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Original Research Article

Knowledge and perceptions of organ donation: a cross-sectional study among urban residents of Vijayapura, Karnataka

Jafeya Rekanaah K., M. C. Yadavannavar*, Tanuja P. Pattankar, A. M. Rangoli

Department of Community Medicine, BLDE (DU) Shri BM Patil Medical College and Research Centre, Vijayapura, Karnataka, India

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***Correspondence:**
Dr. M. C. Yadavannavar,
E-mail: mallikarjun.y@bldedu.ac.in

ABSTRACT

Background: Organ donation saves lives but India faces a major gap between demand and availability of donor organs. Contributing factors include low awareness, myths, cultural and religious beliefs, and limited legal knowledge. Understanding community perceptions is vital for effective health education and policy strategies to improve organ donation. This study aimed to assess the knowledge, attitudes and practices related to organ donation among urban residents of Vijayapura, Karnataka and to identify the socio-demographic factors influencing these perceptions.

Methods: A two-month cross-sectional study in an urban field practice area of North Karnataka included 299 randomly selected participants. Data were collected via a house-to-house survey using a semi-structured questionnaire on socio-demographics and organ donation. Analysis with SPSS v20 used Chi-square tests, considering $p<0.05$ statistically significant.

Results: Among 299 participants, awareness of organ donation was 72.2%, with eyes being the most recognized organ. Nearly half knew donation is possible from both living and deceased, but 65.2% were unaware of legal aspects. Though religion was not a major barrier, actual commitment was low, with only 34.8% willing to pledge and 10% registered. Knowledge was significantly associated with education and socio-economic status.

Conclusions: The study showed moderate awareness of organ donation among North Karnataka residents but highlighted gaps in legal knowledge and commitment. Education and economic status influenced attitudes. Targeted awareness campaigns, community engagement, and educational interventions are essential to dispel myths, encourage pledging, and reduce the demand-supply gap.

Keywords: Attitude, Knowledge, Organ donation, Practice

INTRODUCTION

Organ transplantation is a potential medical option for terminal organ failure. In recent decades, the scarcity of high-quality human organs has become a significant public health concern. It is a major factor in medical, reproductive, and transplant tourism worldwide, along with other demands.[1,2] Organ donors are currently classified into two categories: those who give after brain death and those who donate after cardiac death, with organ or tissue removal possible in both the living and the deceased. Organ and tissue transplantation is a costly medical procedure that is mostly funded by the private sector in the nation. The best choice for high-quality organ yield is young fatalities from cardiovascular events or traffic accidents.[1] In just a few years, India's organ donation rate has risen from 0.05 per million people to 0.8 per million people. India's organ donation rate is small when compared to Croatia, 36.5; Spain, 35.3; and the United States, 26 per million.[3] India has a major organ shortage; while 3000 kidney transplants are performed

there each year, at least 100,000 are needed. Every year, more than 275,000 patients receive a diagnosis of end-stage renal failure, with nearly similar numbers also receiving a diagnosis of liver and heart failure.[4] India, with a population of 1.46 billion, has a low deceased donation rate of less than one per million people.[5] The nation has a strong corneal donation and transplant program, but even post-death eye donation has taken a while to gain traction. Approximately 50,000 corneas were gathered in recent years, but 40% of them were unable to be transplanted owing to quality concerns, even though 100,000 corneas are needed annually.[5-8]

The National Organ and Tissue Transplant Program (NOTP) is a government initiative in India aimed at promoting organ and tissue donation and transplantation.[9] Karnataka is experiencing a significant surge in the number of organ donors and will rank second in India with 178 organ donations by 2023. Currently in 2024, 21 organs have been donated. However, there is still a significant gap between donations and needs, with thousands of people waiting for transplants of various organs.[10] This community-based study intends to analyse the knowledge and attitudes of the urban people in Vijayapura, Karnataka, and to identify key sociodemographic factors that influence these perceptions, providing insights to help close the gap between organ need and availability. The study seeks to contribute evidence that can guide targeted awareness campaigns and community interventions to improve organ donation rates in urban India.

