



## AWARENESS AND ATTITUDE ON ORGAN DONATION IN SUBURBAN CHENNAI

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### ABSTRACT

**Background:** Organ transplantation is the most preferred treatment modality for end-stage organ disease and organ failures.[1] However, the primary hindrance to the organ transplantation program worldwide is the shortage of donor organs.[2] 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. Thus, there is a great need for increasing awareness about the importance of organ donation, the legal provisions related to it. This study has been conducted to shed some light on the level of awareness, in general public from suburban Chennai to plan sensitization programs. **Methodology:** This study was conducted at a medical college hospital in Chennai. The participants of the study were patients and attenders visiting the outpatient departments. Questionnaires were provided to them, along with consent forms. The data was tabulated and analyzed. **Discussion:** The total number of participants were 210, out of which 152 (72.38%) used the English questionnaire and consent forms. All participants were above the age of 18. The residence of all the participants were within an approximate radius of maximum 20 Km from the hospital campus. **Conclusion:** It was found that the attitude towards organ donation did not significantly vary between gender, different age groups, education status, 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.

**KEYWORDS :** Organ donation, transplantation, awareness, Chennai.

### 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 donation, relatives need to provide consent.

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

1. opt In - Where 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] This study has been conducted to shed light on the level of awareness regarding organ donation in general public 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 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 patients and attenders visiting the outpatient department. The literacy rate and monetary standards are average and below compared to the city limits population as per the modified kuppaswamy scale.[9] After obtaining the clearance from the institutional ethics committee, the data was collected for about 2 months towards the end of the year 2019 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. Only these people were taken into the study. 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. 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.

### Observations and analysis

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. The number of total participants in the age group of 18 – 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 20 Km from the hospital campus. As per their education status, 44 (20.95%) had a minimum of higher secondary education and many others had bachelor's degree too. 58 (27.61%) were either people who had no formal education or had only primary schooling. 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]

Age	Demographic data - age			
	Male		Female	
	Tamil	English	Tamil	English
18 - 29	16	15 (7.34%)	2 (0.95%)	14 (6.66%)
30 - 39	9 (4.28%)	46 (21.86%)	1 (0.48%)	30 (13.80%)
40 - 49	16 (7.62%)	18 (8.57%)	11 (5.23%)	11 (5.00%)
Above 50	5 (2.38%)	11 (5.23%)	9 (4.28%)	10 (4.76%)
Total	30 (14.28%)	89 (42.38%)	28 (13.33%)	61 (28.52%)
(Tamil - 58 (27.61%), English - 152 (72.38%))	150 (71.42%)		60 (28.57%)	

% = Percentage of total population in the study (n = 210)

[Table 2]

Education	Demographic data - Education, employment status & Religion			
	Total	Male	Female	Female
Primary	36 (17.14%)	7 (3.33%)	9 (4.28%)	
Higher secondary	46 (21.90%)	12 (5.71%)	32 (15.23%)	
Undergraduate	62 (29.52%)	19 (9.04%)	43 (20.47%)	
Postgraduate	46 (21.90%)	11 (5.23%)	35 (16.66%)	
None	42 (20%)	14 (6.66%)	28 (13.33%)	
Employment				
Self-employed	49 (23.33%)	28 (13.33%)	21 (10%)	
Unemployed	67 (31.90%)	49 (23.33%)	18 (8.57%)	
Contract labor	40 (19.04%)	17 (8.10%)	23 (11.0%)	
Unemployed	34 (16.19%)	6 (2.85%)	28 (13.33%)	
Home	11 (5.23%)	4 (1.90%)	7 (3.33%)	
Religion				
Hindu	111 (52.85%)	64 (30.48%)	47 (22.37%)	
Muslim	59 (28.09%)	38 (18.10%)	21 (10%)	
Christian	40 (19.04%)	14 (6.66%)	26 (12.38%)	
Others	0	0	0	

% = Percentage of total population in the study (n = 210)

[Table 3]

