

AN ASSESSMENT OF AWARENESS ABOUT ORGAN DONATION AMONG PUBLIC

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HOW TO CITE THIS ARTICLE:

Satish K. V, Chidananda P. S, Chetan S. "An Assessment of Awareness about Organ Donation among Public". Journal of Evidence based Medicine and Healthcare; Volume 1, Issue 12, November 24, 2014; Page: 1518-1528.

ABSTRACT: OBJECTIVE: Although organ transplantation can save many lives, there is a shortage of organ donors. One of the reasons for shortage of donors may be unawareness about organ donation. We conducted a cross-sectional study to assess the awareness and attitude towards organ donation among adults. **SUBJECTS AND METHODS:** The study included 200 undergraduate students, postgraduate students, nurses, teachers and public. A questionnaire was administered at the time of interview and the data was collated. **RESULTS:** Majority of people were aware about organ donation (73% were aware, 18% had never heard about it and 9% did not respond). About the purpose of organ donation, 66% of them felt organ donation is done to save someone's life, 9% believed it was out of compassion/ sympathy, 9% opined that it was for money, 10% consider it as a responsibility and 6% gave other reasons. Majority (90%) of the people felt that there is some amount of risk involved in organ donation. Twenty-eight percentage of people surveyed felt that their organs would be misused and that was most common reason for not donating organs. Seventy eight percent of the participants were willing to donate organs after their death. **CONCLUSION:** Awareness about organ donation is good among the public and majority of the people surveyed are willing to donate organs after their death.

KEYWORDS: awareness, Organ Donation.

INTRODUCTION: Organ transplantation is the last resort for reviving people from organ failures, despite advances in the emerging field of regenerative medicine, which is not as popular as organ transplantation in developing countries.¹ Increasing number of successful transplantations has pinned hope on life, even with organ failures. Technological advancements in medicine, awareness and acceptance among the medical fraternity have increased the need for donors. Although more than 25,000 donors/million are needed every year in India,² the number of donors remains abysmally low with the national organ donation rate being 0.16 per million populations and Tamil Nadu leads with rate of 1.15 per million population.³

Hence, there is a huge gap between the patients requiring transplant and potential donors. There are enough organs to transplant, but there are not enough available to donate. A survey was conducted to know the public attitude towards donation after the passing of Transplantation of Human Organs Act, which legalized organ donation from brain stem dead patients.⁴ The survey reported that significant number of people were willing to donate eyes but not solid organs. An in-depth analysis of the survey revealed profound public apprehension and beliefs that prevent people from being a donor.

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Frequent reports of illegal organ trafficking⁵⁻⁷ have deterred the public from making a voluntary organ donation. In this context, information on the public awareness about organ donation could be vital in framing appropriate legal clauses and discovering ways to overcome the public apprehensions. The main objective of this study was to identify the level of awareness and factors influencing the organ donation among the public. In addition, we intend to suggest measures for promotion of organ donation and retrieval.

MATERIALS AND METHODS: A cross-sectional study was conducted among the undergraduate students, postgraduate students, nurses, teachers and public. After obtaining an informed consent, a questionnaire was administered to each participant at the time of interview. Two hundred people, 40 each representing the above-mentioned categories, were interviewed. The study was conducted within the purview of the ethical guidelines for biomedical research on human participants issued by Indian Council of Medical Research (ICMR) 2006.⁸ Teachers belonging to medical and allied health sciences and participants below 16 years were excluded from the study.

RESULTS: Table 1 depicts the socio-demographic characteristics of the study population. Majority of the participants were in the age group of 18–25 years (52%). Gender distribution was almost equal (51% of cases being females). Majority of the participants had good educational background with two-thirds of them having had higher secondary education, 50% were graduates or postgraduates and number of illiterates was negligible (5%).

LEVEL OF AWARENESS ON ORGAN DONATION: The level of awareness about organ donation was significant among the participants (Table 2). Participant's awareness was not limited to kidney and eye donations; they were also aware about liver and skin transplantation. With respect to the purpose of organ donation, 66% reasoned that organ donation was done to save someone's life, 9% believed it was out of compassion/ sympathy, 9% opined it was for money, 10% consider it as a responsibility and 6% gave other reasons. Nearly 4% of them apparently considered blood as an organ that could be donated. Seventy five percent of the participants believed that living persons could donate organs, while 20% opined the other way. With respect to the age of donation, 55% of the participants viewed 10–55 years as the ideal age for donation. Their source of information about organ donation were doctors (19%), internet and online resources (12%), television (13%), radio (1%), newspapers and magazines (32%), friends and colleagues (4%), and others(11%).