METHODS

Study design and setting

A cross-sectional study was carried out from February to March 2024 in the urban field practice area of a tertiary care hospital in North Karnataka. The study sought to analyse the general population's knowledge, attitude, and practice about organ donation in Chandabowdi, an urban area. This study was conducted to analyse adult knowledge, attitude, and practice on organ donation in selected wards of urban Vijayapura.

Inclusion criteria

Adults who were willing to participate and gave their consent, who were at least eighteen years old, and who had lived in Vijayapura urban regions for at least six months.

Exclusion criteria

People who were under the age of eighteen, temporarily residing in Vijayapura, unwilling to participate, or unable to respond because of serious cognitive impairment, a mental disease, or communication difficulties, were not allowed to participate.

Ethical Considerations

Institutional ethical approval was obtained from the Ethical Committee. Each participant was informed about the study's purpose, methodology, and potential benefits in their local language before obtaining written informed consent. BLDE(DU)/IEC/1105/2024-25.

Sampling and data collection

This community-based cross-sectional research study was performed among the urban population of Chandabowdi, Vijayapura, which has an estimated population of around 10,000 residents. Using a prevalence estimate of 50% for awareness of organ donation to achieve maximum sample size, with an absolute precision of 5% and an 80% confidence level, the minimum required sample size was calculated to be 165 individuals. To increase the reliability and representation of the findings, the final sample size was expanded to 299 participants. Participants were selected using convenience sampling from different households within the locality to cover a diverse range of age groups, genders, religions, educational backgrounds, and socioeconomic statuses. A pre-tested, semi-structured questionnaire was used to collect data on sociodemographic factors, knowledge, attitudes, and practices associated with organ donation.[11] The questionnaire was administered through face-to-face interviews by the investigator to ensure completeness and accuracy.

Data analysis

Collected data were entered into Microsoft Excel and analyzed using the Statistical Package for the Social Sciences (SPSS) Version 20. Descriptive statistics, counts, and percentages were used to summarize the data. Categorical variables were compared using the Chi-square test, with results presented through tables and graphs.

RESULTS

This study involved 299 urban dwellers from Chandabowdi, Vijayapura. The study population had an average (SD) age of 42.43 years. The sociodemographic characteristics of the study participants show 50.2% were male and 49.8% were female. Regarding education, 37.8% were graduates, 37.5% had completed secondary school, 16.7% had primary education, and 8% were illiterate. The majority were Hindus, 66.9%, followed by Muslims, 29.4%, Christians, 0.7%, and others, 3%. In terms of occupation, 45.2% were working, 32.8% were housewives, and 13% were students. Socioeconomically, 38.5% belonged to the upper class, 23.7% to the upper middle class, 16.4% to the middle class, 13% to the lower middle class, and 8.4% to the lower class (Table 1).

Regarding knowledge, 72.2% had heard about organ donation, and 51.5% specifically knew about eye

donation. Only 48.8% correctly knew that organs can be donated by both living and deceased persons. A large majority, 86.3% knew that organs cannot be removed without family or patient consent, yet 65.2% were unaware of legislation governing organ donation. While 52.2% believed people generally donate organs, 72.9% knew that organ shortages can lead to deaths, and 65.6% reported that their religion allows organ donation (Figure 1).

Table 1: Socio-demographic distribution among the participants.

