

# Awareness of Organ Donation among Voluntary Blood Donors: A Cross-Sectional Study

<sup>1</sup>Dr Aslima Banu.A and <sup>2</sup>Dr P.Subhashini

<sup>1,2</sup>Department of Pathology, Sree Balaji Medical College and Hospital Chennai, Tamil Nadu, India

\*Corresponding Author: Dr Aslima Banu.A

Received: 28<sup>th</sup> Feb, 2026; Revised: 6<sup>th</sup> March 2026; Accepted: 7<sup>th</sup> April, 2026; Available Online: 20<sup>th</sup> April, 2026

## ABSTRACT

**Background:** Organ donation remains a critical public health need worldwide. Voluntary blood donors represent a socially responsible group and may serve as potential advocates for organ donation.

**Objective:** To assess the level of awareness, knowledge, and attitudes regarding organ donation among voluntary blood donors.

**Methods:** A cross-sectional questionnaire-based study was conducted among 206 voluntary blood donors. Data were analyzed using descriptive statistics and Chi-square test to assess associations between categorical variables in relation to awareness, willingness, and perceived barriers to organ donation.

**Results:** The majority of participants (approximately 90%) had heard about organ donation. While more than half expressed willingness to donate organs after death, only a small proportion had formally registered as organ donors. Lack of awareness, fear of misuse, and uncertainty were the major barriers to registration.

**Conclusion:** Although awareness and positive attitudes toward organ donation were relatively high among voluntary blood donors, actual registration rates were low. Targeted educational interventions are required to convert awareness into action.

**Keywords:** Organ Transplantation, Donor Willingness, Voluntary Blood Donors, Organ Donation Barriers

**How to cite this article:** Banu A, Subhashini P., Awareness of Organ Donation among Voluntary Blood Donors: A Cross-Sectional Study Int J Drug Deliv Technol. 2026;16(6): 475-480. DOI: 10.25258/ijddt.16.6.54

**Source of support:** Nil.

**Conflict of interest:** None

## INTRODUCTION

Organ transplantation is a life-saving therapeutic option for patients with end-stage organ failure. Despite advances in transplantation medicine, the gap between organ demand and availability remains substantial, particularly in developing countries (1,2). Lack of awareness, myths, cultural beliefs, and inadequate knowledge have been identified as major barriers to organ donation worldwide (3–5).

Voluntary blood donors are considered altruistic individuals who actively participate in life-saving activities. Understanding their awareness and perception of organ donation can provide valuable insight into strategies for improving organ donation rates. Previous studies have shown that populations with positive health-seeking behavior often demonstrate favorable attitudes toward organ donation, although actual registration remains low (6–9). This study aims to evaluate awareness, knowledge, attitudes, and willingness toward organ donation among voluntary blood donors.

## MATERIALS AND METHODS

A cross-sectional study was conducted among 206 voluntary blood donors using a structured questionnaire.

The questionnaire included sections on socio-demographic details, awareness of organ donation, knowledge regarding organs that can be donated, attitudes toward donation, willingness to donate organs after death, and reasons for not registering as organ donors.

Participation was voluntary, and informed consent was obtained. Data were entered and analyzed using descriptive statistics, expressed as frequencies and percentages.

