

Original Research Article

Assessment of knowledge, attitude and practice regarding blood donation among the residents in the urban field practice area of Bangalore Medical College and Research Institute: a community based cross sectional study

Selvi Thangaraj¹, Chaithra S.^{1*}, Vishnu Jayarajan¹, Vilas Revanappa Bhagavati¹, Suhan S. Suvarna², Shujithaa M.², Sharanya N.², Shreya Sanjeev², Shreya Shaw², Yashika G.², Veeresh P. Wadawadagi², Nabha H. N.², Bhagyashree², Sumedh², Vinay N. Nidagundi²

¹Department of Community Medicine, Bangalore Medical College and Research Institute, Bengaluru, Karnataka, India

²Bangalore Medical College and Research Institute, Bengaluru, Karnataka, India

Received: 30 July 2024

Revised: 13 September 2024

Accepted: 17 September 2024

*Correspondence:

Dr. Chaithra S.,

E-mail: chaithra.snp6295@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: The act of donating blood is crucial for healthcare systems worldwide. Despite its significance, blood donation rates are sub-optimal in many regions, especially urban areas. This study aimed to assess the level of knowledge, attitudes, and practices related to blood donation among urban residents in Bangalore. The study also aimed to identify misconceptions, motivators and barriers for guiding public health strategies to promote blood donation.

Methods: A community based cross sectional study was conducted in Urban field practice area of Bangalore Medical College and Research Institute, Bengaluru from May 2024 to July 2024. Sample size was calculated according to study done by Samreen et al. Data was collected using simple-random-sampling and analysed via SPSS 26.0.

Results: The study investigated knowledge, attitude, and practice of blood donation among 148 participants. Findings showed 6% having good knowledge, 92% having fair knowledge, and 1.3% having poor knowledge about blood donation. 70.9% had favourable attitude, while 29.1% had unfavourable attitude. 14.2% of participants had donated blood despite a high level of favourable attitude. Barriers identified were fear of infections (21%), fear of needles (15%), and laziness along with lack of information (27.2%), ineligibility (17.6%) and fear for health (13.2%).

Conclusions: This study indicated that while the population has fair knowledge and favourable attitude towards blood donation, very less proportion have actually donated blood. The study also identified misconceptions, motivations, and barriers to donation. Targeted measures are required to improve blood donation practices.

Keywords: Barriers, Blood donation, Knowledge, Misconceptions, Motivators, Practices

INTRODUCTION

Blood donation is an essential component of modern healthcare, serving as a lifeline for millions of individuals annually.¹ Despite its critical importance, the accessibility of safe blood for transfusions remains a challenge for many patients in need.² Globally, an astounding 118.5

million blood donations are collected each year, with lower-middle-income countries exhibiting a donation rate of 6.6 donations per 1000 people.³

Of particular note is the fact that 79 countries heavily rely on voluntary unpaid donors for over 90% of their blood supply. In 2015, reporting blood banks worldwide

amassed a total of 11,645,791 units of blood, with 71.9% stemming from voluntary donations. However, a significant shortfall of 1 million units of blood per year in India highlights the pressing need for enhanced donation efforts.⁴ To meet the clinical demand in India, an estimated 36.3 donations per 1000 eligible individuals would be required to satisfy the demand for whole blood and its components.⁵ The health department data from Karnataka indicates that around 8 lakh individuals in the state require blood transfusions annually. Additionally, during the 2022-23 period, a remarkable 9.7 lakh units of blood were collected to address this substantial need.⁶

Furthermore, misconceptions and false beliefs about blood donation, such as concerns about physical weakness, premature aging, anaemia, and infection, have been identified among the public.⁷ Understanding these attitudes and motivations is pivotal in addressing these misconceptions and ensuring a robust and sustainable blood supply, not only in India but on a global scale.

The objective of the study was to assess the level of knowledge, attitudes, and practices related to blood donation among urban residents in Bangalore and also to identify common misconceptions, motivators and barriers for guiding public health strategies to promote blood donation.

