

KNOWLEDGE, ATTITUDE AND PRACTICE ABOUT BLOOD DONATION AMONG MEDICAL STUDENTS AND POSTGRADUATES IN KANYAKUMARI, TAMILNADU

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ABSTRACT:

BACKGROUND: Blood donation is essential to healthcare systems, supporting various medical needs such as surgeries, trauma care, and blood disorders, yet shortages remain a major concern, particularly in developing countries like India. The WHO advocates for voluntary, non-remunerated donations to maintain a safe and adequate blood supply. Medical students, as future healthcare professionals, are in a unique position to promote and participate in blood donation, but studies show a gap between their knowledge and actual donation practices. MBBS students, being readily available in teaching hospitals, could be ideal donors, though many refrain due to lack of awareness or other barriers. Understanding these factors is the key to encouraging greater participation. While KAP (knowledge, attitude, and practice) studies have been conducted in various parts of India, there is limited research focused on undergraduate medical students in South Indian regions like Tamil Nadu, where cultural and regional variations may influence blood donation behavior.

MATERIALS AND METHOD: conducted a cross-sectional study conducted in The Department of Community medicine at Sree Mookambika Institute Of Medical Science in Kanyakumari, Tamil Nadu, India, and data was collected through a semi-structured questionnaire includes the socio-demographic details and questions on assessment of knowledge,attitude and practice about blood donation among medical undergraduate an postgraduates. a questionnaire survey from March 2024 to May 2024. Hundred and sixty nine students are ultimately willing to participant.

RESULTS: The study included 169 participants, comprising 78 males (46.2%) and 91 females (53.8%). The age range of the participants was between 18 and 40 years, with a mean age of 22 ± 1.3 years. Out of 169 participants, the majority (34.9%) showed sufficient knowledge with 9 or more correct answers, while the rest (65.1 %) showed below-average knowledge.

KEYWORDS: Attitude, Blood Donation, Cross-Sectional Study , Knowledge Medical Students, Practice

INTRODUCTION

Blood donation is a critical component of healthcare systems worldwide, ensuring the availability of blood and blood products for a variety of medical conditions, including surgeries, trauma care, and management of hematological disorders ⁽¹⁰⁾. Despite continuous efforts by health authorities and non-governmental organizations to promote voluntary blood donation, shortages remain a global concern, particularly in developing countries like India ⁽¹⁾.

MBBS students, being present in medical college hospitals, can serve as convenient blood donors. However, many students hesitate to donate blood, possibly due to a lack of awareness about the need to donate blood or due to some other constraints. If we know the reason for not donating blood, we may be able to educate them and encourage them to carry out this act of goodwill. In this regard, many studies in various states of our country on the knowledge, attitude, and practice of blood donation among the medical students are available ⁽³⁾.

In India, while several studies have evaluated KAP towards blood donation in the general population and among healthcare workers, there is limited data specifically focusing on undergraduate medical students, especially in South Indian regions such as Tamil Nadu. Furthermore, differences in cultural beliefs, accessibility to blood donation facilities, and awareness programs could influence students' behaviors and motivations differently across various regions ⁽⁶⁾.

This study addresses a critical gap by assessing the knowledge, attitude, and practice regarding blood donation among MBBS students at Sree Mookambika Institute of Medical Sciences, Kulasekharam, Tamil Nadu. Unlike previous studies, it evaluates the level of awareness and explores the factors influencing the discrepancy between knowledge and actual donation practices. The findings can inform the development of targeted educational programs to enhance voluntary blood donation rates among future medical professionals in South India.

OBJECTIVE:

To determine the baseline levels of knowledge, attitude, and practice related to voluntary blood donation among undergraduate MBBS students and post graduates.