## Statistical Analysis

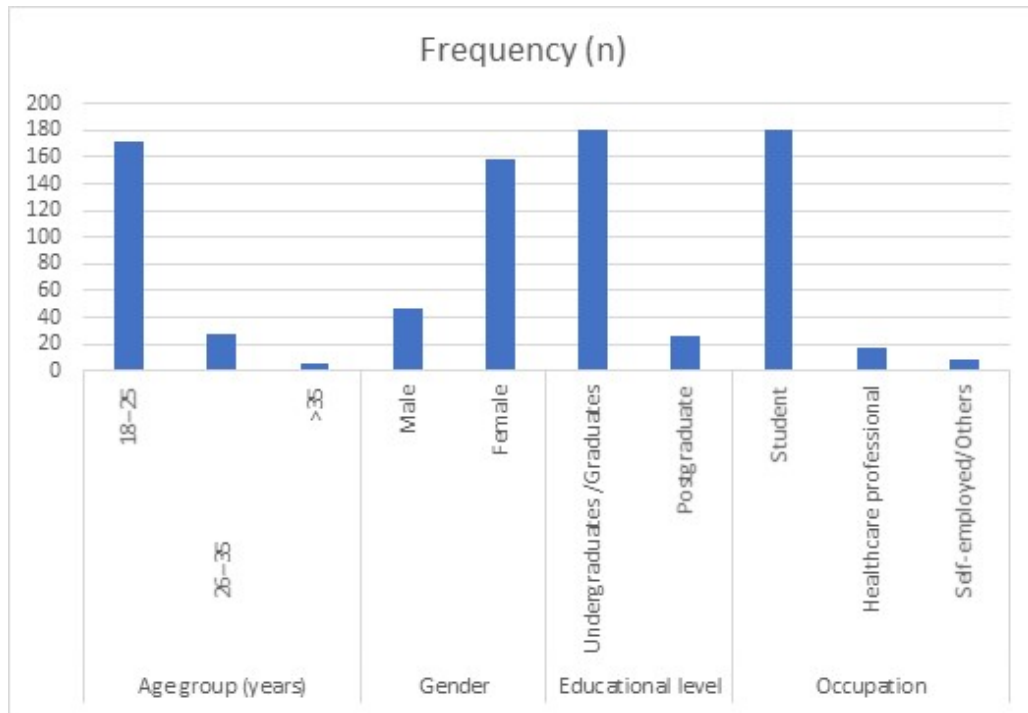
Data were analyzed using Statistical Package for the Social Sciences (SPSS) version 25.0. Descriptive statistics were expressed as frequencies and percentages. Inferential statistical analysis was performed using the Chi-square test to assess associations between sociodemographic variables and awareness, attitudes, and willingness toward organ donation. A p-value of <0.05 was considered statistically significant.

## RESULTS

### Demographic Profile

\*Author for Correspondence: Dr Aslima Banu.A

Most participants belonged to the 18–25 year age group, with representation from both genders. A considerable proportion were postgraduates, and students and healthcare professionals formed a major occupational group.



**Chart1.**Demographic characteristics of voluntary blood donors (n = 206)

**Table 1.** Demographic characteristics of voluntary blood donors (n = 206)

| Variable          | Category                  | Frequency (n) | Percentage (%) |
|-------------------|---------------------------|---------------|----------------|
| Age group (years) | 18–25                     | 172           | 83.5%          |
|                   | 26–35                     | 28            | 13.6%          |
|                   | >35                       | 6             | 2.9%           |
| Gender            | Male                      | 47            | 22.8%          |
|                   | Female                    | 159           | 77.2%          |
| Educational level | Undergraduates /Graduates | 180           | 87.3%          |
|                   | Postgraduate              | 26            | 12.7%          |
| Occupation        | Student                   | 180           | 87.3%          |
|                   | Healthcare professional   | 17            | 8.3%           |
|                   | Self-employed/Others      | 9             | 4.4%           |

Most participants belonged to the 18-25 year age group, with a considerable proportion of postgraduates and students.

