

Perception of organ donation and its basic norms: A study among hospital employees



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ABSTRACT

Background: Organ donation is a process of retrieving an organ or tissue from a living or deceased donor and transplanting it to a recipient to save his life. Every year lakhs of patients are diagnosed with organ failure in this country; however, only 2–3% requirement is met and large number of patients die because lack of donated organs. Lack of awareness and motivation toward organ donation seems to be the major reason for the lack of supply of donated organ. **Aims and Objectives:** The present study was planned to assess the awareness and motivation toward organ donation among the support employees of a tertiary care medical organization. **Materials and Methods:** The study was conducted on 150 non-medical employees at a newly established teaching hospital at West Bengal. All the participants were individually approached for a face-to-face interview using a pre-structured and pre-validated questionnaire. The data were analyzed using Microsoft excel and Stata 12 software. **Results:** Among the study participants, 84.66% were aware about organ donation but only 36.66% expressed willingness for organ donation. The willingness was higher among male. The knowledge about organ donation was inadequate (mean knowledge score < 50%). There was strong positive co-relation between mean knowledge score and mean motivation score. **Conclusion:** The non-medical employees have inadequate knowledge regarding the facts and legislation of organ donation. Targeted and focused sessions about organ donation should be arranged for them to address the knowledge-gap.

Key words: Organ donation; Knowledge; Motivation; Non-medical public

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INTRODUCTION

The human organs, tissue, and the whole body after death are invaluable gifts to fellow human, medical science, and research. Its importance and application are beyond estimation. Every year, around 2–5 lakh people are diagnosed with organ failure and a long queue of people wait for donated organs for transplantation surgeries to overcome their life and death situation, only 2–3% of the requirements are met.^{1,2} Every year lakhs of people undergo road traffic accident and around 70% of them are declared brain dead.³ However, the organ donation was only 0.86/million in 2017 as per record, being highest

in the state of Tamil Nadu 1.3/million.^{2,4,5} Although, it has been 30 years since the legislation related to organ donation, “Transplantation of human organ Act” was passed in 1994 in India with new amendments in 2014 and 2017, still the organ donation rate, specially deceased organ donation is consistently lower.^{4,6} The imbalance between organ demand and supply persists throughout the world including Europe and US due to various reasons including lack of understanding, difficulty in obtaining consent, general ethical concerns, etc.⁷

The legislation in India supports the living donation (kidney and liver) and deceased donations (donation after brain

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death) of various other organs such as heart, lung, pancreas, and gut and tissues such as cornea, musculoskeletal tissue, and skin. In Western countries, donation is also feasible after circulatory death or cardiac death.^{4,5,7}

Various studies were conducted regarding knowledge, attitude, and practice of organ donation among various population groups at various regions of the India and abroad focusing on students, medical and nursing professionals, general population, patients and their families, etc.^{1,2,6-18} In various previous surveys, it was seen that people have diverse knowledge regarding organ donation with poor practices.⁵ However, no study to our knowledge was focused on non-medical support employees of any health care organizations.

Aims and objectives

The present study was planned to know the level of awareness, perception, and willingness toward organ donation of the non-medical employees who are an integral part of the team for delivering the health care at a newly established tertiary care medical institution at rural part of West Bengal, India.

MATERIALS AND METHODS

The present study is an observational and cross-sectional study based on face-to-face interview on pre-structured and pre-validated questionnaire. The study was conducted among the various support staffs at a newly established tertiary care medical college and hospital. After obtaining ethical approval (ref no 2022/49) from the Institutional Ethics committee, the study was conducted on the population working as non-medical contractual staffs in various departments of the Institute. Apparently healthy people without any communication issues were included in the study after taking proper consent.

The sample size was calculated as 138 (based on formula sample size $[n]=4pq/d^2$, P [prevalence of positive attitude toward organ donation]=0.67, obtained from a previous study,⁶ $q=(1-0.67)=0.38$, $d=8\%$ error). Considering 15–20% non-response rate, 170 people were approached and finally 150 people gave their consent for the interview.