Socio-demography	Frequency (N)	Percentage (%)
Sex		
Male	150	50.2
Female	149	49.8
Education		
Graduate	113	37.8
Illiterate	24	8.0
Primary school	50	16.7
Secondary school	112	37.5
Religion		
Hindu	200	66.9
Muslim	88	29.4
Christian	2	0.7
Others	9	3.0
Occupation		
Students	39	13.0
Housewife	98	32.8
Non-working	27	9.0
Working	135	45.2
Socio-economic status		
I-upper class	115	38.5
II- upper middle class	71	23.7
III-middle class	49	16.4
IV-lower middle class	39	13.0
V- lower class	25	8.4

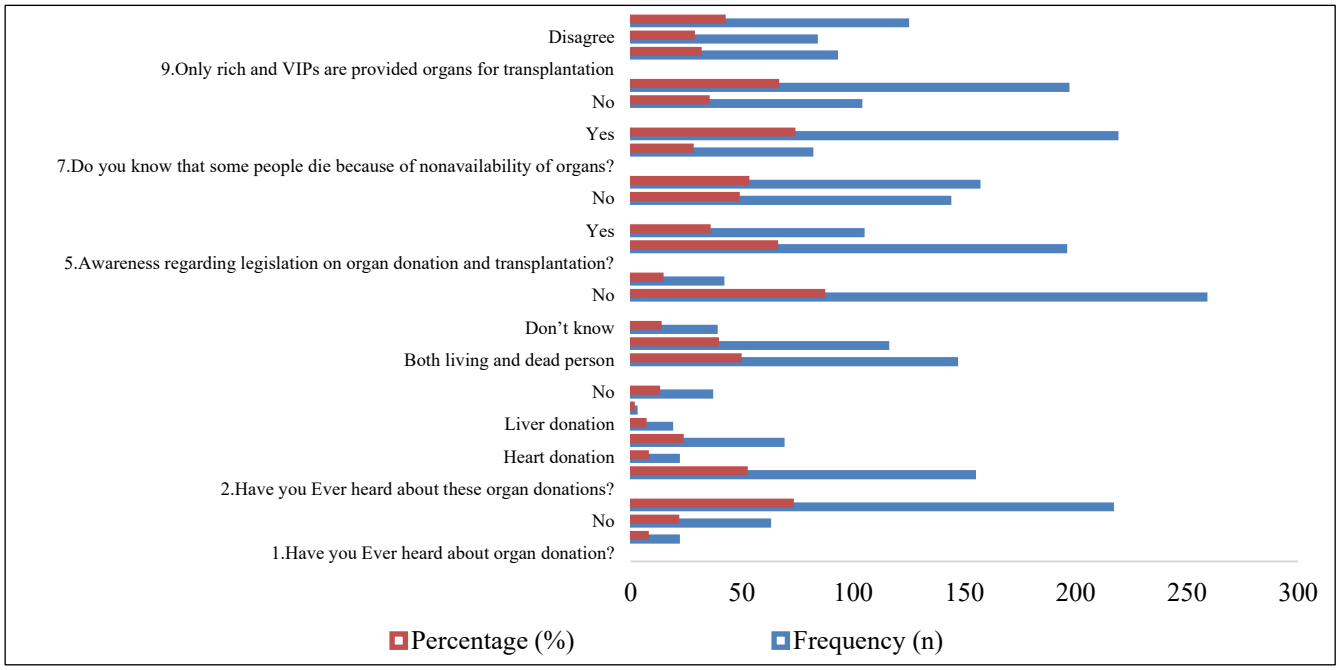

Figure 1: Knowledge of organ donation among the participant.

