

## Organ donation<sup>1</sup>- Awareness, perspective and practices among adults – A cross sectional study in rural Tamil Nadu.

### ABSTRACT

**Introduction:** Organ transplantation is the most opted treatment for the most of the end stage organ diseases since it increases the quality of life and long-term survival benefits. The rate of organ donation is less in India. This leads to organ deficit which is the major obstacle in transplantation. The main reason behind this less rate of organ donation is lack of knowledge and awareness.

**Methodology:** A Cross sectional descriptive study done among 203 study participants residing in rural field practicing area of a tertiary care centre by using two stage random sampling method.

**Results:** 47.3% of the participants were in the age group of 31-60 years. Most of them were female and married. 78.7% of the participants were completed at least primary education and 28.3% of the participants were belong socio economic class V according to modified BG prasad's scale 2019. 84.2% of the study participants were aware about the organ donation and Television acted as a main source of information about organ donation. Majority of the participants doesn't know about the organ donation card and the place of enrolment for organ donation. **Conclusion:** Measures to be taken to create awareness about the need of organ donation. Campaign should be conducted for the enrolment for organ donation.

**Key words:** Organ donation, transplantation, awareness

### INTRODUCTION

Organ transplantation is the most opted treatment for the most of the final stage organ diseases since it increases the quality of life and has long-term survival benefits. Organ donation saves thousands of lives worldwide. Global Observatory on Donation and Transplantation reports that there were around 1.2 lakh solid organs transplanted in 2015 worldwide. This accounts for about 20.65 donations per million population. India is having a deficiency of donation rate at 0.05-0.08/million population whereas it's more than 20/million in Spain, US and France<sup>1</sup>. Owing to deficit in donation rate, patients in line for transplantation wait for a long duration. Since 2014, there is a rise in the trend of organ donation. Yet, it was less than 10% of the global requirements. Globally, 5.1 donations per million population is done by the deceased which accounts to one-fourth of the total organ transplantations.<sup>2</sup> This shows that there's a wide gap in between the patients requiring organ and availability of donor organs. At present, patient with end stage renal disease can be maintained on dialysis till the donor organ becomes available but patients requiring heart, lung, liver, cannot be maintained for a long duration with mechanical supports. Consequently, there is eminent need for increased organ donation and harnessing of donor organs. For the success of organ donation programme, positive perspective of the public towards organ donation and the consent by relatives for organ donation in case of brain death are needed. In India due to disparity between the availability and need, kidney was harvested from poor by exploiting their poverty, therefore in 1994, government of India passed "The transplantation of human organs Act" to ban organ trafficking<sup>3</sup>. Under this act, donations of organ by deceased persons were made legal. There is to lack of knowledge about the legal and procedural aspect of organ donation, and hence kidneys are trafficked and often police department uncover these illicit kidney transplants. Thus, there is a huge need for increasing cognizance about the significance of organ donation and the legal provisions associated with it. An evaluation of awareness and perceptions towards organ donation would aid to plan sensitization programme and to broadcast knowledge at the community level. Are search done in Andhra Pradesh<sup>4</sup>, says that only 30% were having knowledge about eye donation. However, in India, there's a deficit of studies done on awareness and perceptions of the people on solid organ donation, distinctly in the rural areas. The principle of this study is to determine that awareness concerning organ donation amidst the rural population and to assess the attitude towards

**Comment [f1]:** The sentence is grammatically incorrect

**Comment [f2]:** Incomplete sentence

### MATERIALS AND METHODOLOGY

This study is community based cross sectional study and this study was conducted in field practice

area of Rural Health and Training Centre (RHTC), Poonjeri, Kancheepuram District, Tamil Nadu. The study was conducted among adult population residing in field practice area of RHTC. Inclusion criteria: Participants >18 years of age residing within field practice area of RHTC. Exclusion criteria: Participants who were differently abled both physically and mentally. Households which are locked even after 3 visits

Based on a previous study done by Manojan K et al<sup>5</sup>, taking awareness about organ donation as 53%, assuming 95% confidence limit with 7% allow a **bleerror**, the sample size is calculated using the formula:  $N = 4PQ/L^2$ . Thus, total sample size was rounded off to 203.

**Comment [f3]:** Correction required

#### **Sampling Method:**

Two stages random sampling method was used. Stage I: 4 villages out of 12 villages from the rural field practising area was selected using lottery method. Stage II: From the list of people more than 18 years of age obtained from the Family survey register, 203 participants were selected by random number generator table.

