

Organ Donation Awareness and Attitude among Graduate (Non-health Care) Population in Suburban Chennai

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Abstract

Background: Organ transplantation has recently been the most preferred treatment modality for end-stage organ disease and organ failures. However, the primary hindrance to the organ transplantation programs worldwide is the shortage of donor organs. The need for the transplants is high and the gap between organs available for transplantation and the number of patients waiting for a transplant is widening globally.^[3] Because of this low donation rate, patients requiring transplantation must wait for a longer time. The graduates form the majority of the population in the current society and have a big hand regarding decisions in their family. Thus, there is a great need for increasing awareness about the importance of organ donation and the legal provisions related to it. **Methods:** The participants of the study were either patients or attenders visiting the surgical outpatient department. Questionnaires were provided to them, along with consent forms. The data was tabulated and analyzed. **Results:** The total number of participants were 210, out of which 152 (72.38%) used the English questionnaire and consent forms. All participants were graduates with minimum bachelor college degrees. **Conclusion:** It was found that the attitude towards organ donation did not significantly vary between gender, different age groups, education degrees, employment nature or their religion in this population group. However, from the results of this study we could conclude that the knowledge regarding brain death, the current status in this society regarding requirement for organs need to be emphasized to the general public through sensitization programs.

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INTRODUCTION

Organ donation is the process of removing tissues or organs from a live or recently dead person to be used in another. The former is the donor, and the latter are the recipient. Organ transplantation is the most preferred treatment modality for end-stage organ disease and organ failures.^[1] People of all ages can become donors. Some organs can be donated by a living person. Almost all organs can be

donated by someone dead, but this must reach the recipient within a few hours after the donor's death. In case of live donation, the donor should give his consent. In case of cadaver\brain dead donor, relatives next of kin available need to provide consent.

Almost everywhere organ donation is voluntary. Two voluntary systems are in place.

1.opt In - Where in the donor gives consent.



2.opt Out - Where anyone who has not refused is considered as a donor.

In India we have the opt in system, while many western countries practice the opt out system.^[2]

Some of the organs that are commonly donated include Kidneys, Eyes (cornea), Heart, Lungs, Liver, Pancreas, Skin, Bone, Tendon & Intestine. Looking at few of the Historical Aspects of Transplantation in India it is to be noted that in 1967 the First successful cadaver Kidney Transplant in India was done at KEM Hospital, Bombay. In 1994 the First successful heart transplant was done at AIIMS, new Delhi. In 1995 the First successful multi-organ transplant was done at Apollo Hospital, Chennai. In 1998 the First Successful Lung transplant was performed at Madras Medical Mission Hospital, Chennai & in 1999 the First Pancreas Transplant took place at Ahmadabad.

Society plays a crucial role in transplant program especially in case of cadaver transplants. However, the primary hindrance to the organ transplantation program worldwide is the shortage of donor organs.^[3] There is an urgent need for increased public awareness regarding organ donation and greater effort must be taken to dispel public concerns regarding the same. Organ donation can give a new twist to tragedy. The need for the transplants is high and the gap between organs available for transplantation and the number of patients waiting for a transplant is widening globally.^[4] Because of this low donation rate,

patients requiring transplantation must wait for a longer time. Patients with end-stage renal disease can be maintained on dialysis till they get the donor kidneys. However, patients requiring heart, lung, and liver cannot be maintained for an extended time on mechanical devices for reasons like medical and financial issues. Due to this imbalance in availability and demand, kidneys were harvested from some Indians by exploiting their poverty. To ban this illegal sale of organs, in the year 1994, the Government of India passed "the transplantation of human organs act."^[5] Under this act, donation of organs by deceased persons was made legal; and the transplantation between unrelated live individuals was made illegal. Nevertheless, due to lack of knowledge about the legal and procedural details of organ donation, kidneys are sold in the black, and frequently, the police uncover these illegal kidney transplant rackets.^[6] Thus, there is a great need for increasing awareness about the importance of organ donation and the legal provisions related to it. Although the public is accustomed to blood donation, there are hesitations regarding organ donation.^[7]

For the success of a transplantation program, the level of awareness, attitudes, knowledge, perceptions, beliefs, and willingness are important in the community.^[8] The graduates form the majority of the population in the current society and have a big hand regarding decisions in their family. This study has been conducted to shed light on the level of awareness regarding



organ donation among people with a minimum college degree which is not from any health care line of education from a section of suburban population in the metropolitan city of Chennai to evaluate the associated factors that would help plan sensitization programs to increase awareness at the graduate community level and reduce the gap between demand and supply of organs.

