Their involvement can significantly contribute to meeting national blood supply demands. Understanding the level of awareness, attitudes, and barriers to blood donation among university students is essential for designing effective educational

campaigns and organizing successful blood donation drives [2].

This study aims to assess blood donation awareness among 500 university students through a structured questionnaire. The survey explores various dimensions including past donation, behavior, knowledge of eligibility criteria, perceived barriers, willingness to donate, and the importance attributed to blood donation. The findings are expected to highlight critical gaps in awareness and identify factors that influence students' decisions to donate blood, ultimately guiding future interventions to enhance participation in voluntary blood donation.

The aim of the study was to assess blood donation awareness among university students.

Materials and Methods

1. Study Design

This was a cross-sectional, descriptive study conducted to assess the level of awareness,

attitude, and practices related to blood donation among university students. The study aimed to identify knowledge gaps, perceived barriers, and motivational factors that influence the willingness of students to donate blood.

2. Study Setting and Duration

The study was conducted at various universities campuses over a period of two weeks in [March, 2023]. Data collection was carried out both online (via Google Forms) and through offline (printed) questionnaires distributed in classrooms and campus common areas.

3. Study Population

The study population included undergraduate and postgraduate students enrolled across various faculties and disciplines at the universities. The population was selected to represent a diverse mix of academic backgrounds, gender, and years of study.

4. Sample Size and Sampling Technique

A total of 500 students participated in the study. A convenience sampling technique was employed due to time and logistical constraints. Students were invited to participate voluntarily, and informed consent was obtained from all respondents.

5. Inclusion and Exclusion Criteria

Inclusion Criteria: Currently enrolled students aged 18 years or older, willing to provide informed consent, able to understand and complete the questionnaire in English.

Exclusion Criteria: Students below 18 years of age, Incomplete or inconsistent questionnaire responses

6. Data Collection Tool

A structured, self-administered questionnaire was developed specifically for the study. It consisted of 10 questions, both closed-ended and Likert-scale types, organized into the following sections:

Demographic Information: Age, gender and course of study (optional).

Blood Donation History: Whether the student has ever donated blood and frequency.

Knowledge Assessment: Awareness of eligibility criteria, minimum age.

Perceived Barriers: Reasons for not donating (multiple response options).

Attitudes and Willingness: Willingness to donate at university, belief in health benefits

Perceived Importance: Rating the importance of awareness on a 5-point Likert scale.

The questionnaire was pre-tested among 20

students (excluded from final analysis) to assess clarity, relevance, and completion time. Minor adjustments were made based on feedback.

7. Data Entry and Analysis:

Responses were compiled in Microsoft Excel 2007 and analyzed.

The analysis involved:

Descriptive statistics (frequencies, percentages) for all variables

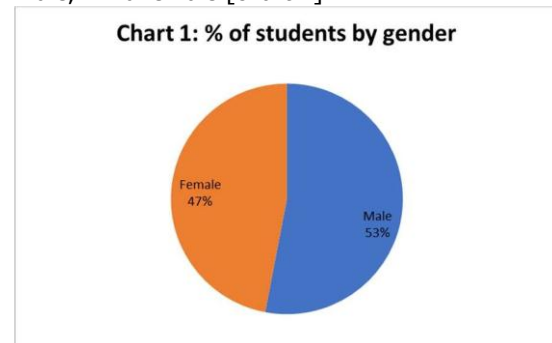
Cross-tabulations to explore relationships between knowledge, donation history, and willingness.

Graphical visualizations (bar charts, pie charts,) to present key findings.

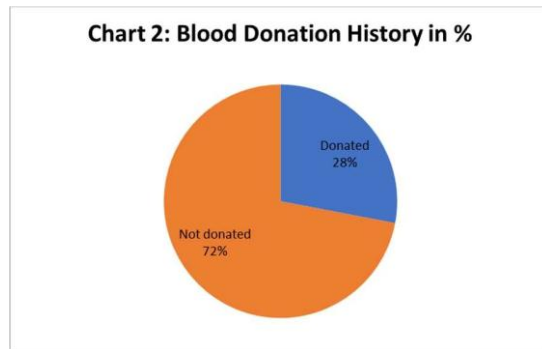
Inferential analysis (if performed) to test associations between variables such as donation status and awareness.

Results

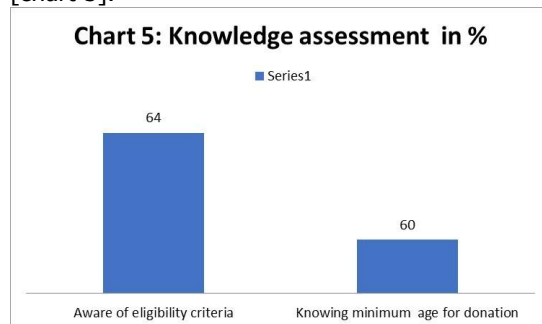
The study involved 500 students with a mean age of 21.4 years, ranging from 18 to 28 years. Among the participants, 53% were male, 47% female [chart 1].



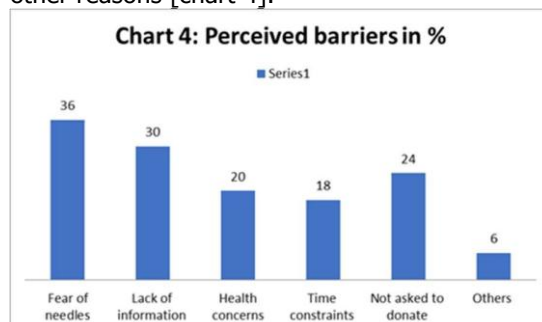
When asked about their blood donation history, only 28% of students reported having donated blood at least once, while the majority, 72%, had never donated. Among those who had donated, more than half (57%) had donated only once, 32% donated 2 to 3 times, and a smaller group of 11% donated more than three times[chart 2].



