

Article

Knowledge, attitude and practice in relation to blood donation among the medical students: A cross sectional analysis

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Abstract: Background and Aim: Blood scarcity is a common problem in hospitals and is caused by an imbalance between the rising demand for safe blood and blood products on the one hand and the failure to organize regular blood supply as a result of misconceptions, perceived harms and risks, and a lack of motivation among potential donors. Determining students' knowledge, attitudes, and practices about voluntary blood donation was the goal of the study.

Material and Methods: The study, which lasted a year, involved undergraduate medical students from the Department of Pathology, GMERS MEDICAL College and Hospital, Dharpur, Patan, Gujarat. A semi-structured questionnaire was prepared by referring to various published articles and was validated by concern experts. The questionnaire was further refined by doing a pilot study among students. The first section of the four-part questionnaire asks about participants' fundamental characteristics. In the second section, 14 multiple-choice and yes-or-no questions were used to gauge students' knowledge levels. While there were three practice questions provided as yes/no and multiple-choice questions, there were six questions to gauge attitude in the third and fourth sections. Participants' responses were evaluated, with >50% being deemed to have high knowledge and 50% having low knowledge.

Results: The majority of participants (93.12%) had heard of blood donation and 96.4% were aware of its significance. Less than 50% of study participants were unaware of the quantity and duration of blood donations. Of the total respondents, 98.11% believed that giving blood saves lives, 96.9% thought it was a good habit, 89.11% thought voluntary blood donation was the best way to get safe blood, and 89.9% and 88.9% said they would be willing to give blood in the future and encourage their family members to do the same. Compared to male students, female students were 43% less likely to donate blood.

Conclusion: The study subjects had good knowledge and a good attitude towards blood donation. Although it is still uncommon, particularly among girls, for students to donate blood, this is true. This demonstrates the need for ongoing instructional and inspirational programmes to promote student blood donation on a voluntary basis.

Keywords: Attitude; Blood Donation; Knowledge; Practice.

1. Introduction

Blood transfusions can help patients live longer and improve their health, but many of them lack timely access to healthy blood. Blood safety and safe transfusion procedures are based on voluntary blood donations. To establish a long-lasting and secure blood transfusion practice, it is imperative to increase volunteer donor recruitment and retention [1,2].

Blood donors might fall into one of three categories: paid or compensated; familial or replacement; or voluntary non-remunerated donors. A reliable and sufficient supply of blood and blood products is provided by voluntary blood donors. Blood donors from low-risk communities who give their blood voluntarily and

without compensation are the safest. The World Health Organization (WHO) suggests that 3-5% of the population donate blood annually to address the national shortage of safe blood [3,4].

Blood scarcity is a common problem in hospitals and is caused by an imbalance between the rising demand for safe blood and blood products on the one hand and the failure to organize regular blood supply as a result of misconceptions, perceived harms and risks, and a lack of motivation among potential donors. It is estimated that there are about 234 million major operations performed annually around the world [5-7].

Additionally, there are certain health advantages to donating blood. For example, regular voluntary donors experience a lower risk of acute myocardial infarction. Donating blood voluntarily improves insulin sensitivity as well, aiding in the maintenance of the body's glucose balance. It has been discovered that finding trustworthy contributors is more difficult, particularly in developing nations [8,9].

Since the majority of negative reactions occur during or right after the donation, donors are often held at the donation location for 10 to 15 minutes after giving. To aid in the donor's recovery, blood centers frequently offer modest snacks like orange juice and cookies or a lunch allowance. The donor is instructed to leave the bandage on for several hours after covering the needle site with one. Whole blood donations are limited to red blood cells, and the frequency of donations varies significantly depending on the type of donor and local regulations. Blood is extracted from the right or left arm's inner forearm venipuncture location during whole blood donation [10-12].