GENERAL BELIEFS ABOUT ORGAN DONATION AND TRANSPLANTATION: In general, 66% of the study participants viewed that organ donation should be promoted while less than a quarter of them were against promoting organ donation (Figure 1). More than half of the participant opined human immunodeficiency virus (HIV) infection (14 %), hepatitis (5%), malignancy (4%) and all three conditions mentioned earlier (69%) as contraindications for organ donation. Majority (90%) of the participants acknowledged that there was some amount of risk (infection, body weakness, bleeding, anxiety-depression, pain and multiples of these problems)

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involved in organ donation (Table 3). Nearly one-fourth of the participants were apprehensive about misusing or misappropriation of the organs and reasoned it as the most common reason for people not willing to donate the organs.

ETHICAL ASPECTS AND GOVERNING BODY: On the ethical aspect as to who holds the authority for regulating the organ donation, 40% of them felt that surgeon's consent alone was sufficient for obtaining an organ from living donors (Table 4). On the contrary, 49% of the participants felt that the family consent was important for obtaining a cadaver donor organ. Fifty percent of the participants acknowledged the existence of separate law for governing organ donations.

ATTITUDE TOWARDS ORGAN DONATIONS: Other than blood donation (18%), rest of them had never donated any organ or tissues. Nevertheless, 43% of them acknowledged that their friends or relatives have donated organs. In future, half of them were willing to donate their organs and 8% were against organ donation. Seventy eight percent of the participants were willing to donate after their death. Twenty two percent of them were willing to donate to their family members (Table 5).

FACTORS RELATED TO FINDING A DONOR: Factors that probably influence the donor included relation of recipient with the donor, age, religion, health, and assurance of transplant outcome.

ONUS OF UNCLAIMED BODIES AS DONOR: Majority of them (50%) considered that the onus of using unclaimed bodies as donor should be with the medical colleges and to a lesser extent with the charitable organizations, police and judiciary. Twenty percent of them opined that no one should be allowed procure organs from unclaimed bodies.

DISCUSSION: Organ transplantation is the established treatment for the failure of vital organs such as the kidneys, pancreas, liver, heart or lung. Kidney transplantation is the most common type of organ transplant. Successful organ transplants have their roots way back to historical times. In the second century BC, Sushruta had used autografted skin transplantation in rhinoplasty.⁹ Eduard Zirm in 1905 performed the first successful corneal transplantation.¹⁰ Alexis Carrel, a vascular surgeon won the Nobel Prize in 1912 for laying the ground work for transplantation surgeries by developing novel suturing techniques, performing skilful vessel anastomosis and identifying the problem of organ rejection.⁹ Later there has been successful reports for liver, lung and heart transplantations.

The global prevalence of knowledge on organ donation ranges between 60% and 85%.¹¹ Evidence shows that factors such as family and patient socio-demographics; and knowledge, attitudes, and beliefs about donation that significantly correlated to positive organ donation.¹² The results of the current study showed that the undergraduate students, postgraduate students, nurses, teachers and public are aware about organ donation.

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Majority of them felt that there is some risk involved in organ donation. They had reservation about it because of misuse of their organs. However, 78% of the participants were willing to donate after their death.

Similar to the findings of this study, Bilegel et al. reported that nearly 50% of the medical students surveyed were willing to donate organs.¹³ There was no difference in the attitude of willing to donate organs between the public and the medical students.¹³ The participants in this survey also preferred live organ donation to cadaver donation.

Zambudío et al conducted a survey among nurses and found that 63% of them were in favour of donating their own organs as against 37% who were either undecided or against organ donation.¹⁴ In the current study, half of the participants were ready to donate their own organs. Three main factors that influenced the attitude of donation was fear of mutilation of the body; the opinion of a respondent's partner toward organ donation and religion.¹⁴ In the present study, age, religion, health, and assurance of transplant outcome were the factors that apparently seemed to influence the attitude of organ donation.¹⁴ In a survey, conducted by Shahbazian et al, nearly 75% of them favoured cadaveric organ donation and were willing to donate organs after their death,¹⁵ and findings in the current study were also the same.

Saleem et al. found that 50.1%, 36.5% and 23% of the people surveyed opined that organ donations could come from cadavers, living persons and both, respectively.¹⁶ In the present study, three-fourth of them viewed that organ donation come from living persons and 20% thought it was from cadaver donation. Nearly 50% of the people survey had fair amount of knowledge on the risks of organ donation; however, 28.7% said that organ donation involves no risks.¹⁶

In the current survey, 90% of them acknowledged that there was some risk associated with organ donation. The risks (bodily weakness, infection, bleeding, pain, anxiety and depression) that they identified in this study were also similar to that of the Saleem et al. study.¹⁶ The key factors that influenced the organ donation were religion of the recipient and the assurance that the donor organs would be treated respectfully.¹⁶ In future, 37.7% people said that they would never like to donate any organ, and 62.3% of the people were positive about donating organ.¹⁶ The opinion as to who should consent organ donation after death was similar to the current study finding; nearly half of them felt that family consent was important.

