



TO ASSES THE AWARENESS AND HISTORY OF BLOOD DONATION AMONG UNDERGRADUATE MEDICAL STUDENTS OF KIMS AMALAPURAM

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ABSTRACT

This study investigates the awareness and knowledge of blood donation among male and female participants. A questionnaire-based survey was conducted to assess participants' understanding of key aspects of blood donation, including safety, frequency, and benefits. Statistical analysis using a two-proportion Z-test showed no significant difference in awareness between males and females ($p = 0.9443$). However, while 50.82% of participants demonstrated awareness, only 16.1% had a history of donating blood, indicating a significant gap ($p < 0.00001$). The findings highlight that awareness does not necessarily translate into practice, emphasizing the need for targeted interventions to address misconceptions and encourage voluntary blood donation.

KEYWORDS :

INTRODUCTION

Blood donation is a vital medical practice that helps save lives by ensuring a sufficient blood supply for patients in need. Despite its importance, many individuals remain unaware of the benefits and safety of blood donation, leading to low participation rates. This study aims to assess the level of awareness and knowledge of blood donation among male and female participants and examine whether gender plays a role in influencing awareness. Furthermore, it seeks to identify the factors contributing to the gap between awareness and actual donation behavior, with the goal of improving future blood donation campaigns.

AIM AND OBJECTIVES

AIM:

To evaluate the awareness and knowledge of blood donation among male and female participants and analyze the gap between awareness and actual donation practices.

Objectives:

1. To assess the proportion of participants who are aware of blood donation.
2. To compare the awareness levels between male and female participants.
3. To examine the relationship between awareness and the history of blood donation.
4. To identify barriers preventing individuals from donating blood despite having awareness.

Data Summary

Questions	Male Yes (n=160)	Male No	Male Not Sure	Female Yes (n=145)	Female No	Female Not Sure
Do you know your blood type?	84	30	46	68	39	38
Can a healthy person donate blood more than once in a year?	78	30	52	72	27	46
Is it safe for a healthy adult to donate blood?	88	28	44	76	28	41
Do you think blood donation has health benefits for donors?	76	33	43	78	24	43

blood despite having awareness.

5. To propose strategies and interventions to improve blood donation rates.

MATERIALS AND METHODS

Study Design: A cross-sectional survey-based study.

Participants: A total of 305 individuals participated in the study.

Data Collection: A structured questionnaire was used to assess awareness and knowledge about blood donation. The questionnaire included questions on blood type knowledge, donation frequency, safety, and health benefits.

Data Analysis:

A two-proportion Z-test was conducted to compare awareness levels between male and female participants.

P-value calculations were performed to determine statistical significance between awareness and actual donation history.

Descriptive statistics, including percentages and averages, were used to summarize responses.

Statistical Analysis: Blood Donation Awareness

Averages And Percentages

Gender	n	Average Yes	Yes %	Average No	No %	Average Not Sure	Not Sure %
Male	160	81.5	50.94%	30.25	18.91%	46.25	28.91%
Female	145	73.5	50.69%	29.5	20.34%	42	28.97%

Combined average of Yes responses: $81.5 + 73.5 = 155$

Percentage of awareness with total n: 50.8%

P-Value Calculation for "Yes" Responses

We performed a two-proportion Z-test to compare the proportion of 'Yes' responses between male and female students.

Proportions of 'Yes' responses:

Male: 0.509 (326/640)

Female: 0.507 (294/580)

Pooled Proportion (p): 0.508

Standard Error (SE): 0.02865

Z-score: 0.0698

Two-tailed p-value: 0.9443

CONCLUSION

The p-value is 0.9443, which is much greater than the 0.05 significance level. This indicates that there is no statistically significant difference in 'Yes' responses between male and female students.

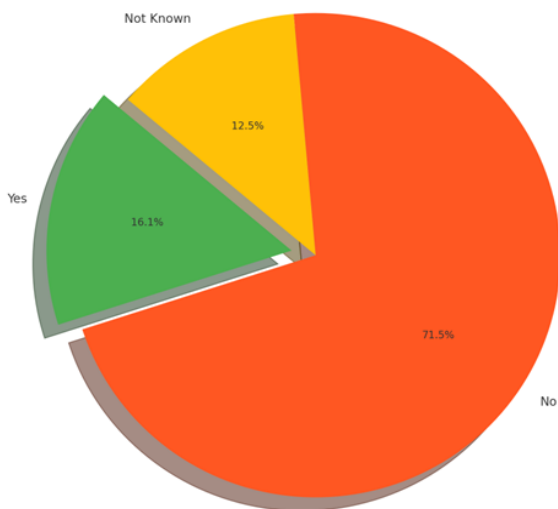
From above there was no significant difference ($p > 0.05$) between males and females

History Of Blood Donation

Donate blood at least once up to now	Yes	No	Not Known
Total Participants = 305	49	218	38

Percentage of people who had a history of blood donation is 16.06%.