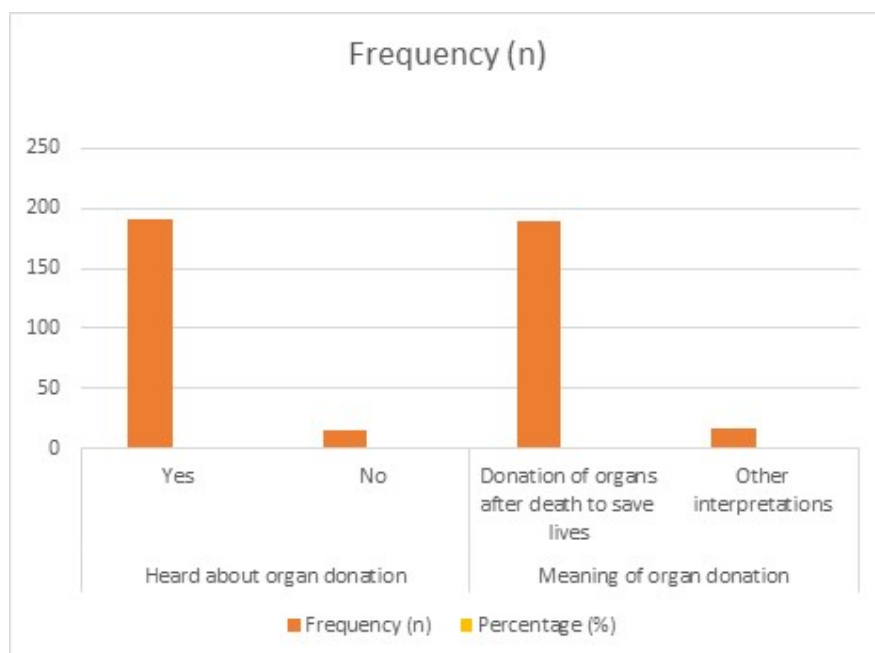
#### Awareness of Organ Donation

Approximately 90% of participants had heard about organ donation, indicating a high level of basic awareness. Most

respondents correctly understood organ donation as the act of donating organs to save lives, primarily after death.

**Table 2.** Awareness of organ donation among voluntary blood donors (n = 206)

| Awareness parameter        | Response                                     | Frequency (n) | Percentage (%) |
|----------------------------|----------------------------------------------|---------------|----------------|
| Heard about organ donation | Yes                                          | 191           | 93%            |
|                            | No                                           | 15            | 7%             |
| Meaning of organ donation  | Donation of organs after death to save lives | 189           | 91.7%          |
|                            | Other interpretation                         | 17            | 8.3%           |



**Chart 2.** Awareness of organ donation among voluntary blood donors (n = 206)

### Knowledge Regarding Organ Donation

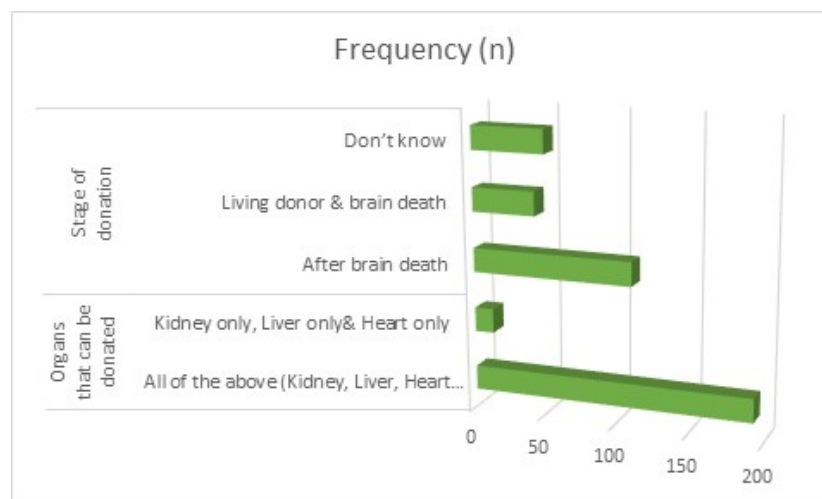
A majority recognized that multiple organs can be donated, including kidneys, liver, heart, and corneas.

However, knowledge regarding the appropriate stage for organ donation, such as brain death, was variable, with a notable proportion expressing uncertainty.

**Table 3.** Knowledge regarding organ donation (n = 206)

| Knowledge parameter        | Response                                         | Frequency (n) | Percentage (%) |
|----------------------------|--------------------------------------------------|---------------|----------------|
| Organs that can be donated | All of the above (Kidney, Liver, Heart & Cornea) | 193           | 93.7%          |
|                            | Kidney only, Liver only & Heart only             | 13            | 6.3%           |
| Stage of donation          | After brain death                                | 111           | 54%            |
|                            | Living donor & brain death                       | 44            | 21.3%          |
|                            | Don't know                                       | 51            | 24.7%          |

*Knowledge regarding the exact stage of organ donation was incomplete in a notable proportion of donors.*



**Chart 3.** Knowledge regarding organ donation (n = 206)

### Attitude and Willingness

More than half of the respondents expressed **willingness to donate their organs after death**, while a considerable number remained unsure. Encouragingly, most

participants were willing to **promote organ donation among family members** and believed that organ donation should be more actively promoted in society.