Among those who had donated organs, Vidal Blandino et al. found that the primary source of information was television followed by healthcare professionals and transplant coordinators.¹⁷ in the present survey, participants derived information on organ donation through doctors, internet and Online resources, television, radio, newspapers and magazines, friends and colleagues.

Ahlawat et al. conducted a survey among doctors, paramedical workers, nursing staff and other staff members working in six distinct intensive or emergency care units in the hospital.¹⁸ Significant percentage of subjects (55%) had positive attitude towards donating organs after death and 27% were undecided.¹⁸ Factors that strongly influenced people to donate organs after death were: favourable attitude of the spouse, religious beliefs supporting organ donation, knowledge of hospital's organ transplant programme, personal experience of the organ donation

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scenario, having ever donated blood or involvement in social activities, willingness to become an eye donor and willingness to become a living kidney donor.¹⁸

The current study revealed some findings similar to those reported by earlier studies, and few contrasting findings. Moreover, this study also highlights the need for some programme that would work in favour of the medical community as well as those who need organ transplantation.

Suggested measures for promoting organ donation include:

- Establishment of a National Registry for updating status of donors and recipients, similar to that in western countries (United states of America, United Kingdom or Australia).
- A draft on universal organ donor card with relevant information that could be applicable to all citizens of India.
- Empowering organisations for creating awareness about human organ donation through.
 - Organisation of celebrating of national organ donor day and week.
 - Publishing relevant articles on organ donation in lay press.
 - Including a topic on organ donation in primary education in a simplified version.
- Constitution of a National Advisory Body to regulate all aspects of human organ donation.
- Addressing issues related to the attitude, knowledge, practice, fear and misconceptions on organ donation among the public.
- The public should be encouraged to donate organ, through proper channelling of resources and information on organ deficiency and their organ donating capabilities.
- Set a platform for conducting quality research and public education programmes on organ donation.
- Proactive empowerment of good institutes to create awareness among the masses concerning the issue of organ transplantation and donation.
- Increase the awareness among the public on ethical issues of organ transplantation and organ trafficking.

CONCLUSION: In conclusion, awareness about organ donation is high among undergraduate students, postgraduate students, nurses, teachers and public. However, they are reluctant to donate due to risks involved and misuse of organs donated. Measures to overcome issues related to the attitude, knowledge, practice, fear and misconceptions on organ donation among the public will help to improve organ donation.

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SOCIO-DEMOGRAPHIC PARAMETERS	FREQUENCY (n = 200)	PERCENTAGE
Age category		
<18	22	11%
18-25	105	52%
25-40	43	22%
>40	30	15%
Gender		
Male	98	49%
Female	102	51%
Level of Education		
Primary	18	9%
Secondary	21	10%
Higher secondary	44	22%
Graduation and above	107	54%
Illiterate	10	5%
Occupation		
Student	127	64%
House wife	8	4%
Govt. employee	36	18%
Non-govt. employee	15	7%
Self-employed	0	0
Retired	8	4%
Unemployed	6	3%
Marital status		
Single	141	71%
Married	46	23%
Divorced	0	0
Widowed/Separated	13	6%
Religion		
Hindu	155	77%
Christian	23	12%
Muslim	22	11%
Monthly income in rupee		
≤ 5000	90	45%
5000-20000	44	22%
20000-50000	20	10%
50000-80000	10	5%
80000-100000	28	14%
100000	8	4%

Table 1: Socio-demographic characteristics of the study population

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PARAMETERS	FREQUENCY (n = 200)	PERCENTAGE
Heard of organ donation		
Yes	146	73%
No	36	18%
Don't know	18	9%
Reasons for organ donation		
To save someone's life	133	66%
Out of compassion/sympathy	18	9%
For money	18	9%
As a responsibility	20	10%
Others	11	6%
Organs that can be donated		
Kidney	77	39%
Blood	33	16%
Heart	7	3%
Eyes	48	24%
Skin	22	11%
Liver	8	4%
Bone marrow	1	1%
Lungs	4	2%
All of the above	0	0%
None of the above	0	0%
Age limit for donating kidney		
2 years to no upper limit	15	8%
Persons between 10-50 years	110	55%
No age limit	43	21%
None of the above	32	16%
Can a living donate?		
Yes	149	75%
No	40	20%
Don't know	11	5%
Persons with these diseases not fit to donate		
HIV	28	14%
Hepatitis	11	5%
Cancer	7	4.00%
All of the above	138	69%
Others	16	8%
Aware of law to govern donation and transplantation of Human organs in India		
Yes	100	50%
No	38	19%
Don't know	62	31%