MATERIALS AND METHODS

This study was conducted in Sri Muthukumaran Medical college, hospital & Research institute, near mangadu, which is a multispecialty private teaching hospital that caters to a wide range of public residing around the western suburbs of greater Chennai. The participants of the study were either patients or attenders visiting the surgical outpatient department. The literacy rate and monetary standards are average and below compared to the city limits population as per the modified kuppuswamy scale.[9] So graduate people with a minimum college degree were taken into this study. After obtaining the clearance from the institutional ethics committee, the data was collected for about 7 months towards the end of the year 2020 and the initial part of 2021 using a questionnaire that was provided to the participants after duly obtaining consent. The questionnaires were given to the people who had some prior knowledge on or have at least heard about organ donation and consented to be involved in the study. The

participants had completed degrees like BA, BCom, BSc, BBA, BE in either English or the native language Tamil. Both the questionnaire and consent forms were available in English and the local language Tamil for the ease and understanding of the participants who were not put under any form of scrutiny. None of the participants of the study had any medical background in their family of education. Few of the people who had not consented, mentioned of a fear that their names would be entered into any organ donor list without their knowledge.

RESULTS & DISCUSSION

The total number participants in the study to whom the consent forms and questionnaires were issued was controlled to minimize calculative errors and complicated statistical outcomes during data analysis, while having adequate subjects to keep the study valid representing the population in concern. The total number of participants were 210, out of which 152 (72.38%) used the English questionnaire and consent forms. There were 120 (57.14%) males in the study. Some studies have shown significant differences in willingness to donate between gender.^[11] All participants were above the age of 18 being graduates. The number of total participants in the age group of 20 - 29 were 31(14.76%), 30 - 39 were 87 (41.42%), 40 - 49 were 66 (31.42%) and people above 50 were 26 (12.38%). [Table 1] The residence of all the participants were within an approximate radius of maximum 40



Km from the hospital campus. As per their graduation degrees, 44 (20.95%) were from a commerce background and many others had some science degrees like BSc or BE. 42 (20%) were holding a degree in law and 16 (7.61%) had completed a Bachelor of Arts degree. With regards to their employment, 49 (23.33%) were self-employed in the form of running businesses, services, or shops. 87 (41.42%) were salaried individuals, working in small to big firms ranging from business outlets to IT firms. 40 (19.04%) were contract employees mainly in the building and infrastructure industry where they did not have a constant source of income. 34 (16.19%) declared they were unemployed or homemakers with no stable income in the family. Ethnicity, religious beliefs, and customs may have a role in the perceptions towards organ donation. [10 - 12] There were 111 (52.85%) Hindus, 59 (28.09%) Muslims & 40 (19.04%) Christians in the study. There were no people of any other faith or atheists in the study. All the participants were fluent in Tamil and some of them mentioned that their mother tongue was telugu. [Table 2]

Question regarding how they were aware of organ donation showed that 26 (12.38%) had heard through a word of mouth from their family and friends, 163 (77.61%) obtained knowledge on the topic through media like TV, newspapers & Internet. 21 (10%) have not heard of organ donation prior to this survey. 189 (90%) participants felt that the reasons to donate organs was to save life and 19 (9.04%) feel organ donation is for monetary benefit, while 23 (10.95%) were unsure about money being involved or were reluctant to commit. None of the participants had any prior personal experience with regards to organ donation or had known anyone alive or dead who had donated any organs. 66 (31.42%) knew what an organ donor card is and 172 (81.90%) mentioned that they were willing to carry an organ donor card expressing desire regarding organ donation after their death. The reasons given by 89 (42.38%) participants against organ donation were fear of their (Donor's) health deterioration and not due to any religious or customary beliefs. The remaining 121 (57.61%) support the subject of organ donation. [Table 3]