The questionnaire used in the study was drafted based on extensive literature search and was validated by three external experts.^{1,3,6,10-13,15,18} A brief pilot study was conducted using the same structured questionnaire by randomly selecting 15 people from a similar population before the actual study.

The study questionnaire had three subdivision-questions for collecting demographic data (11 items), questions for assessing the knowledge (10 items) and awareness about organ donation, and questions for assessing motivation toward organ donation (8 items). Individual face-to-face interview took approximately 15–20 min to conduct.

The responses were analyzed using Microsoft Excel, Stata 12, and online statistical (Omni calculator) software.¹⁹

RESULTS

The study population ($n=150$) interviewed in the present study, 76% were male and rest were female. According to age, majority of population 108 people (72%) were below 40 years, 42 people were above 40. The mean age was 26 in below 40 group, and the mean was 43 in above 40 group. The overall age range of the population was 19–54 years, mean being 34 years. Based on education status, the study population was divided into three groups – 30% population has schooling <7 years in, 37% had schooling for >7 years, and 33% had college education or above. Staffs from rural area were majority (48.67%) followed by semi-urban and most of them belonged to Hindu community (85.34%).

In this study, 54 people (36.66 %) showed willingness to donate organ, among them 45 were male and nine were female. Thirty-three people (22%) were undecided about organ donation (Table 1).

However, majority (41.66%) were unwilling to donate organ. Male gender and people <40 years showed more willingness toward organ donation.

To assess the knowledge about organ donation, ten questions were used with 4 answer choices in each, it was found that majority (84.66%) of people were aware about the term “organ donation” (Table 2), but most of them had limited knowledge about which organs could be donated,

Table 1: Willingness about organ donation among respondents

Parameters	Total percentage	Gender		Age	
		Male (%)	Female (%)	<40 years (%)	>40 years (%)
Willing to donate organ	36.66	38.46	33.33	36.2	38.23
Unwilling to donate	41.33	37.60	51.51	39.65	44.11
Not decided	22.00	23.94	15.15	24.13	17.64

only 23 of them knew that many organs and tissues including skin and bone could be donated. Only 10 of them (6.66%) were aware that organ donation can be possible during life, at “brain dead” situation and immediately after death depending on type of organ and available facility. Although 70% of the population admitted to hear about the term “brain death,” only 12 of them (8.66%) knew the meaning of the term. About 53% people knew that organs cannot be donated for monetary gain and 33% knew that even after signing a “donor card,” a person can change his/her mind toward organ donation.

To assess the awareness about organ donation, the knowledge score was calculated. For the calculation, each correct option was scored as “1,” and thus, the highest total score was “10” for knowledge/awareness-based questionnaire. The score up to 5 was considered low, score 5.1–7 was considered average, and score >7 was considered high. The mean knowledge score was 3.5 in the study population – which was low.

Motivation score was calculated by assigning score 0–2 (“2” for best positive/correct answer, score “1” for neutral answer and “0” for negative answer) in questions with three options. The questions with only “Yes/No” choice, “1”

was given for positive answer and “0” for negative answer. Highest motivation score possible was 13. The highest mean motivation score (80%) was obtained by the group having high school education (Table 3).

None of study population donated organ before or signed any donor card. The mean knowledge score was higher in persons having college/higher education than those who had primary school level education; however, the persons having high school education had highest mean knowledge score as well as motivation score among all the interviewed group (Table 4). There was strong positive correlation between the knowledge and motivation score of the participants.

The participants have heard the term organ donation from various sources-media, family/friend and workplace. Majority of them have heard it at their workplace (38%) (Graph 1).