Questionnaire regarding awareness on organ donation	Question	n (%)
1.	Are you aware that organs can be donated to save a life of another person?	Yes - 189 (90%) No - 21 (10%)
2.	When Can Organs be donated?	During life - 141 (67.14%) After death - 87 (41.42%) Both - 2 (1%)
3.	Which organs can be donated?	a. Eye - 86 (40.95%) b. Kidney - 107 (50.95%) c. Heart - 28 (13.33%) d. Lung - 23 (10.95%) e. Liver - 10 (4.76%) f. Spleen - 10 (4.76%) g. Bone - 66 (31.42%) h. Skin - 72 (34%)
4.	Do you have a relative whose organs have been donated?	Yes - 40 (19.04%) No - 170 (80.95%)
5.	Can we sell our organs (for a living)?	Yes - 39 (18.57%) No - 171 (81.42%)
6.	Have you heard of brain death?	Yes - 164 (78%) No - 46 (22%)
7.	As the heart of an individual ceases to function, does the organ(s) of a brain dead individual?	Yes - 173 (82.38%) No - 37 (17.61%)
8.	Do you think that a parliamentary law or their suggestions can be a form of death as the organ, the kidney, heart, liver and lung can be donated to needy patient?	Yes - 187 (89.04%) No - 23 (10.95%)
9.	Do you know what an organ donor card is?	Yes - 66 (31.42%) No - 144 (68.57%)
10.	Are you willing to carry an organ donor card and wear it on your chest till your death after your death?	Yes - 172 (81.90%) No - 38 (18.09%)
11.	What would be the one reason that would make you give organ donation?	To help others - 176 (83.80%) To help others - 176 (83.80%) To help others - 176 (83.80%) To help others - 176 (83.80%)

% = Percentage of total population in the study (n = 210)

Consent form (English)

Participant consent form

**Project title:** Awareness on organ donation in Suburban Chennai  
**Name of Participant:** \_\_\_\_\_  
**Suburban Chennai:** \_\_\_\_\_  
**Age & Gender:** \_\_\_\_\_  
**Survey study conducted by:** \_\_\_\_\_  
**Dr Jai Vinod Kumar M.S.**  
**Address:** \_\_\_\_\_

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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.

I fully consent to participate in this study by answering the provided questionnaire.

Signature of the participant: \_\_\_\_\_  
 Date: \_\_\_\_\_

Signature of the Study conductor: \_\_\_\_\_  
 Date: \_\_\_\_\_

Questionnaire (English)

Awareness and attitude on organ donation in Suburban Chennai

Project title: Awareness on organ donation in Suburban Chennai  
 Suburban Chennai: \_\_\_\_\_  
 Age & Gender: \_\_\_\_\_  
 Survey study conducted by: \_\_\_\_\_  
 Dr Jai Vinod Kumar M.S.

Name: \_\_\_\_\_  
 Address: \_\_\_\_\_

(Please refer back by writing)

Please select the answer as per your perception by writing (Yes/No).

1. Are you aware that organs can be donated to save a life of another person?  
 a. Yes b. No

2. When Can Organs be donated?  
 a. During life b. After Death c. Both

3. Which organs can be donated? (Choose all the answers that apply)  
 a. Eye b. Kidney c. Heart d. Lung e. Liver f. Spleen g. Bone h. Skin

4. Do you have a relative whose organs have been donated?  
 a. Yes b. No

5. Can we sell our organs (for a living)?  
 a. Yes b. No

6. Have you heard of brain death?  
 a. Yes b. No

7. As the heart of an individual ceases to function, does the organ(s) of a brain dead individual?  
 a. Yes b. No

8. Do you think that a parliamentary law or their suggestions can be a form of death as the organ, the kidney, heart, liver and lung can be donated to needy patient?  
 a. Yes b. No

9. Do you know what an organ donor card is?  
 a. Yes b. No

10. Are you willing to carry an organ donor card and wear it on your chest till your death after your death?  
 a. Yes b. No

CONCLUSIONS

It was found that the attitude towards and the willingness for organ donation did not significantly vary between gender, different age groups, education status, 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 general public through sensitization programs for the betterment of the society.

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