**Comment [f4]:** How many people were selected from each of the 4 villages?

**Statistical analysis:** Data collected was entered in MS excel and analysed using IBM Statistical Package for Social Sciences (SPSS) software. Descriptive data for each variable was expressed in frequency and proportion.

**Comment [f5]:** Mention version number

**Ethical consideration:** All participants were informed about purpose of study, benefits, procedure and confidentiality of the research study in local language. A written informed consent was obtained from the subjects who are willing to participate before commencing the study.

#### **RESULTS**

The demographic details of the study participants are given in Table 1. 47.3% of the participants were in the age group of 31-60 years. Majority of the participants were female and married. Most of them were literates. 28.3% of the participants were belong socio economic class V according to modified BG prasad's scale 2019. In this study, aim was to assess the knowledge, attitude and practises of organ donation among the adult population.

84.2% of the study participants were aware about the organ donation. Television acted as a main source of information about organ donation. Majority of the participants had knowledge on eligibility status for donation. 72.4% of the participants said that organ donation can be done to anyone. Most of the participants doesn't know about the organ donation card and place of enrolment for organ donation as shown in Table 2.

**Table 1: Socio-demographic details of the study participants**

SOCIO DEMOGRAPHIC CHARACTERISTICS		FREQUENCY, n (%)
AGE	18 to 30 years	71 (35)
	31 to 60 years	96 (47.3)
	61 years and above	36 (17.7)
GENDER	Male	78 (38.4)
	Female	125 (61.6)
MARITAL STATUS	Married	153 (75.4)
	Unmarried	46 (22.7)
	Others	04 (02)
EDUCATION	Post graduate	11 (5.4)
	Graduate/Diploma	53 (26.1)
	Higher secondary	08 (3.9)
	High school	44 (21.7)
	Middle school	21 (10.3)
	Primary	23 (11.3)
	Illiterate	43 (21.3)
OCCUPATION	Professional	20 (9.9)
	Semi-professional	07 (3.4)
	Clerical	23 (11.3)
	Skilled	30 (14.8)
	Semi-skilled	08 (3.9)
	Unskilled	08 (3.9)
	Unemployed/Students	107 (52.7)
SOCIO ECONOMIC STATUS	Class 1	32 (28.3)
	Class 2	31 (27.4)
	Class 3	30 (26.5)
	Class 4	14 (12.4)
	Class 5	06 (5.3)

**Table 2: Knowledge about organ donation**

KNOWLEDGE ON ORGAN DONATION		FREQUENCY, n (%)
Awareness about organ donation	Aware	171 (84.2%)
	Not aware	32 (15.8%)
Source of information about organ donation	Tv	105 (51.7%)
	Friends	33 (16.3%)
	Family	11 (5.4%)
	Teacher	07 (3.4%)
	Newspaper	12 (5.9%)
	Others	04 (02%)
Eligibility status for donation	Alive	18 (8.9)
	After death	05 (2.5)
	Both	133 (65.5)
	Don't Know	47 (23.2)
Persons to whom one can donate	Family members	10 (4.9)
	Friends/Relatives	07 (3.4)
	Anyone	147 (72.4)
	Don't know	39 (19.2)
Aware of organ donation card	Yes	39 (19.2)
	No	164 (80.8)
Enrolment procedure for organ donation	Yes	25 (12.3)
	No	178 (87.7)

Table 3 describes the attitude of the participants towards organ donation. 61.6% of the participants were not willing to donate their organs in future and the main reason was found to be fear. 84.2% and 79.8% of the participants said that they will support and encourage organ donation. Majority of the participants were aware about the eyes, kidney and heart transplantation when compared lung, pancreas and intestine as depicted in the figure 1.