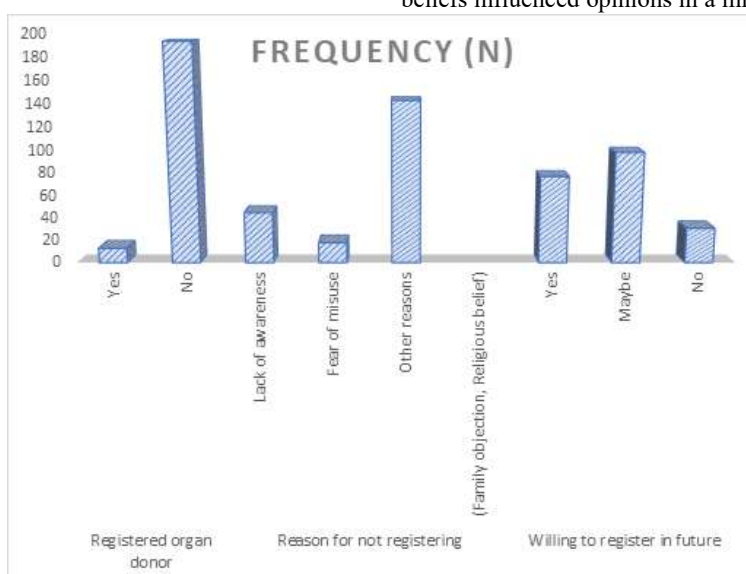
**Table 4.** Attitude towards organ donation (n = 206)

| Attitude parameter                   | Response      | Frequency (n) | Percentage (%) |
|--------------------------------------|---------------|---------------|----------------|
| Willing to donate organs after death | Yes           | 119           | 57.7%          |
|                                      | Not sure      | 59            | 28.8%          |
|                                      | No            | 28            | 13.5%          |
| Encourage family members             | Yes           | 112           | 54%            |
| Religious/cultural influence         | Yes           | 25            | 12.1%          |
|                                      | No& Sometimes | 181           | 87.9%          |
| Promotion of organ donation          | Yes           | 174           | 84.5%          |

### REGISTRATION STATUS AND BARRIERS

Despite favorable attitudes, only a **small fraction had registered or pledged as organ donors**. The most

commonly cited reasons for non-registration were lack of adequate awareness, fear of organ misuse, and miscellaneous personal concerns. Religious or cultural beliefs influenced opinions in a minority of participants.



**Chart 4.** Registration status and barriers to organ donation (n = 206)

**Table 5.** Registration status and barriers to organ donation (n = 206)

| Parameter                     | Response                             | Frequency (n) | Percentage(%) |
|-------------------------------|--------------------------------------|---------------|---------------|
| Registered organ donor        | Yes                                  | 13            | 6%            |
|                               | No                                   | 193           | 94%           |
| Reason for not registering    | Lack of awareness                    | 45            | 21.9%         |
|                               | Fear of misuse                       | 18            | 8.7%          |
|                               | Other reasons                        | 143           | 69.4%         |
|                               | (Family objection, Religious belief) | 0             | 0%            |
| Willing to register in future | Yes                                  | 77            | 37.3%         |
|                               | Maybe                                | 98            | 47.6%         |
|                               | No                                   | 31            | 15.1%         |

**Table 6.** Perceptions related to organ donation (n = 206)

| Perception                               | Response | Frequency (n) | Percentage (%) |
|------------------------------------------|----------|---------------|----------------|
| Affects funeral rituals/body integrity   | No       | 100           | 49%            |
|                                          | Not sure | 76            | 37%            |
|                                          | Yes      | 30            | 15%            |
| Interested in receiving more information | Yes      | 117           | 57%            |
|                                          | Maybe    | 70            | 34%            |
|                                          | No       | 19            | 9%             |

### INFERENTIAL STATISTICS

Inferential statistical analysis was performed to evaluate associations between selected sociodemographic variables and awareness, attitudes, and willingness toward organ donation. Chi-square testing was applied for categorical variables.

The association between gender and willingness to donate organs did not demonstrate statistical significance ( $\chi^2 = 1.51$ ,  $df = 1$ ,  $p = 0.219$ ), although females showed marginally higher willingness compared to males.