METHODS

A cross-sectional study was conducted to assess the knowledge attitude and practice regarding blood donation among the residents of urban field practice area of Bangalore Medical College and Research institute for a period of 5 months from March 2024 to July 2024.

Sample size

According to study done by Samreen et al, the expected proportion of participants with favourable attitudes towards blood donation was 57%.⁷ Sample size was calculated using the formula, $n = Z^2 p(1-p)/d^2$ with the standard table value for a 95% confidence interval (1.96) and the relative precision (10% of the p). After adding 10% attrition to the initial sample size of 147.12, the final sample size was rounded to 148.

Methodology of data collection

After obtaining approval and clearance from the Institutional Ethics Committee of Bangalore Medical College and Research Institute (approval number: BMCRI/EC/16/2024), and permission was received from the concerned authorities. A community-based cross-sectional study was conducted in the urban field practice area of Bangalore Medical College and Research Institute, Bengaluru.

The field practice area is divided into 12 urban slum areas with a total population of 43,168. Using the simple

random sampling method, one of the urban slum areas was selected, and the residents of the area (18 years of age and above) were randomly chosen using a random number generator and interviewed after obtaining consent. After covering the residents of the selected area, another urban slum area was selected using the same method, and the process was repeated until the necessary sample size was reached.

The subjects who meet the inclusion criteria were enrolled for the study after obtaining informed consent. Data was collected using a pre-tested semi-structured questionnaire comprising of five components (sociodemographic details, knowledge about blood donation, attitude related to the blood donation, practice of blood donation, previous experience on blood donation). Three-point Likert's scale was used for assessing the responses of the study participants. For knowledge, a score of 0-6 was considered as poor knowledge, 7-13 as fair knowledge and more than 13 as good knowledge. For attitude, a score of 0-4 was considered as unfavourable attitude, score of 5-8 as favourable attitude. For practice, a score of 0-2 was considered as poor practice, 3-5 as fair practice and more than 5 as good practice.

Inclusion criteria

Adults aged 18 years and above residing in the selected urban slum areas who provided informed consent.

Exclusion criteria

Individuals who were not willing to participate or unable to give consent were excluded.

Statistical analysis

The data collected was entered in Microsoft Excel and analysed using SPSS version 26.0. Sociodemographic data was presented using descriptive statistics. Non-parametric test was used to determine the significant association between the categorical variables. Data was presented in the form of tables and figures.

RESULTS

The present study assessed the knowledge, attitude, and practice of blood donation among 148 participants in the urban field practice area of Bangalore Medical College and Research Institute.

Table 1 shows the socio-demographic characteristics of the study participants. Majority of the participants belonged to 30-44 years age group (44.59%). Gender distribution showed a higher proportion of females (62.8%). The majority of participants were married (79.7%). The predominant religion was Hinduism (81.1%). 33.8% of the participants were illiterate. 38.5% of the study participants were unskilled workers while

29.7% were semi-skilled workers. 59.5% fell into the upper lower socioeconomic status.

Knowledge

The knowledge of the blood donation was assessed based on a questionnaire. The responses of the study

participants for each questions assessing knowledge are mentioned in Table 2. Based on the analysis, it was found that 5.05% (9 participants) demonstrated good knowledge, 92.56% (137 participants) demonstrated fair knowledge, and 1.35% (2 participants) demonstrated poor knowledge. These results indicate that the majority of participants have a fair understanding of blood donation.

Table 1: Sociodemographic details of the study population.