Majority of the participants believe that lack of awareness (60.66%) about the importance and need of organ donation was the main reason behind the shortage of organ donation in our country, while traditional belief regarding rebirth, no compensation, mistrust toward the healthcare

Table 2: Knowledge-related questions

S. No.	Questions	Correct answer	Percentage
1	Have you heard the term “organ donation”?	Yes	84.66
2	Which organs/tissues can be donated?	Most of the organs -eye, kidney, liver, heart, lung, pancreas, gut etc., including bone, skin	15.33
3	When organ donation can be done?	During life/while diagnosed as “brain dead”/ immediately after death-all of the above	6.66
4	Have you heard about “brain death”?	Yes	70.00
5	What is your understanding of brain death?	Person on artificial life support with no brain stem functioning	8.66
6	When all the organ and tissues from a donor’s body can be utilized in best way to save others’ lives?	While declared as “brain dead”	8
7	Can anyone donate organs for monetary gain?	No	53.33
8	Who can be an organ donor?	Any adult person regardless of age or medical condition	46.00
9	If a person decides to donate organ and sign a donor card, he cannot change his mind regarding organ/body donation	He/she can change mind	33.33
10	Do you know the rules and procedures related to organ donation?	Yes	10

Table 3: Motivation-related questions

Questions	Best positive answer	Percentage
Are you willing to donate your organs?	Yes	36.66
Will you discuss your willingness to donate organs to your near and dear ones?	Yes	42
Will you support the organ donation by your near and dear ones?	Yes	62.66
Whom would you like to donate the organs?	Any person in need	78
In case you need an organ, from whom will you prefer to receive?	Any available donor	82.66
Are you willing to donate your full body after death?	Yes	41.33
Would you like to motivate the patients or persons around you for organ donation?	Yes	68
Would you like to know the detailed rules and regulations for organ donation in a training session	Yes	64

system or lack of structured protocol, etc., were the other contributory factors causing very limited number of organ donations in India (Graph 2).

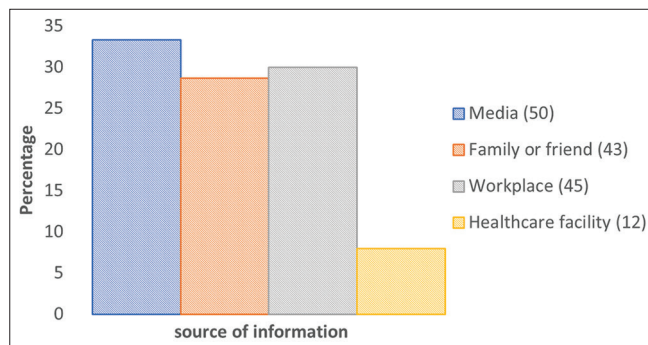
DISCUSSION

The present study assessed the knowledge and motivation regarding organ donation of non-medical employees in a teaching hospital in West Bengal. About 84.66% of the population heard about organ donation. The mean knowledge score was low (<50%) and only 36.67% people showed willingness to donate organs.

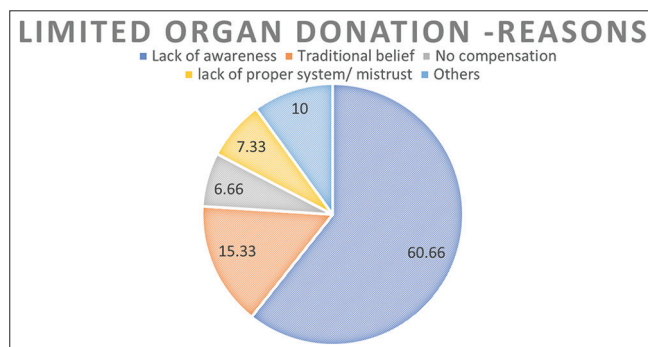
Previous studies showed various results about knowledge and attitude toward organ donation as different population was surveyed – starting from medical professionals, nursing fraternity, medical and nonmedical college students, general population, patients attending “Out Patients Department” in the hospitals, family members of body donors, etc.^{1,3,6-18}

Table 4: Relationship between knowledge score and motivation score with education level

Education level	Mean knowledge score (%)	Mean motivation score (%)	Pearson's correlation co-efficient (r)
<7 years	30	56.14	0.9619
>7 years	38.85	80.06	
College/University	33.40	71.10	



Graph 1: Source of information about organ donation



Graph 2: The most probable reason for shortage/limited organ donation

The present study is the first one to assess the knowledge and awareness about organ donation among the non-medical employees of a newly established hospital.