Similarly, prior awareness of organ donation was not significantly associated with future willingness to donate

( $\chi^2 = 0.22$ ,  $df = 2$ ,  $p = 0.898$ ). Participants who had heard about organ donation were more willing; however, the difference was not statistically meaningful.

Educational status was analyzed in relation to belief that organ donation saves lives. Although belief was uniformly high across all education groups, the association was not statistically significant ( $\chi^2 = 0.92$ ,  $df = 6$ ,  $p = 0.988$ ).

For analytical clarity, education categories were collapsed into Graduate & Above and Undergraduate & Below groups. When compared with willingness to donate organs, the association remained statistically non-significant ( $\chi^2 = 1.56$ ,  $df = 1$ ,  $p = 0.211$ ).

**Table 7.** Gender vs Willingness to Donate Organs

| Gender       | Yes | No | Total |
|--------------|-----|----|-------|
| Male         | 46  | 1  | 47    |
| Female       | 145 | 14 | 159   |
| <b>Total</b> | 191 | 15 | 206   |

Chi-square = 1.51,  $df = 1$ ,  $p = 0.219$  (Not significant)

**Table 8.** Awareness vs Future Willingness to Donate

| Awareness    | Yes | No | Maybe | Total |
|--------------|-----|----|-------|-------|
| Heard        | 72  | 29 | 90    | 191   |
| Not Heard    | 5   | 2  | 8     | 15    |
| <b>Total</b> | 77  | 31 | 98    | 206   |

Chi-square = 0.22,  $df = 2$ ,  $p = 0.898$  (Not significant)

**Table 9.** Education vs Belief that Organ Donation Saves Lives

| Education            | Yes | No | Not Sure | Total |
|----------------------|-----|----|----------|-------|
| Graduate             | 10  | 0  | 0        | 10    |
| High school or below | 2   | 0  | 0        | 2     |
| Postgraduate         | 26  | 0  | 0        | 26    |
| Undergraduate        | 164 | 2  | 2        | 168   |
| <b>Total</b>         | 202 | 2  | 2        | 206   |

Chi-square = 0.92,  $df = 6$ ,  $p = 0.988$  (Not significant)

**Table 10.** Education vs Willingness to Donate

| Education             | Yes | No / Not Sure | Total |
|-----------------------|-----|---------------|-------|
| Graduate & Above      | 25  | 11            | 36    |
| Undergraduate & Below | 96  | 74            | 170   |
| <b>Total</b>          | 121 | 85            | 206   |

Chi-square = 1.56,  $df = 1$ ,  $p = 0.211$  (Not significant)

**Table 11.** Education vs Interest in Receiving More Information

| Education             | Yes | No / Maybe | Total |
|-----------------------|-----|------------|-------|
| Graduate & Above      | 25  | 11         | 36    |
| Undergraduate & Below | 92  | 78         | 170   |
| <b>Total</b>          | 117 | 89         | 206   |

Chi-square = 1.56,  $df = 1$ ,  $p = 0.211$  (Not significant)

### DISCUSSION

The findings reveal a paradox frequently reported in organ donation studies: high awareness and positive attitudes but low registration rates. Voluntary blood donors demonstrate a strong altruistic mindset, yet this does not consistently translate into formal donor registration.

Lack of detailed knowledge regarding the donation process and persistent misconceptions appear to hinder commitment. The results highlight the need for structured educational programs during blood donation camps, where donors can be counseled and encouraged to register as organ donors.

Inferential analysis demonstrated no statistically significant association between demographic variables such as gender, awareness status, or educational level and willingness to donate organs. This suggests that although awareness levels were high, willingness and registration behavior may be influenced by complex psychosocial factors beyond basic demographic characteristics.

### CONCLUSION

Voluntary blood donors show substantial awareness and a favorable attitude toward organ donation. However, actual registration remains low due to knowledge gaps and perceived barriers. Integrating organ donation awareness initiatives with blood donation programs could be an effective strategy to enhance donor registration and ultimately improve organ availability.

### RECOMMENDATIONS

- Incorporation of organ donation counseling during blood donation camps
- Distribution of easy-to-understand educational materials
- Use of digital platforms for donor registration
- Addressing myths and fears through targeted awareness programs

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