Socio-demographic details	Variables	Frequency	Percentage
Age (years)	18-29	41	27.70
	30-44	66	44.59
	45- 59	41	27.20
	> 60	15	10.13
Gender	Female	93	62.8
	Male	55	37.2
Marital status	Married	118	79.7
	Unmarried	27	18.2
	Divorced	3	2
	Widow	118	79.7
Religion	Hindu	128	81.1
	Muslim	19	12.8
	Christian	9	6.1
Education	Professional degree	0	0
	Graduate or post graduate	7	4.7
	post high school/ diploma	7	4.7
	High school certificate	36	24.3
	Middle school certificate	21	14.2
	Primary school certificate	27	18.2
	Illiterate	50	33.8
Occupation	Professional	1	0.7
	Semi-professional	1	0.7
	Clerical	3	2
	Skilled worker	12	3.1
	Semi-skilled worker	44	29.7
	Unskilled worker	57	38.5
	Unemployed	30	20.3
Income	≥146,104	1	0.7
	109,580-146,103	0	0
	73,054-109,579	0	0
	68,455-73,053	1	0.7
	63,854-68,454	0	0
	59,252-63,853	1	0.7
	54,651-59,251	1	0.7
	45589-54650	7	4.7
	36,527-45,588	6	4.1
	21,914-36,526		
	7,316-21,913	1	0.7
	≤7,315	26	17.6
Socioeconomic status	Upper (26-29)	0	0
	Upper middle (16-25)	33	22.3
	Lower middle (11-15)	3	2
	Upper lower (5-1)	88	59.5
	Lower (<5)	24	16.2

Table 2: Assessment of knowledge regarding blood donation.

Questions	Answer (score)	Frequency	Percentage
Do you think blood donation is important?	Yes (2)	124	83.78
	I don't know (1)	20	13.51
	No (0)	4	2.70
Do you think donating blood can save lives?	Yes (2)	123	83.10
	I don't know (1)	22	14.86
	No (0)	3	2.02
How many times a person can donate blood per year?	Once in 3 or 4 months (2)	20	13.51
	I don't know (1)	82	55.40
	Weekly/monthly/once in 6 months/rarely (0)	46	31.08
Who according to your knowledge who can donate blood	Any healthy adults (2)	54	36.48
	Pregnant women/Elderly	54	36.48
	Anyone who has disease (1)		
	Individuals <18 years (0)	40	27.02
Do you know the common blood groups?	Yes (2)	51	34.45
	I don't know (1)	78	52.70
	No (0)	19	12.83
What volume of is collected in each donation?	400-450ml (2)	12	8.10
	I don't know (1)	123	83.10
	150-200 ml/700-750 ml/ 100 ml (0)	10	6.75
What is the duration of donation process?	20-40 mins (2)	20	13.51
	I don't know (1)	114	77.027
	< 20 minutes/ <60 minutes (0)	14	9.45
Can blood be stored?	Yes (2)	57	38.51
	I don't know (1)	78	52.70
	No (0)	13	8.78
Can blood be donated while fasting?	No (2)	67	45.27
	I don't know (1)	69	46.62
	Yes (0)	12	8.10
Can blood be donated during pregnancy?	No (2)	65	43.91
	I don't know (1)	69	46.62
	Yes (0)	14	9.45

Table 3: Assessment of attitude regarding blood donation.

Questions	Answer (score)	Frequency	Percentage
Would you voluntarily donate blood?	Yes (2)	91	61.48
	Maybe (1)	32	21.62
	No (0)	32	21.62
Do you accept blood donation from others (volunteers)?	Yes (2)	114	77.02
	Maybe (1)	23	15.54
	No (0)	11	7.43
Do you think blood donation is a social responsibility?	Yes (2)	106	71.62
	I don't know (1)	20	13.51
	No (0)	22	14.86
Do you agree that donors should be paid to donate and promote blood donation?	No (2)	101	68.24
	I don't know (1)	30	20.27
	Yes (0)	17	11.48

Attitude

The attitude of the blood donation was assessed based on a questionnaire. The responses of the study participants

assessing attitude towards blood donation are mentioned in Table 3. The analysis revealed that 70.94% (105) of the participants held a favourable attitude towards blood donation, while 29.05% (43) demonstrated an

unfavourable attitude. It is noteworthy that a significant majority of the participants displayed a positive outlook on blood donation.