Table 1: Demographic data - age

		Demographic data - age			
		Male		Female	
		Tamil	English	Tamil	English
Age	20 - 29	Nil	15 (7.14%)	2 (0.95%)	14 (6.66%)
	30 - 39	9 (4.28%)	46 (21.90%)	6 (2.85%)	26 (12.38%)
	40 - 49	16 (7.61%)	18 (8.57%)	11 (5.23%)	21 (10%)
	Above 50	5 (2.38%)	11 (5.23%)	9 (4.28%)	1 (0.47%)
Total		30 (14.28%)	90 (42.85%)	28 (13.33%)	62 (29.52%)
[Tamil - 58 (27.61%), English - 152 (72.38%)]		120 (57.14%)		90 (42.85%)	
% = Percentage of total population in the study (n = 210)					

Table 2: Demographic data - Education, employment status & religion

		Demographic data - Education, employment status & religion		
		Total	Male	Female
Graduation	Arts	16 (7.61%)	7 (3.33%)	9 (4.28%)
	Commerce	44 (20.95%)	12 (5.71%)	32 (15.23%)
	Science	62 (29.52%)	39 (18.57%)	23 (10.95%)
	Engineering	46 (21.90%)	33 (15.71%)	13 (6.19%)
	law	42 (20%)	14 (6.66%)	28 (13.33%)
Employment	Self-employed	49 (23.33%)	28 (13.33%)	21 (10%)
	salaried	87 (41.42%)	49 (23.33%)	38 (18.09%)
	contract labor	40 (19.04%)	37 (17.61%)	3 (1.42%)
	unemployed	34 (16.19%)	6 (2.85%)	28 (13.33%)
Religion	Hindu	111 (52.85%)	68 (32.38%)	43 (20.47%)
	Muslim	59 (28.09%)	38 (18.09)	21 (10%)
	Christian	40 (19.04%)	14 (6.66%)	26 (12.38%)
	others	Nil	Nil	Nil
	% = Percentage of total population in the study (n = 210)			

Table 3: Results

Questionnaire regarding awareness in organ donation		
	Questions	N (%)
1.	Are you aware that organs can be donated to save a life of another person?	189 (90%)
	Yes	
	No	21 (10%)
2.	When Can Organs be donated?	11 (5.23%)
	During life	
	After death	67 (31.90%)
	Both	132 (62.85%)
3.	Which organs can be donated?	191 (90.95%)
	a. Eye	
	b. Skin	42 (20%)
	c. Heart	156 (74.28%)
	d. Lungs	21 (10%)
	e. Pancreas	34 (16.19%)
	f. Kidney	187 (89.04%)
	g. Bones	66 (31.42%)
	h. Liver	153 (72.85%)
4.	Do you have a relative whose organs have been donated?	Nil
	Yes	
	No	210 (100%)
5.	Can we sell our organs (like kidney)?	19 (9.04%)
	Yes	
	No	168 (80%)



	Not sure	23 (10.95%)
6.	Have you heard of brain death?	164 (78.09%)
	Yes	
	No	46 (21.90%)
7.	As the next of kin, would you be willing to donate the organ(s) of a brain dead relative?	179 (85.23%)
	Yes	
	No	31 (14.76%)
8.	Are you aware that a parliamentary law in India recognizes brain death as a form of death so that organs like kidneys, heart, liver and lungs can be donated to needy patients?	157 (74.76%)
	Yes	
	No	53 (25.23%)
9.	Do you know what an organ donor card is?	66 (31.42%)
	Yes	
	No	144 (68.57%)
10.	Are you willing to carry an organ donor card and express your desire about organ donation after your death?	172 (81.90%)
	Yes	
	No	38 (18.09%)
11.	What would be the one reason that would make you go against organ donation?	
	Frightened about once own health after donating	89 (42.38%)
	Donating organs is against my religious / community / family beliefs	Nil
	I support organ donation and have no fear towards it	121 (57.61%)
% = Percentage of total population in the study (n = 210)		