METHODOLOGY

1. Study Design: Cross-sectional study
2. Study Setting: Sree Mookambika Institute of Medical Sciences, Kulasekaram, Kanyakumari District, Tamil Nadu, South India.
3. Study Duration: Two months between March 2024 and April 2024
4. Study Participants: MBBS students and postgraduates of Sree Mookambika Institute Of Medical Sciences, Kulasekharam.
5. Sample Size : 150 participants
6. SamplingTechnique: Convenient sampling method
7. Study Tool: Semi structured questionnaire method
- 8.

$$\begin{aligned}\text{Sample size calculation: formula} &= z^2 pq / d^2 \\ &= 3.84 \times 91.1 \times 8.9 / 20.7 \\ &= 150\end{aligned}$$

9. Data Entry and Analysis:

The data collected were effectively sorted and analyzed using Microsoft Office Excel.

INCLUSION CRITERIA:

MBBS and PG students willing to participate in the study.

EXCLUSION CRITERIA:

MBBS Students and PGs who were not willing to give consent and those who were not available on that day of data collection was excluded.

RESULTS

The study involved 169 participants, including 78 males, 46.2% of the sample, and 91 females, constituting 53.8% of the sample The participants' age range was between 18 and 40 (Fig. 1), with a mean age of 22 ± 1.3 years [Table 1]

Fig. 1



Table 1: Demographic characteristics of participants (n=169)

Demographic characteristics of participants (n=169)	n (%)
1. Age (mean±SD)	22 ±1.340
2. Gender	
• Male	78 (46.2%)
• Female	91 (53.8%)
3.Academic year	
• First year	34(20.1%)
• Second year	22(13%)
• Third year	31(18.3%)
• Final year	38(22.5%)
• Internship	30(17.8%)
• Postgraduates	34(20.1%)

4.Blood group	
• A	
• B	38(22.5%)
• O	48(28.4%)
• AB	49(29%)
5.RH group	34(20.1%)
• Positive	
• Negative	108(63.4%)
	61(36.1%)

Knowledge and attitude toward blood donation:

The study conducted a comprehensive evaluation of the knowledge and attitudes of participants toward blood donation. Out of 169 participants, the majority (34.9%) showed sufficient knowledge with 9 or more right answers, while the rest (65.1%) showed below-average knowledge. The mean number of correct answers was 10 out of 12, indicating a good level of understanding regarding blood donation. A substantial number of 121 respondents (62.7 %) held a favorable opinion regarding blood donation, recognizing its significance for the community. Furthermore, a considerable proportion (51.7 %) expressed contentment toward the blood donation process as carried out in blood banks. In addition, most participants (121) conveyed their readiness to donate blood when requested by family members or others in need (71.6 %) [Tables 2 and 3]

Table 2: Knowledge of blood donation among the participants (n=169)

1. Do you know the common blood groups?		
• Yes	107(63.3%)	negative
• No	30(17.8%)	
• Don't know	32(18.9%)	
2. Can a donor be infected by donating blood?		neutral
• Yes	57(33.7%)	
• No	76(45%)	
• Don't know	36(21.3%)	
		positive

3. How often can an individual donate?	
• Weekly	18(10.7%)
• Monthly	27(16%)
• Once in 3 months.	81(47.9%)
• Yearly once	43(25.4%)
4. Who is able to donate blood?	
• Men (all ages)	16(9.5%)
• Women (all ages)	18(10.7%)
• Young males/females	15(8.9%)
• Old males/females 11	21(12.4%)
• Any healthy adult	99(58.7%)
5. What volume of blood is collected during each donation? (mL)	
• 150-200	28(16.6%)
• 400-450	64(37.9%)
• 700-750	27(16%)
• 1000	16(9.5%)
• Don't know	34(20.1%)
6. What is the duration of the donation process?	
• <20	31(18.3%)
• 20-40	105(62.1%)
• >60	33(19.5%)
7. Is blood required in emergencies?	
• Yes	129(76.3%)
• No	40(23.7%)
8. Can blood be stored?	
• Yes	111(65.7%)
• No	30(17.8%)
• maybe	28(16.6%)
9. Can blood be donated while keeping a fast?	28(16.6%)