Table 2: Level of awareness about organ donation

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PARAMETERS	FREQUENCY (n = 200)	PERCENTAGE
Risks of donating organs		
Infection	35	17%
Bodily weakness	19	10%
Anxiety and depression	1	1%
Pain	5	2%
Bleeding	14	7%
All of the above	106	53%
None of the above	20	10%
Chances of donated organs misused/ misappropriated		
Never	31	15%
Sometimes	74	37%
Often	22	11%
Most of the time	18	9%
All of the time	55	28%
Reasons for not donating		
Fear the organs could be wasted/mistreated	11	6%
Would not want to be cut open or mutilated	87	44%
Religious beliefs	12	6%
Family or parental refusal	20	10%
Harmful for donor	55	26%
Fear of post-operative pain	9	5%
Can lead to organ trade or violation of rights	6	3%
Others	0	0%

Table 3: Beliefs about organ donation and transplantation

PARAMETERS	FREQUENCY (n = 200)	PERCENTAGE
For live organ donation consent to be obtained from		
Doctor	81	40%
His family	50	25%
His spouse	0	0
His friends	5	3%
His doctor	31	15%
Others	33	17%
For cadaveric organ donation consent to be obtained from		
No one	51	26%
Family	99	49%

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Spouse	16	8%
Doctor	14	7%
Friend	4	2%
Others	16	8%
For donations from mentally ill can parents/guardians make decisions		
Yes	114	57%
No	40	40%
Don't know	46	23%

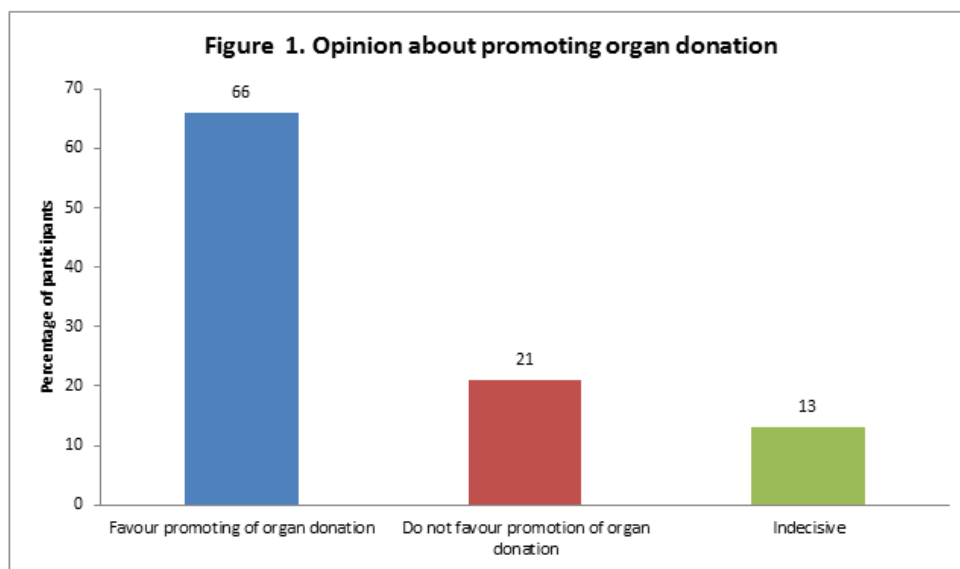
Table 4: Consenting authority for donating organs

PARAMETERS	FREQUENCY (n = 200)	PERCENTAGE
Ever donated an organ or tissue		
Yes	36	18%
No	164	82%
Aware of these individuals who have donated		
Family member	36	22%
Friend	34	21%
Colleague	11	7%
No one	68	41%
Others	15	15%
Willing to donate organs		
Would never consider donating an organ	12	8%
Will think about it	82	50%
Would only like to donate under other special circumstances	18	10%
Would definitely want to donate irrespective of circumstances	52	32%
Wishing to donate		
After my death only	129	78%
Before my death	12	8%
Anytime	23	14%
Willing to donate to		
Family member	33	22%
Colleague	13	8%
Can be anyone	106	63%
Stranger	0	0%
Friend	12	7%

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Others	3	2%
Is there a need to promote organ donation		
Yes	138	66%
No	27	21%
Don't know	45	13%

Table 5: Attitude towards organ donation



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Date of Submission: 16/10/2014.
Date of Peer Review: 17/10/2014.
Date of Acceptance: 03/11/2014.
Date of Publishing: 20/11/2014.