Practice

The practice of blood donation was assessed based on a questionnaire, and the willingness to donate blood by the study participants and responses for each answer are

mentioned in Table 4. Out of 148 participants only 21 (14.2%) had donated Blood whereas 127 (85.8%) had not donated blood. The low percentage of actual donors highlights a gap between positive attitudes and actionable practices. Gender disparities were evident, with only 5.3% of female participants having donated blood. Despite the low donation rates, a significant proportion of females expressed a positive attitude towards blood donation.

Table 4: Assessment of practice of blood donation.

Questions	Answer (score)	Frequency	Percentage
Have you donated blood?	Yes (2)	21	14.18
	No (0)	127	85.81
When was the last time you doated blood?	In the current year (2)	7	4.72
	Before one year or more/not donated (0)	141	95.27
What was your reason for donating blood the last time?	Volunteer donor (2)	21	12.16
	Replacement donor/ not donated (0)	127	87.83

Table 5: Association of socio-demographic variables with knowledge, attitude and practice regarding blood donation.

Variables	Knowledge			P value	Attitude		P value	Practice				P value
	Poor	Fair	Good		Favourable	Unfavourable		Poor	Fair	Good		
Age (years)												
Adult (18-60)	1 (0.7)	123 (92.5)	9 (6.8)	0.105	94 (70.7)	39 (29.3)	0.830	115 (86.5)	12 (9)	6 (4.5)	0.793	
Elderly (>60)	1 (6.7)	14 (93.3)	0		11 (73.3)	4 (26.7)		12 (80)	2 (13.3)	1 (6.7)		
Gender												
Female	0	87 (93.5)	6 (6.5)	0.177	63 (67.7)	30 (32.3)	0.264	88 (94.6)	3 (3.2)	2 (2.2)	<0.001	
Male	2 (3.6)	50 (90.9)	3 (5.5)		42 (76.4)	13 (23.6)		39 (70.9)	11 (20)	5 (9.1)		
Educational status												
Illiterate	0	50 (100)	0	<0.001	26 (52)	24 (48)	0.017	47 (94)	3 (6)	0	0.090	
Primary school certificate	1 (3.7)	26 (96.3)	0		18 (66.7)	9 (33.3)		24 (88.9)	1 (3.7)	2 (7.4)		
Middle school certificate	0	20 (95.2)	1 (4.8)		14 (66.7)	7 (33.3)		20 (95.2)	1 (4.8)	0		
High school	1 (2.8)	29 (80.6)	6 (16.6)		34 (94.4)	2 (5.6)		27 (75)	6 (16.7)	3 (8.3)		
post high school/diploma	0	5 (71.4)	2 (28.6)		7 (100)	0		5 (71.4)	1 (14.3)	1 (14.3)		
Graduate/ post graduate	0	7 (100)	0		6 (85.7)	1 (14.3)		4 (57.1)	2 (28.6)	1 (14.3)		
Marital status												
Married	1 (0.8)	108 (91.6)	9 (7.6)	0.444	81 (68.6)	37 (31.4)	0.410	105 (89)	11 (9.3)	2 (1.7)	0.006	
Unmarried	1 (3.7)	26 (96.3)	0		22 (81.5)	5 (18.5)		19 (70.4)	3 (11.1)	5 (18.5)		
Widow	0	3 (100)	0		2 (66.7)	1 (33.3)		3 (100)	0	0		
Socioeconomic status												
Lower	1 (4.2)	23 (95.8)	0	0.322	13 (54.2)	11 (45.8)	0.083	24 (100)	0	0	0.037	
Upper lower	0	82 (94.3)	5 (5.7)		61 (70.1)	26 (29.9)		74 (85.1)	8 (9.2)	5 (5.7)		
Lower middle	1 (2.9)	29 (85.3)	4 (11.8)		28 (82.4)	6 (17.6)		28 (82.4)	5 (14.7)	1 (2.9)		
Upper middle	0	3 (100)	0		3 (100)	0		1 (33.3)	1 (33.3)	1 (33.3)		
Upper	0	0			0	0		0	0	0		

Table 5 shows educational status significantly influences knowledge ($p < 0.001$) and attitude ($p = 0.017$) towards blood donation. Gender shows a significant association with donation practices ($p < 0.001$), with poorer practices observed among married females ($p = 0.006$) compared to males.