<ul style="list-style-type: none"> • Yes • No • maybe 	54(32%)
10.Is there any age limitation on blood donation?	64(37.9%)
<ul style="list-style-type: none"> • Yes • No • May be 	51(30.2%)
11. Can women donate blood if she is pregnant?	84(49.7%)
<ul style="list-style-type: none"> • Yes • No • maybe 	41(24.3%)
12. Can people with any blood group donate blood?	44(26%)
<ul style="list-style-type: none"> • Yes • No • maybe 	39(23.1%)
	99(58.7%)
	31(18.3%)
	100(59.2%)
	39(23.1%)
	30(17.8%)

Table 3: Attitude towards blood donation among the participants (n=169)

Questions	(n)%
Will you donate blood when a patient relative needs?	
<ul style="list-style-type: none"> • Yes • No 	121(71.6%)
	48(28.4%)
Will you donate blood to anonymous patients?	
<ul style="list-style-type: none"> • Yes • No • Maybe 	89%(52.7)
	43(25.4%)
	37(21.9%)
donors be giving a gift/money for donation?	
<ul style="list-style-type: none"> • Yes • No • maybe 	45(26.6%)
	76(45%)
	48(28.4%)
Do you feel that blood donation is important for the community?	

<ul style="list-style-type: none"> • Yes • No • maybe 	106(62.7%) 29(17.2%) 34(20.4%)
What are your feelings about the procedure in blood banks/hospitals?	
<ul style="list-style-type: none"> • Positive • Negative • Neutral 	78(51.7%) 24(15.9%) 48(31.8%)
Do you agree with blood importation from abroad?	
<ul style="list-style-type: none"> • Yes • No • maybe 	63(37.3%) 53(31.4%) 53(31.4%)
Do you think blood donation is a religious duty?	
<ul style="list-style-type: none"> • Yes • No • maybe 	44(26%) 80(47.3%) 45(26.6%)
Do you think being a health profession student, encourages you to donate blood?	
<ul style="list-style-type: none"> • Yes • No • maybe 	98(58%) 34(20.1%) 37(21.9%)

Practice of blood donation and Universities role in promotion:

Table 4. illustrates the blood donation practices and the challenges that hinder regular blood donation. Fifteen percent of the respondents (86 individuals) have donated blood in the past, with male respondents constituting 60.4% (52 donors). Among the male donors, 21.1% (11 individuals) donated blood only once. Public media campaigns have played a vital role in promoting blood donation, as 70.4% (119 individuals) of the participants received calls for blood donations through the public media. According to a recent survey on the role of universities in promoting blood donation, a significant proportion of students reported that their college offered courses or lectures on the subject (64.4%, 109 participants). However, a sizeable minority reported that their colleges did not have organized blood donation campaigns (35%, 60 participants).

Table 4: Practice towards blood donation among the participants (n=169)

Questions	N (%)
Have you ever donated blood before?	
• Yes	86(50.9%)
• No	83(49.1%)
If donated blood before ... how many times?	
• Once	24(14.2%)
• Twice	28(16.6%)
• Three to four times	20(11.8%)
• More than five times	26(15.4%)
• I have not donated blood	71(42%)
When was the last time you donated blood	
• In the current year	46(27.2%)
• Before 1 year or more	38(22.5%)
• I have not donated blood	85(50.3%)
If you are a donor, where was the last time you donate your blood?	
• In the hospitals or blood banks of the ministry of health	29(17.2%)
• In the hospitals or blood banks of the military institutions	21(12.4%)
• In private hospitals or blood banks	41(24.3%)
• I have not donated blood	78(46.2%)
If you donated blood before, will your last experience motivate you to donate again?	
• Yes	103(60.9%)
• No	66(39.1%)
• I have not donated blood	57(33.7%)
If you are a donor, did you donate blood regarding someone asking for in social media websites (Twitter, Facebook, WhatsApp ... etc.)	
• Yes	57(33.7%)