The knowledge, attitudes, and practices of people towards blood donation have been the subject of numerous studies. However, it is still difficult to be motivated or demoralized to donate blood. Additionally, it needs to be understood that blood donations come from a typically safe population and are sufficient to meet demand. Therefore, if they are motivated and willing to donate blood voluntarily, university students can be a very good supply of swiftly, easily, and high-quality blood. Determining students' knowledge, attitudes, and practices about voluntary blood donation was the goal of the study.

2. Material and methods

The study, which lasted a year, involved undergraduate medical students from the Department of Pathology, GMERS MEDICAL College and Hospital, Dharpur, Patan, Gujarat. A cross-sectional observational research was conducted. The study technique was a pretested, structured questionnaire. The timetable was modified appropriately in light of the results of the pretest.

2.1. Inclusion criteria

- Age group from 18 to 24 years of the study participants.
- Willing to participate.

2.2. Exclusion criteria

- Age group from >24 years of the study participants.
- Who are critically ill during the study.
- Who are not willing to participate.

2.3. Source of data

The variables collected from direct participant's interview.

2.4. Study tool

A semi-structured questionnaire was prepared by referring to various published articles and was validated by concern experts. The questionnaire was further refined by doing a pilot study among students.

2.5. Informed consent and ethical clearance

The study protocol had been approved by the Institutional Ethical Committee. The nature and purpose of the study was explained and their consent sought.

There were four sections to the questionnaire. Age, gender, class/year of study, and religion are just a few sociodemographic details that were intended to be gathered in Section A. Items addressing the KAPs of undergraduate medical students with relation to blood donation could be found in Sections B, C, and D.

All of the students present on the day of the survey who gave their approval for participation were enrolled in the study because one of the goals of the study was to inform the students about blood donation.

All students present in the relevant classroom on the day of our survey were told of the study's nature and aim, and an informed verbal agreement for participation was obtained. In an interview format, a semi-structured questionnaire was distributed by pharmacy students. The first section of the four-part questionnaire asks about participants' fundamental characteristics. In the second section, 14 multiple-choice and yes-or-no questions were used to gauge students' knowledge levels. While there were three practice questions provided as yes/no and multiple-choice questions, there were six questions to gauge attitude in the third and fourth sections. Participants' responses were evaluated, with >50% being deemed to have high knowledge and 50% having low knowledge.

Students' sociodemographic information, including their age, sex, place of residence before enrolling in college, year of study, field of study, and department, is included in the questionnaire. The tool also includes questions about students' awareness of, attitudes towards, and behaviors related to blood donation. The understanding of blood donation among students was assessed using twelve yes/no questions. Each response was graded with a "1" for the correct response and a "0" for the incorrect response. Participants in the study who received at least 70% of the correct answers were considered to have favorable knowledge of blood donation. Similar to this, 11 questions that could only be answered with "yes" or "no" were used to gauge attitudes towards blood donation.

Each attitude question's response was scored as "1" for the correct response and "0" for the incorrect response. Participants were classified as having a good attitude towards blood donation if they received more than 70% of the correct answers. In order to evaluate the practice, questions were asked regarding the history of prior donations and the frequency of gifts.

The fact that participation in the study was entirely voluntary and that all information gathered was totally confidential and would only be utilized for this study was emphasized. Following the participants' completion of the questionnaire, a quick PowerPoint presentation on the value of blood donation was used to lead an interactive awareness session.

2.6. Statistical analysis

The accuracy and completeness of the data were verified. The knowledge about and attitudes towards blood donation of the respondents were presented using descriptive statistics. Charts were used to highlight the reasons for and restrictions on blood donation. Statistical Package for Social Science (SPSS), version 23.0, was used to conduct the analysis using a 95% confidence interval.

3. Results

The study involved 900 students in total, of which 408 (45.33%) were men and 492 (54.66%) were women. The mean age was 20.42 years and 1.38 years, with the age range being 17 to 25 years, (Table 1).

The majority of participants (93.12%) had heard of blood donation and 96.4% were aware of its significance. Less than 50% of study participants were unaware of the quantity and duration of blood donations. Overall, 75.6% of people had favorable understanding of blood donation. 81.11% of medical students have favorable knowledge, which is the majority.