Motivators to donation

The data reveals that the most prominent motivator appears to be inspiration from others who have donated blood (34.5%). Setting a good example follows closely behind, with 45 respondents (30.4%) motivated by this factor (Figure 1).

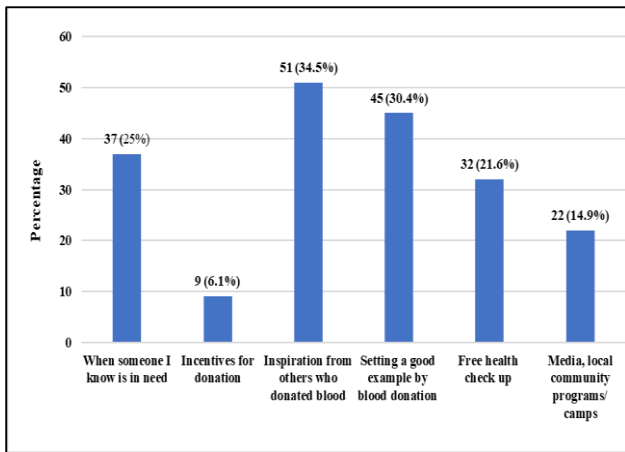


Figure 1: Motivator of blood donation.

Barriers and misconceptions towards blood donation

The Figure 2 highlights various barriers and misconceptions regarding blood donation among the study participants. The most significant barrier is a lack of information (28.2%), followed by ineligibility (18.3%) and lack of time (10.6%).

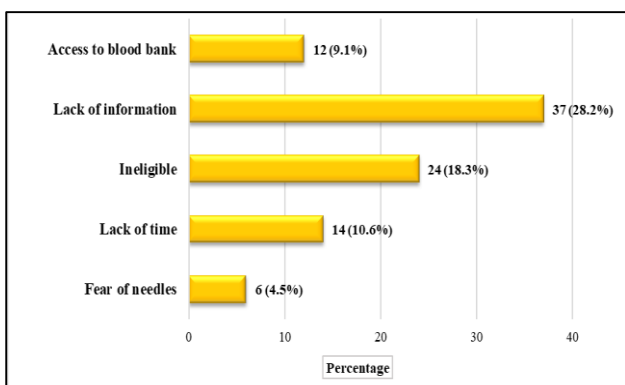


Figure 2: Barriers of blood donation.

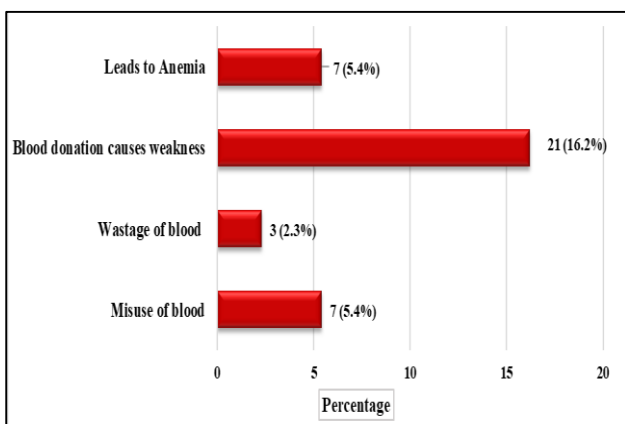


Figure 3: Misconceptions towards blood donation.

Misconceptions also play a significant role, with 16.2% believing that blood donation causes weakness, 5.4%

fearing it leads to anemia, 5.4% concerned about the misuse of blood, and 2.3% worrying about the wastage of blood (Figure 3).