<ul style="list-style-type: none"> • No 	45(26.6 %)
<ul style="list-style-type: none"> • I have not donated blood 	67(39.6%)
Did you feel any side effects after donating blood?	
<ul style="list-style-type: none"> • Yes 	37(21.9%)
<ul style="list-style-type: none"> • No 	58(34.3%)
<ul style="list-style-type: none"> • I have not donated blood 	74(43.8%)
If you donated blood ... why did you donate blood in your last donation?	
<ul style="list-style-type: none"> • A friend or relative needed blood 	28(16.6%)
<ul style="list-style-type: none"> • Voluntary 	49(28%)
<ul style="list-style-type: none"> • Rewarding 	31(18.3%)
<ul style="list-style-type: none"> • I have not donated blood 	61(36.1%)
Have you ever seen any public media that calls people to donate blood?	
<ul style="list-style-type: none"> • Yes 	124(73.4%)
<ul style="list-style-type: none"> • No 	45(26.6%)
Do you encourage relatives/friends to donate their blood voluntarily?	
<ul style="list-style-type: none"> • Yes 	120(71%)
<ul style="list-style-type: none"> • No 	49(29%)
Does your family encourage you to donate blood?	
<ul style="list-style-type: none"> • Yes 	118(69.8%)
<ul style="list-style-type: none"> • No 	51(30.2%)
What is your parent's attitude regarding blood donation?	
<ul style="list-style-type: none"> • Supportive 	80(47.3%)
<ul style="list-style-type: none"> • Against blood donation 	37(21.9%)
<ul style="list-style-type: none"> • Neutral 	52(30.8%)
Have you ever received blood before?	
<ul style="list-style-type: none"> • Yes 	70(41.4%)
<ul style="list-style-type: none"> • No 	99(58.6%)
Have you had lectures/courses regarding the importance of blood donation in your college?	
<ul style="list-style-type: none"> • Yes 	103(63.9%)

<ul style="list-style-type: none"> • No 	61(36.1%)
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DISCUSSION

The present study was conducted to assess the MBBS students' and post-graduates' knowledge, attitudes, and practices on blood donation. We observed good knowledge among the medical students regarding blood donation. The present observation is in accordance with earlier studies by V. Kalpana Devi et. al ⁽¹⁾ and Niranjana P. Khadilkar et al. ⁽³⁾. Less than half of the study population of the present study had a fair knowledge about blood donation ⁽³⁾.

In our study, the most common reason for not donating blood was that the donors had no specific reason for it. Similarly, Chopra et al and Chauhan et al also reported that 53% of students not being called upon for blood donation was the reason behind not donating. According to Verma et al, the most common reason (50.5%) among students for not donating blood was the lack of awareness regarding when and where to donate. A related study conducted in Chennai showed 66.7% ⁽¹⁾ and Himachal Pradesh 89.8% ⁽²⁾ showed higher knowledge about blood donation as compared to our study. This suggests that designed awareness and motivational programs in campuses among students, allaying their unfounded fears, are necessary to bring encouraging changes in voluntary blood donation ⁽⁸⁾

The Tamil Nadu Medical Colleges possess the potential to significantly contribute to the promotion of blood donation. The Medical Colleges of Tamil Nadu hold immense potential in furthering the noble cause of blood donation.

LIMITATIONS OF THE STUDY

Single-Center Design: The study was conducted exclusively at Sree Mookambika Institute of Medical Sciences, limiting the generalizability of findings to other medical institutions with different educational and clinical settings.

Cross-Sectional Nature: As a cross-sectional study, the findings represent a single point in time and do not allow for the assessment of changes in knowledge, attitude, or practice over time.

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Nil.

CONFLICTS OF INTEREST:

There are no conflicts of interest.

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