Consent form (English)

Participant consent form	
Project title: Awareness on organ donation in Suburban Chennai Survey study conducted by: Dr Jai Vinod Kumar M.S.	Name of Participant: Age & Gender: Address:
<p>The details of the study have been duly explained to me. I understand that involvement in answering the questionnaire is voluntary and only my opinion and current knowledge on the topic is being queried which will not put me into any form of scrutiny and I have the freedom to withdraw or decline answering the questionnaire if I am not comfortable to further involve in this study.</p> <p>I fully consent to participate in this study by answering the provided questionnaire.</p> <p>Signature of the participant: _____ Date: _____</p> <p>Signature of the Study conductor: _____ Date: _____</p>	

Questionnaire (English)

Awareness and attitude on organ donation in Suburban Chennai:
<p>Project study conducted by: Dr Jai Vinod Kumar M.S. (Questionnaire inspired by Mohan foundation)</p> <p>Dear Participant, Thank you for your valuable time and effort in answering this questionnaire. We are conducting a survey to study the awareness regarding organ donation and transplantation in our general public. All the information you provide is anonymous and confidential.</p> <p>Name: Age: Gender: Address:</p> <p>(Choose an option below by encircling) Education: (Primary, higher secondary, Undergraduate, Postgraduate, none) Employment: (Self-employed, salaried, contract labor, unemployed) Religion: (Hindu, Muslim, Christian, others) How do you know about organ donation: (Word of mouth (family & friends), Media (internet, newspapers, TV), haven't heard before)</p> <p>Please select the answers as per your opinion by encircling it.</p> <p>1. Are you aware that organs can be donated to save a life of another person? a. Yes b. No</p> <p>2. When Can Organs be donated? a. During Life b. After Death c. Both</p> <p>3. Which organs can be donated? (Choose all that are appropriate) a. Eye b. Skin c. Heart d. Lungs e. Pancreas f. Kidney g. Bones h. Liver</p> <p>4. Do you have a relative whose organs have been donated? a. Yes b. No</p> <p>5. Can we sell our organs (like kidney)? a. Yes b. No c. Not Sure</p> <p>6. Have you heard of brain death? a. Yes b. No</p> <p>7. As the next of kin, would you be willing to donate the organ(s) of a brain dead relative? a. Yes b. No</p> <p>8. Are you aware that a parliamentary law in India recognizes brain death as a form of death so that organs like kidneys, heart, liver and lungs can be donated to needy patients? a. Yes b. No</p> <p>9. Do you know what an organ donor card is? a. Yes b. No</p> <p>10. Are you willing to carry an organ donor card and express your desire about organ donation after your death? a. Yes b. No</p> <p>*****</p>

CONCLUSION

It was found that the attitude towards and the willingness for organ donation did not significantly vary between gender, different age groups, field of education, employment nature or their religion in this population group. 21 (10%) were not aware that organs can be donated to save a life of another person. 67 (31.90%) felt organs can only be donated after the donor's death. The knowledge regarding what organs can be donated is not standard in the population who knew a little about organ donation. Some of the



participants had mentioned oral that they had only heard about blood or eye donations earlier. Still almost 10% of the study population thought that organ donation is for monetary benefits. 53 (25.23%) had no idea of the legal provisions regarding brain death or organ donation. 144 (68.57%) did not know about the organ donor card. 38 (18.09%) expressed frankly that they did not want to have a donor card issued. From the results of this study, we can conclude that the knowledge regarding brain death, the current status in this society regarding requirement for organs, the gap between number of donors/ recipients, law of the land with regards to this topic and the use of donor cards need to be emphasized to the graduate public through sensitization programs for the betterment of the society.

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