DISCUSSION

In Sameer et al study, 356 participants showed a high level of awareness about blood donation, with 94.4% considering it important and 98.3% believing it saves lives. Despite this, only 49.4% were willing to donate voluntarily, with common barriers including fear of needles (24.2%) and concerns about contracting diseases (23.6%). Motivational factors included receiving a day off (91.9%) and a token (73.6%).⁷ Dubey et al study found that 40.75% of non-donors didn't donate because they weren't asked. Voluntary donors had a better experience and a higher likelihood of donating again (89.5%). Non-donors had lower knowledge and more misconceptions, with television being the most effective awareness medium.⁸ According to study done by Urgesa et al, comprehensive knowledge about voluntary blood donation was 43.5%. 32.9% study participants had positive attitude toward voluntary blood donation and majority of them were college graduates. Practice rate was found to be low (only 22.6%).⁹ According to study done by Chatham et al, mean knowledge score of participants was 74.4% and 91% study participants felt that people should donate blood and were themselves willing to donate blood but only 22.9% had donated blood.¹⁰ Similarly, the current study showed 92% of the study participants had fair knowledge. 70.9% had a favourable attitude towards blood donation, but only 14.2% had actually donated blood.

The study by Mussema et al, showed the similar finding of favourable attitude and male participants were more likely to donate blood. (AOR: 2.53; 95% CI: 1.54, 4.15).¹¹ In the study done by Sreeranga showed that more than 90% of the participants had good knowledge and 253 (88.8%) respondents considered blood donation as good practice and 205 (71.9%) believed it was safe to donate blood but in practice only 116 (40.7%) had ever donated blood. Male workers were more likely to donate blood ($p < 0.0001$).¹²

The study done by Mohammed et al shows majority of the participants were motivated by personal need (90.3%) and positive staff (83.4%). Deterrents included poor staff attitude (63.7%), privacy issues (54.6%), and fears of blood being sold (50.9%).¹³ In current study, primal motivators were inspiration from other blood donors (34.5%) and setting a good example (30.4%). The potential barriers of present study were lack of information (28.2%), ineligibility (18.3%), and lack of time (10.6%). This contrast may be attributed to differences in the education level and gender distribution of the sample population. The current study found highly significant association between educational status and knowledge towards blood donation ($p < 0.001$).

Additionally, the gender significantly impacts the blood donation practices ($p < 0.001$), with females showing poorer practices compared to males. Similarly, the study by Alsalmi et al, in Saudi Arabia revealed an association between knowledge and academic level, as well as between gender and blood donation practices.¹⁴

According to a study in Indian adults done by Verma et al, there was a statistically significant association between age and attitude towards voluntary blood donation and feeling of weakness after donating blood, fear about needle pricks, anaemia, prevalent beliefs, customs, lifestyle fear and hesitation were identified as barriers.¹⁵

The findings of the study may not represent the entire urban population of Bangalore because the researchers used convenience sampling or other non-random sampling methods. This could limit the applicability of the results. Data on knowledge, attitudes, and practices regarding blood donation were likely collected through self-reported surveys, which are susceptible to biases such as social desirability bias or recall bias. Participants may provide answers that they believe are socially acceptable rather than reflecting their true beliefs or behaviours. Since this was a cross-sectional study, the data were collected at a single point in time, providing a snapshot of the population's characteristics and behaviours. This design does not allow for the assessment of changes over time or the establishment of causal relationships between variables. The study may not have comprehensively captured all relevant factors influencing blood donation behaviour, such as cultural differences, which could affect the interpretation of the results. Furthermore, the findings of the study may be influenced by specific contextual factors related to the urban area in Bangalore, limiting the generalizability of the results to other settings. Additionally, as the study was conducted during working hours, this could have influenced the interpretation of the outcome.

CONCLUSION

The study's findings offer valuable insights into the level of knowledge, attitudes, and practices, as well as common misconceptions, motivations, and barriers related to blood donation within the study population. Notably, the majority of respondents demonstrated fair knowledge and a positive attitude toward blood donation. However, the findings also indicate that the actual practice of blood donation among the population is not very common, with only 14.2% reporting having donated blood. It is clear that efforts need to be made to address this disparity and encourage more frequent blood donation.