A study conducted by Balwani et al., on general population (n=200) at Ahmedabad, Gujarat had similar results like the present study.³ There, 86% people heard about organ donation, and 47% people declared that they will consider organ donation. The population we selected, the non-medical support staffs of our tertiary care institute also represent a cross section of general population of West Bengal and nearby states only.

Another study conducted by Misra et al., in a community of Hariyana (n=1050) showed that 80% heard about organ donation and 71% people were willing to donate.¹

In other studies, conducted at Puducherry and Kasturba Manipal on general population, the willingness toward organ donation was 70% and 59.6%, respectively.^{11,13}

A study by De Silva et al., (2021) on doctors and nurses, showed that 83–99% were aware but only 59.3% population were willing to donate organ.¹² The population being medical personnel had adequate awareness about the necessity of organ-donation; however, willingness to donate organ was average. Hence, it may be said that the knowledge or awareness may not be the only driving factor creating positive attitude toward organ donation.

In the present study, people thought lack of awareness about the need and necessity of organ donation was the most important reason causing lack of organ donation where as in a previous study,¹¹ refusal of family was reported as an important reason leading inability to donate organ.

In the present study, it was seen that people with high school education and male gender had higher motivation toward organ donation.

In a previous study by Mithra et al., it was seen that willingness toward organ donation was increasing with higher socioeconomic status.¹³

In the same study conducted by Mithra et al., most of the participants (67%) were aware that money should not be accepted for donating organs, and 58.1% were aware that it is an offence to accept any benefit for organ donations.¹³ This finding is similar to the present study where 53.33% people knew that organ donation cannot be done for monetary gain and selling organ for money is an offence.

A study, conducted by Foong et al., on health care professionals at Malaysia showed that the doctors working at a neurosurgical intensive care unit had highest knowledge score and positive attitude toward brain death and organ transplantation than nurses and doctors working at other specialities.¹⁴

In a previous study in Japan by Murakami et al., more medical students signed donor cards after hearing a lecture by an organ-recipient doctor compared to other medical student group who only learned the organ donation related information without any real-life experience-story.¹⁵

In a study on medical students at Germany following a lecture session regarding organ donation, 42% of the students stated that their attitude toward organ donation was influenced positively by the lecture.¹⁶

In a study conducted at a brain injury patient treatment center in a tertiary care hospital, India, “an interactive educational module” was used to train the resident doctors and nurses, after which the knowledge score regarding “clinical criteria of brain death” and “legal issues related to brain death” was statistically significantly increased than the pre-intervention score. The positive attitude of the participants also increased toward organ donation in the form of pledging their own organs and counseling patients/attendants.¹⁷

In another study at Mumbai, India, among various general stream college students, 48.57% participants were willing to donate their organs initially and the willingness increased significantly (77.61%) after an educational session.¹⁸

The above findings indicate that properly planned targeted educational sessions help to increase awareness and motivation toward organ donation.

There should be planned educational sessions with real-life stories of people who could live again after receiving the “donated organ.” The real statistics about the unfortunate death of people after a long wait to receive a donated organ might also be shared.

Limitations of the study

The main limitation of the present study was small sample size and single-center study. Future studies should target larger population across multiple health care set up.

CONCLUSION

The present study revealed that there was inadequate knowledge about organ donation among the non-medical health care support employees. A strong positive correlation

was found between the mean knowledge score and mean motivation score of the study population. This survey might help in making policies to train and utilize the health care staffs to motivate general population to participate in organ donation program. Right information might help to increase motivation toward organ donation.

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Authors' Contributions:

AG- Concept, definition of intellectual content, literature survey, implementation of study protocol, data analysis and Interpretation, manuscript preparation and submission of article; **RB-** Clinical protocol, data collection, manuscript preparation and manuscript revision; **VNKM-** Data collection, manuscript preparation and manuscript revision; **SC-** Literature survey, manuscript preparation and manuscript revision; **AM-** Literature survey, statistical analysis; manuscript preparation.

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