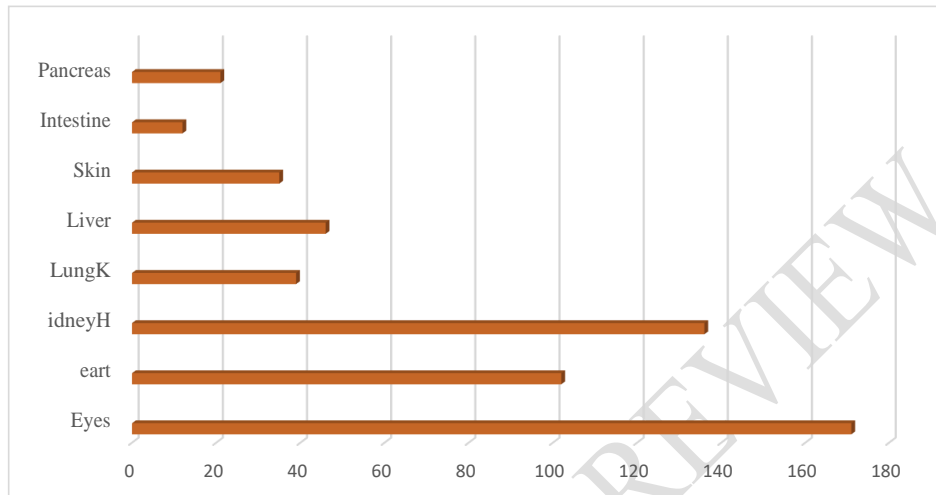


Figure 1. No. of respondents having awareness of each organ that can be donated

Table 3: Attitude towards organ donation

Willingness to be an organ donor	Yes	78 (38.4)
	No	125 (61.6)
Reason for not willing	Fear	50 (40)
	Opposition from family	41 (32.8)
	Not aware of the procedure	30 (24)
	Organs could be misused	04 (3.2)
Support organ donation	Yes	171 (84.2)
	No	32 (15.8)
Happy to donate organs	Yes	101 (49.8)
	No	102 (50.2)
Encourage organ donation	Yes	162 (79.8)
	No	41 (20.2)

## DISCUSSION

This cross-sectional study on organ donation which was done among the adult population of Rural TamilNadu reported that 84.2% of the participants were aware of the organ donation. Similar results were found in the studies done by Mani G et.al.,<sup>6</sup> BalwaniMet.al.,<sup>7</sup> and BharambeVet.al.,<sup>8</sup> Our study shows that majority of the people were aware of the term 'organ donation' which can be attributed to the higher educational status of the among our study participants.

Concerning the sphere eligibility status for organ donation, it has been found that more than 60% of the study participants were aware that both living donor and deceased can donate organs. Similar result was reported in the study done by Balwani M et.al.,<sup>7</sup> where more than half of the participants were aware about eligibility status for organ donation. However, the study done by Mondal S et.al.,<sup>9</sup> shows that only 15.6% of the participants had known about the eligibility criteria for organ donation which is in contrast with our study. These contrast results can be ascribed to the socioeconomic and cultural differences between the study populations.

In our study, 72.4% of individuals were willing to donate an organ to anyone. On comparison with the study done by Saleem et.al.,<sup>10</sup> where 51% of the respondents stated that they would like to donate their organs only to their family members. These results are comparable to the studies from neighbouring countries like China where 49.8% respondents shown their willingness to be living organ donors. 62% of the participants chosen relatives as their most likely recipients.<sup>11</sup> A study by El-Shoubaki H et.al., from Qatar reported that the majority of subjects preferred donating organs to their close relatives and friends.<sup>12</sup>

Practice of registration for organ donation was found to be very less among the study population. The findings were even worse in the studies done by Mani G et.al.,<sup>6</sup> and Balwani Met.al.,<sup>7</sup> where none of the participants were registered for organ donation. Lack of knowledge concerning the in evitability of registration for organ donation was the main contributor for poor registration status. Our study also shows that fear and the opposition by family members were the most common reason that prevents them from donating organs.<sup>13</sup> This emphasizes the importance of involving family members in decision making regarding organ donation.

**Comment [f6]:** Couldn't find the table enlisting practice

**CONCLUSION:** Though there is adequate awareness about organ donation among majority of the study participants there is lacunae in the practice of the same. Hence it is prime important to motivate people by educating them on the significance, benefits, risks/consequences of organ donation. The result of this research indicates that there is need for more intensified interdisciplinary discussion and information prepare the general population about organ donation. Television, newspapers and doctors can be used as efficient sources of information and campaigning about organ donation. The communication gap between patients and doctors should be bridged for the generation of a more favorable attitude towards organ donation in the population. Regular awareness campaigns with registration facility should be conducted at the level of community, primary health-care facility, schools, and colleges to promote organ donation.

## COMPETING INTERESTS DISCLAIMER:

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

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