Of the total respondents, 98.11% believed that giving blood saves lives, 96.9% thought it was a good habit, 89.11% thought voluntary blood donation was the best way to get safe blood, and 89.9% and 88.9% said they would be willing to give blood in the future and encourage their family members to do the same. Furthermore, more than half (64.6%) of respondents said that providing incentives to blood donors was inappropriate. The majority of survey participants—64.8% had a favorable opinion of blood donation.

The percentage of people who regularly donate blood was 39.10%. 79.8% chosen volunteer blood donors were found. Fear of needles (44.5%) and soreness following donation were cited as the main deterrents to blood donation.

Sex, religion, knowledge, attitude, department, and the class year were candidates for multivariable analysis in the bivariate analysis. In a multivariate analysis, characteristics that were substantially associated with blood donation practice ($p < 0.05$) included study participants who had high understanding of blood

donation, were male, and came from the midwifery and nursing fields. When compared to those with inadequate understanding, individuals with strong knowledge were around four times more inclined to give.

Compared to male students, female students were 43% less likely to donate blood. Students from the nursing and midwifery disciplines were more than twice more likely to give than those from the automotive department.

Table 1. Gender wise Distribution of study participants

Gender	Number	Percentage (%)
Male	408	45.33
Female	492	54.66
Total	900	100

4. Discussion

A total of 900 undergraduate pharmacy students completed the survey, with a 100% response rate. Since the data collecting facilitators have experience and the topic of blood donation is not sensitive, a response rate of 100% was attained. Therefore, the participants did not disobey the requirements of the intended study. 408 (45.33%) of the study's participants were male and between the ages of 20 and 24.

Approximately 75% of the participants in the current study were aware of blood donation, and approximately 60% of them had favorable attitudes towards it. Blood donation was significantly correlated with having favorable awareness about the practice. In comparison to those who had negative blood donation knowledge, those who had positive blood donation knowledge were four times as likely to donate blood. This result is in line with research done in southwest Ethiopia and Saudi Arabia [15]. People are said to be more likely to donate blood if they are aware about the process and have a positive outlook on life.

The participants' community has long-standing misconceptions and false ideas about blood donation, therefore information and attitude may not always translate into actual practice.

In our study, students' fear of needles and soreness following a donation served as the biggest deterrents to blood donation. This finding is similar with another study from India and Nigeria that found pain aversion to be the greatest deterrent to blood donation [6,7].

The results of this study demonstrate a strong correlation between gender and the practice of blood donation. Female students were 43% less likely to donate blood than male pupils. This result is consistent with earlier research [8–10]. This may be due to women being featured in the media less frequently, societal taboos, and women having less opportunities and choices. The other reason is that women are more prone to experience physiological conditions like menstruation and bleeding during pregnancy and delivery that preclude them from giving blood. This recommends that campaigns and other information delivery methods should be used to tell women more about the benefits of blood donation for their health [11–15].

According to the students, a lack of fitness is the biggest obstacle to blood donation. It is uncommon for a student body at a medical college to claim such response as a consensus, but one reasonable explanation could be that our study sample consisted of 70% female participants, and because endemic anemia in adolescent females is a reality in this location, it may be the case. But further research is required to address this factor.

The second most frequent obstacle to blood donation was a third of the medical students' worries about contracting a blood-borne infection as a result of poor sterilization and hazardous blood collection procedures.

According to the results of the current study, knowledge and attitude are positively correlated, therefore if we can reduce any specific knowledge gaps, the attitude should also improve.

5. Conclusion

This study came to the conclusion that the study subjects had good knowledge and a good attitude towards blood donation. Although it is still uncommon, particularly among girls, for students to donate blood, this is true. This demonstrates the need for ongoing instructional and inspirational programmes to promote student blood donation on a voluntary basis. Students should be guaranteed regular health examinations as well as access to wholesome food in campus canteens, hostel mess, etc.

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