Regarding knowledge about blood donation, 64% of students were aware of the eligibility criteria for donating blood, and 60% correctly identified 18 years as the minimum eligible age. However, 36% lacked awareness about eligibility, and 40% were either unsure or incorrect about the minimum age requirement [chart 5].

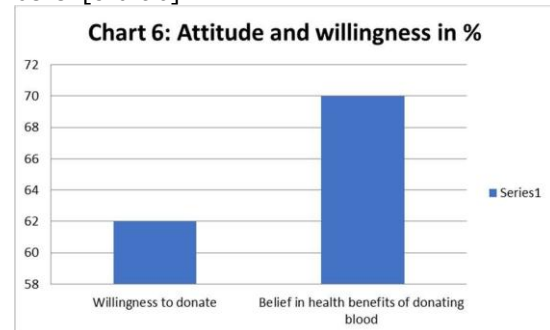


Students who had not donated blood reported multiple barriers. The most common reasons included fear of needles (36%) and lack of information (30%). Health concerns were cited by (20%), time constraints by (18%), and 24% indicated that they had never been asked to donate. A small portion (6%) mentioned other reasons [chart 4].

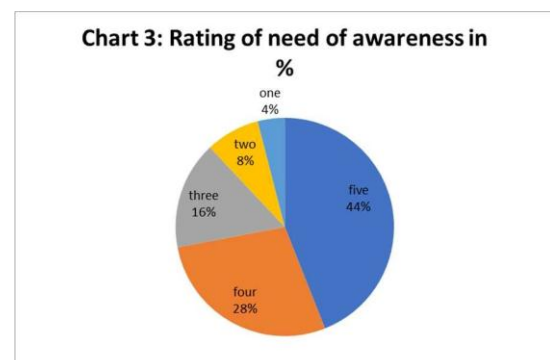


Attitudes toward blood donation were

generally positive. When asked if they would be willing to donate blood if donations drive was organized at their university, 62% said yes, while 38% were unwilling. Additionally, 70% believed that donating blood has health benefits, whereas 30% did not share this belief [chart 6].



Finally, participants rated the importance of awareness about blood donation on a 5-point Likert scale. A significant portion (44%) considered awareness very important (rating 5), 28% rated it as 4, and 16% gave a neutral rating of 3. Only 12% of students rated awareness as less important (ratings 1 or 2) [chart 3].



Discussion

University students can be considered as a potential source of safe and healthy blood supply that can be easily approached and their misconceptions and fears addressed because of their education and ability to discussion on fears and beliefs [3]. In the present study, proportion of blood donors was significantly low (28%) Majority of the students donated blood in camps and on emergency call from blood bank. Among the donors, a significant proportion (57%) reported that they have donated blood only once.

In the present study, number of male participants was more, and most donors were male, this is in contrast to reports from the developed world such as Europe and the US where male-to-female ratio of blood donors is approximately one. The study showed that most of the participants (72%) had never donated blood so far, which is almost comparable with studies among health professional students by Manikandan et al.(89.25%) [4] and by Desai and Satapara (78.7%) [5]. However, it was far less among students in studies conducted by Kowsalya et al. (62.6%)[6] and Giri and Phalke (52.5%) [7]. A study by Fernández Montoya et al. reported that the less information (43.6%) and fears (32.3%) were the principal factors responsible for preventing donating blood, whereas donors had lesser fears about the possibility that donation can affect their health[8].Thus, education of the general population and raising their awareness can significantly increase voluntary blood donation. Family replacement donors are the cornerstone of our blood donation system. If a patient requires blood, the family is responsible for arranging the donor and blood banks obtain blood from family members, irrespective of the blood group [9] to replenish their supplies because voluntary non remunerated blood donation is insufficient to maintain the supply of blood to all patients [10, 11]. Many students reported that they were deferred at the time of donation and many would donate blood whenever asked. If these non donors are approached, counselled, and screened for fitness to donate blood, they may be motivated to donate blood voluntarily. A study by Alam and Masalmeh reported that 42.6% of non donors replied that they were not approached by anybody and 38.3% considered themselves unfit for donating blood [12]. In blood banks of Haryana, patient's blood requisition, blood and blood component issue rate, and total blood donation rate have increased over time. Still there is a significant gap in blood donation and

issue rate, hence, we need to spread more awareness and motivate people to narrow down this gap and thereby enhance the availability of blood to those patients who have lifelong requirement for it as in cases of severe hemoglobinopathies [13].

A possible limitation in the present study is that it was focused on students only whose education and socioeconomic status are generally higher from general population. Hence, these results may not be applied to general population. However, as young and healthy sector of the society, students are the potential source of safe blood and this study gives clues to what motivates and hinders them from donating blood voluntarily and if these shortfalls are addressed, we may not have to rely completely on replacement donors to fulfill total blood requirement.

Conclusion

The conclusion of the present study indicates a greater awareness among the university students. Although blood donation rates remain low among university students, the findings reveal a strong potential for increased participation through targeted on-campus donation drives. Addressing informational gaps and dispelling myths may significantly improve voluntary blood donation rates in this population which will eventually enable us to increase the spectrum of motivated donors among the common people.

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