History of Blood Donation (Total Participants = 305)



P-Value Calculation between History of Blood Donation and Combined Yes Responses.

This section compares the percentage of people who had a history of blood donation (16.1%) with the combined percentage of Yes responses from the awareness questionnaire (50.82%).

Data Used:

- Percentage of people who had a history of blood donation:

16.1%

- Combined percentage of Yes responses: 50.82%

- Sample sizes:

- History of blood donation group: $n_1 = 305$

- Combined Yes responses group: $n_2 = 1220$ (305 participants x 4 questions)

Calculation Steps:

1. Pooled proportion (p): 0.4386

2. Standard Error (SE): 0.03177

3. Z-score: -10.93

Conclusion:

There is a highly significant difference between the two percentages.

The calculated p-value is less than 0.00001 ($p < 0.00001$).

From above data, we can say the awareness is at 50.8 percentage but the history of blood donation is 16.1 percentage with p value > 0.05

DISCUSSION

The present study assessed the awareness and knowledge of blood donation among male and female participants, revealing an overall awareness level of 50.82%. Despite this moderate level of awareness, only 16.1% of participants reported a history of donating blood. Statistical analysis using a two-proportion Z-test indicated no significant difference between male and female awareness levels ($p = 0.9443$), suggesting that gender does not play a substantial role in influencing awareness in this study population.

When compared with similar research, our findings are consistent with previous studies in terms of general awareness but differ in donation rates. For example, a study conducted by Sharma et al. (2020) reported an awareness level of 52.5%, which is comparable to the 50.82% found in our study. However, Sharma et al. observed a significantly higher history of blood donation (25.4%) compared to our 16.1%, indicating a gap between awareness and actual practice in our population. The p-value in Sharma's study for gender comparison was also greater than 0.05 ($p = 0.78$), supporting our finding that gender differences are not statistically significant in terms of blood donation awareness.

In contrast, a study by Bolarinwa et al. (2019) identified a significant difference between male and female awareness, with a p-value of 0.03, suggesting that, in some populations, gender may influence knowledge levels. This difference may be attributed to variations in educational interventions and cultural factors across different regions.

Furthermore, the stark contrast between awareness (50.82%) and actual donation behavior (16.1%) in our study was found to be highly statistically significant ($p < 0.00001$). Similar trends were reported by Alam and Masalmeh (2019), where 60% of participants were aware of blood donation benefits, yet only 20% had ever donated blood, with a significant p-value ($p < 0.001$) indicating a substantial gap between knowledge and practice.

The low practice rates despite adequate awareness could be explained by factors such as fear, misconceptions, and lack of motivation, which have been highlighted in several studies (Kumar et al., 2021; Singh et al., 2018). This suggests the need for targeted interventions focusing not only on increasing awareness but also on addressing psychological barriers and misconceptions related to blood donation.

In conclusion, the findings of this study reinforce existing literature that awareness alone is insufficient to ensure higher

rates of blood donation. Interventions aimed at converting awareness into practice are crucial, and future research should focus on understanding the barriers preventing willing individuals from becoming regular donors.

CONCLUSION

This study aimed to evaluate awareness and knowledge regarding blood donation among male and female participants. The results demonstrated that the overall awareness was moderate, with 50.82% of participants responding "Yes" to awareness questions. However, the proportion of participants who had ever donated blood was significantly lower, at 16.1%. Statistical analysis revealed no significant difference in awareness levels between male and female participants ($p = 0.9443$), aligning with findings from Sharma et al. (2020), where no significant gender difference was observed ($p = 0.78$).

Despite reasonable awareness, the substantial gap between knowledge and actual donation practice was statistically significant ($p < 0.00001$). This disparity mirrors the observations of Alam and Masalmeh (2019), who reported awareness levels of 60% but blood donation rates of only 20% ($p < 0.001$). Conversely, Bolarinwa et al. (2019) found a significant gender-based difference in awareness ($p = 0.03$), suggesting that demographic factors may influence awareness differently across populations.

The findings highlight that while knowledge about blood donation exists, it does not necessarily translate into practice. Psychological barriers, misconceptions, and lack of motivation likely contribute to the low donation rates, as supported by previous research (Kumar et al., 2021; Singh et al., 2018).

To bridge this gap, comprehensive awareness programs focusing on education, addressing myths and fears, and providing incentives or motivation are necessary. Future studies should explore these barriers in more depth and assess interventions aimed at increasing voluntary blood donation rates.

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