Recommendations

Adequate information about blood donation and its benefits, organization of outreach or awareness camps are all crucial to encourage more people to donate blood. It is also important to identify and minimize potential barriers

that may hinder the blood donation process. It is also essential to expand health education coverage and effectively address anemia in females, a common reason for their ineligibility to donate blood. Additionally, counselling on alcoholism and the prevention of sexually transmitted diseases such as HIV and hepatitis B is vital. Furthermore, increasing the frequency of blood donation camps at workplaces can help to reach the individuals who are willing to donate; but were unable to donate due to the lack of time, ultimately improving accessibility.

ACKNOWLEDGEMENTS

We would like to thank the college administration for their sincere help and support.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee of Bangalore Medical College and Research Institute (approval number: BMCRI/EC/16/2024)

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>. Accessed on 1 May 2024.
2. Myers DJ, Collins RA. Blood Donation. Treasure Island (FL): Stat Pearls Publishing; 2020.
3. World Health Organization. Blood transfusion safety. 2022. Available from: https://www.who.int/health-topics/blood-transfusion-safety#tab=tab_1. Accessed on 1 May 2024.
4. Assessment of Blood Banks in India. Ministry of Health and Family Welfare, Government of India; 2016.
5. Mammen JJ, Asirvatham ES, Lakshmanan J, Sarman CJ, Pandey A, Ranjan V, et al. The clinical demand and supply of blood in India: a national level estimation study. PloS One. 2022;17(4):e0265951.
6. Blood Transfusion Services. Karnataka State AIDS Prevention Society. Government of Karnataka; 2020.
7. Samreen S, Sales I, Bawazeer G, Wajid S, Mahmoud MA, Aljohani MA. Assessment of beliefs, behaviors, and opinions about blood donation in Telangana, India- a cross sectional community-based study. Front Public Health. 2021;9:785568.
8. Dubey A, Sonker A, Chaurasia R, Chaudhary R. Knowledge, attitude and beliefs of people in North India regarding blood donation. Blood Transfus. 2014;12 (Suppl 1):s21-7.
9. Urgesa K, Hassen N, Seyoum A. Knowledge, attitude, and practice regarding voluntary blood

- donation among adult residents of Harar town, Eastern Ethiopia: a community-based study. *J Blood Med*. 2017;8:13-20.
10. Chauhan R, Kumar R, Thakur S. A study to assess the knowledge, attitude, and practices about blood donation among medical students of a medical college in north India. *J Fam Med Prim Care*. 2018;7(4):693-7.
 11. Mussema A, Bawore SG, Abebaw T, Tadese W, Belayineh M, Yirga A, et al. Voluntary blood donation knowledge, attitude, and practice among adult populations of Hosanna Town, South Ethiopia: a community-based cross-sectional study. *Front Public Health*. 2023;11:1141544.
 12. Mohammed S, Essel HB. Motivational factors for blood donation, potential barriers, and knowledge about blood donation in first-time and repeat blood donors. *BMC Hematol*. 2018;18:36.
 13. Alsalmi MA, Almalki HM, Alghamdi AA, Aljasir BA. Knowledge, attitude and practice of blood donation among health professions students in Saudi Arabia: a cross-sectional study. *J Fam Med Prim Care*. 2019;8(7):2322-7.
 14. Sreeranga A, Francis MS, Jaisai P, Aggarwal P. Assessment of knowledge, attitude and practice regarding blood donation among paramedical personnel in a teaching hospital, Hassan, Karnataka. *Indian J Public Health Res Develop*. 2021;12(4):11-7.
 15. Verma S, Sharma R, Sharma M, Pugazhendi S. Voluntary blood donation: attitude and practice among Indian Adults. *J Community Med Health Educ*. 2016;6(436):2161-711.

Cite this article as: Thangaraj S, Chaithra S, Jayarajan V, Bhagavati VR, Suvarna SS, Shujithaa M, et al. Assessment of knowledge, attitude and practice regarding blood donation among the residents in the urban field practice area of Bangalore Medical College and Research Institute: a community based cross sectional study. *Int J Community Med Public Health* 2024;11:3988-95.