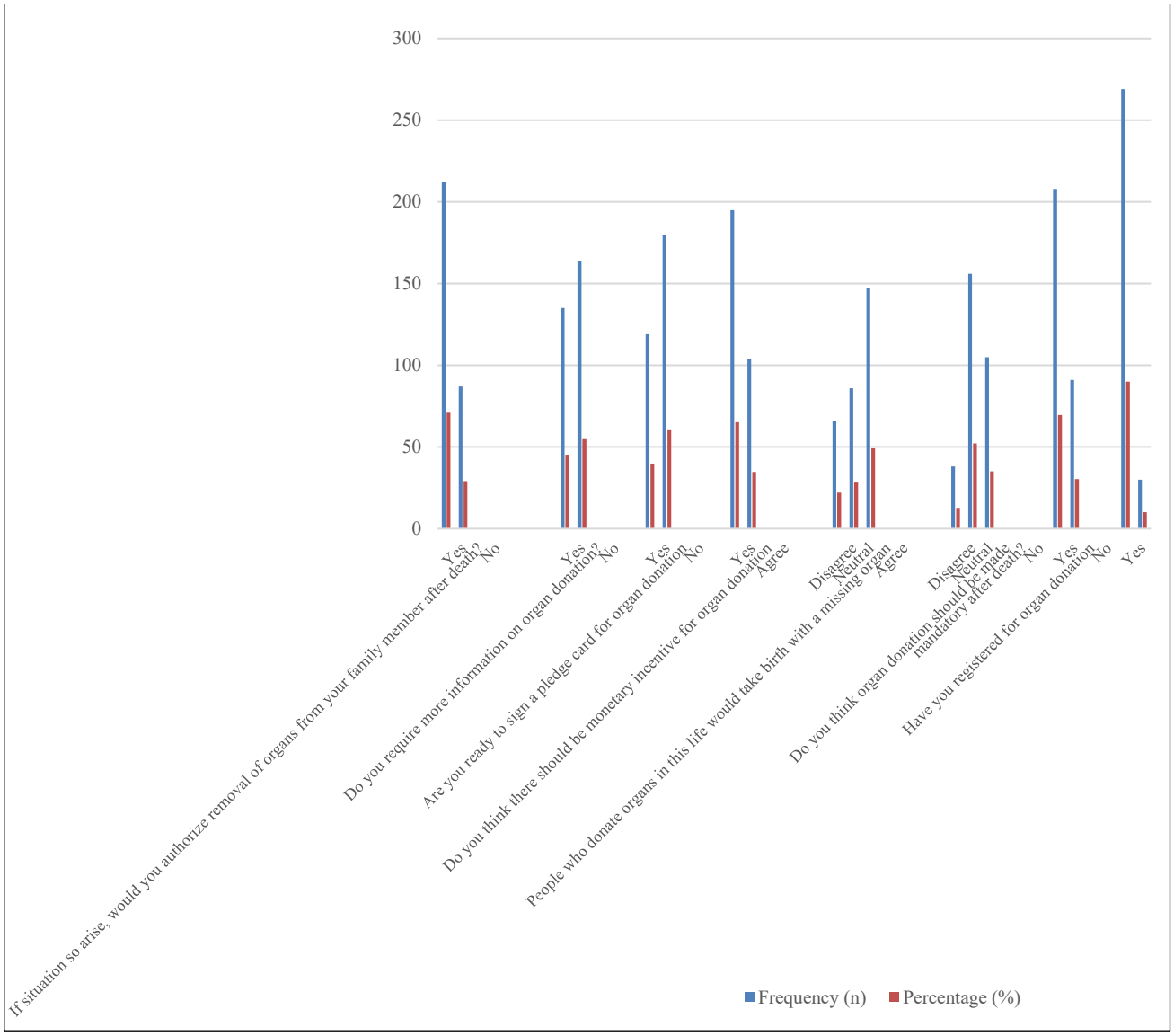

Figure 2: Attitude and practices related to organ/tissue donation among the participant.

Table 2: Association of knowledge between gender, education and socio-economic status.

Variables	Gender (p)	Education (p)	Socio economic status (p)
Have you ever heard about organ donation?	0.006	0.018	0.468
Have you ever heard about these organ donations? (eg kidney, eye donation)	0.197	0.134	0.004
Organ donation means removal of organs from	0.679	0.001	0.000
Can organs be removed without permission of patient or family member?	0.598	0.002	0.057
Awareness regarding legislation on organ donation and transplantation?	0.081	0.000	0.001
In general do people in society donate organs?	0.324	0.229	0.000
Do you know that some people die because of nonavailability of organs?	0.869	0.001	0.000
Does your religion allow organ donation?	0.006	0.028	0.000
Only rich and VIPs are provided organs for transplantation	0.457	0.001	0.000

In terms of attitudes and practices, only 29.1% had donated blood in the past. About 54.8% would authorize organ removal from a deceased family member, but only 34.8% were willing to sign an organ donor pledge card.

Notably, 90% of respondents had not registered for organ donation. Additionally, 60.2% expressed a need for more information, 49.2% remained neutral about monetary incentives, and 12.7% believed that donating organs might result in being born without an organ in the next life (Figure 2).

A chi-square study revealed significant relationships between knowledge and characteristics such as gender, education, and socioeconomic level. Awareness of organ donation was shown to be substantially linked with gender ($p=0.006$) and education ($p=0.018$). People with better education and higher socio-economic status were more likely to know that organs can be donated by both living and deceased people and that the removal of organs requires proper consent. Misconceptions about organ donation, awareness of legislation, and willingness to donate were also significantly linked to education and economic status ($p<0.05$). These findings highlight that higher education and better socio-economic status are strongly linked to greater awareness, fewer misconceptions, and more positive attitudes toward organ donation among urban residents of Vijayapura (Table 2).

DISCUSSION

The first successful corneal, kidney, and heart transplants were performed in India in 1960, 1967, and 1994, respectively. Organ donation in India is a critical healthcare issue that, when successful, represents a significant medical milestone, but continues to face major challenges due to low awareness and inadequate supply. The country's organ donation rate remains considerably below worldwide standards, despite a substantial pool of potential donors formed by the high number of road traffic incidents resulting in brain death. India has developed a legislative framework through the Transplantation of Human Organs and Tissues Act (THOTA) of 1994, and the National Organ and Tissue Transplant Organisation (NOTTO) is responsible for organising and promoting organ donation activities throughout the country. In our study, the majority, 72.2% had heard about organ donation; there are still gaps in detailed knowledge and practical willingness to donate. 34.8% were willing to sign a pledge card, and 90% had not registered as donors, showing a clear gap between knowing and actually taking action. Similar findings were reported by Vijayalakshmi et al in Bengaluru, 76% supported organ donation, and 62.2% were willing to donate after death. Both studies found that education, better income, and being male were linked with better knowledge and more willingness to donate.[12]

Vijayalakshmi et al in Perambalur reported a 84.7% of people had only heard about organ donation, but only 16.8% had pledged, and just 5% had registered as donors. In our study, 72.2% had heard about organ donation, but only 34.8% were willing to sign a pledge card. Both studies found that higher education and upper-class status improved knowledge and willingness. Despite good awareness, over 65% in both studies lacked legal knowledge, showing the need for targeted education to increase actual donor registration. Similarly, Devarsh Prajapati et al in Surat, 67.3% were aware, but just 7% said they would definitely sign a donor card.[13,14] Sarveswaran et al found that 89.1% were aware, but only 28% had adequate knowledge, and just 2.3% were registered and showing high awareness but very poor actual practice.[15] These studies highlight that while many people know about organ donation, very few register or pledge to donate. Community-based, culturally sensitive educational programs in local languages are essential to improve understanding and to turn knowledge into action. However, this study has limitations. The single urban site and moderate sample size limit generalizability to other populations. The cross-sectional design does not capture changes over time or causal links, and self-reported responses may involve recall or social desirability bias; deeper cultural, family, and religious factors were not explored in detail.

CONCLUSION

This community-centered cross-sectional study of Vijayapura urban inhabitants discovered a moderate level of awareness regarding organ donation but major gaps in detailed legal information and real willingness to donate. Misconceptions related to religion, body disfigurement, and lack of registration were common barriers, while education and socio-economic status were strongly linked to better knowledge and willingness. These findings highlight the need for focused awareness campaigns, community engagement, and culturally sensitive interventions to dispel myths, promote informed decision-making, and increase actual registration for organ donation in urban communities.

Recommendations

Community-based awareness programs should actively educate urban residents about the legal process, benefits, and myths surrounding organ donation. Health education campaigns must address religious and cultural misconceptions and highlight the importance of registering as organ donors. Integrating organ donation education into school and college curricula can help build supportive perceptions from an early age.

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