

**Original Research Article****DOI: 10.26479/2019.0503.07****KNOWLEDGE AND ATTITUDE OF THE RURAL POPULATION  
TOWARDS ORGAN DONATION**

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**ABSTRACT:** Our Life starts from birth and ends with the death. In between, each and every person faces with many diseases affecting various organs. Today there is an increase in such diseases and also increase in demand for organs with decreased availability. This community based study was conducted in village Khubi, the rural area of Satara district (Maharashtra). From each house one responsible person was enrolled in the study. Interviews were conducted by using questionnaires to collect the data. The data were entered into Microsoft Excel 2007 and analyzed using IBM SPSS 20. The mean age of the male participants was 45.9 years and the mean age of females was 42.9 years. Total 276 participants were interviewed regarding their knowledge and attitude towards organ and body donation. Among them 73.55% (203/276) participants have known the organ donation. 12.68% of participants found willing to donate their body after death. Television [64 (39%)] and Newspaper [34 (20.7%)] were the main sources of knowledge of organ donation. In the present study maximum awareness was found regarding donation of eyes (202, 73.2%) followed by kidney (89, 32.2%). It is the need of the hour to educate and emphasis the community about the organ donation through mass media or village level health programs.

**KEYWORDS:** Body donation, eye donation, brain death, heart and kidney donation.

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**1.INTRODUCTION**

Organ transplantation has become the preferred treatment for many terminal solid organ diseases. [1] Organ donation is defined as the removal of tissues from the human body, from a living or dead person, for the purpose of transplantation as a treatment. [2] It has been legalized in India, under the

transplantation of organ Act, 1994. [3] Even after 18 years, the country passed the Transplantation of Human Organs Act 1994, only kidney donations by live donors are in vogue - cadaver donations have still not picked up. [4] Common transplantations include kidneys, heart, liver, pancreas, intestine, lungs, bones, bonemarrow, skin and corneas. [5] There is a poor organ donation Rate-0.26 per million in India, compared to some of the better performing countries such as Americans 26, Spain's 35.3 and Croatia's 36.5 per million respectively. [6] Organ transplantation saves thousands of lives worldwide. According to WHO, GLOBALLY 6600 Kidney donation, 21000 liver donations and 6000 heart donation was transplanted. [7] Of the overall 9.5 million deaths annually in India, nearly 100,000 are due to organ failure. To save and extend lives, organ donation and organ transplantation become the only hope. [8] The Anatomy Act, enacted by various states in India provides for the supply of unclaimed bodies to medical & teaching institutions for the purpose of anatomical examination & dissection & other similar purposes. Cadavers used by these institutions are usually unclaimed bodies obtained by the police. Occasionally they are donated by relatives of the deceased to teaching institutions according to the dead person's wishes. An unclaimed cadaver can be obtained legally for purpose of dissection. [9] In India 90,000 end stage Renal Disease patients are waiting for kidney donors for transplantation at any given point of time. Mean Age of these patients is 42 years. This shows the number of productive lives that can be saved by encouraging cadaver donor. 2,00,000 people die of liver disease every year out of which many would have survived and lived a normal life if they had received liver transplantation. There are about 50,000 patients dying of heart ailment every year. They are waiting for a heart transplant in absence of a suitable donor. However, heart transplant can only be done after brain death. [10] The statistics from the Indian subcontinent are dismal and only 499 cadaver transplants including heart, liver and kidney have been performed in India from the year 2000 to 2009. [11] The Spain has consistently recorded highest deceased organ donation rate of 33-35 donors per million populations. [12] This gap between demand and supply is alarming, and hence an emphasis should be made in the society. This can be achieved only by educating the society about organ donation. However, it is essential to know about the knowledge of and on organ donation amongst the people. In India, there are several NGOs and hospitals who assist you in the process of organ donation. Always pledge under an organization that registers your consent with the National organ and tissue Transplant organization (NOTTO). A potential donor can also approach organ donor agencies for donor card. [13] Several health science Schools in the US include an organ donation component, with most Schools relying on lectures as the sole method of instruction. [14] In India there is lack of studies on knowledge and attitude of people about organ donation in rural areas. Thus the present study was carried out with the aim to assess the knowledge, awareness and attitude regarding organ donation among the rural area and to suggest the remedies to change their attitudes toward organ donation. Ghorbani F et al. showed several reasons for family refusal for organ donation; among the main cause is poor

## 2. MATERIALS AND METHODS

The study was carried out in a randomly selected village Khubi from Karad taluka of Satara district of Maharashtra state. Any one responsible family member between age group twenty five to sixty five years, from each house of this selected village was interviewed to assess the study protocol. Minimum number of family members required to study was determined as follows:

$$n = Z^2_{1-\alpha/2} \times p \times q / L^2$$

Expecting proportion of individuals with good knowledge regarding organ donation to be  $p=65\%$  with 95 % confidence and precision of 6%, the computed  $n$  was 253. Thus it was decided to interview minimum 260 representatives from this selected village by conducting house-to-house visits. Data was analyzed by using  $t$  test and Chi-square test with aid of IBM SPSS 20.

## 3. RESULTS AND DISCUSSION

Total 276 participants were studied. Amongst to these 119 (43.11%) were males and 157 (56.88%) were females. The mean age of males ranged between 26 to 64.5 years with mean 45.9 years and standard deviation 17 years. The age of females ranged between 27-62 years with mean 42.9 years and standard deviation 15.2 years. The age of male and female participants was similar ( $t=1.557$ ,  $p=0.121$ ). The Proportion of males and females of different age groups was also similar (Chi sq = 0.6128,  $p=0.8935$ ) (Table1). Further, the distribution of males and females according to their educational status also found similar (Chi sq = 7.710,  $p=0.1028$ ) (Table 2).

**Table 1: Age wise distribution of male & female**

Age (years)	Gender		Total
	Female n (%)	Male n (%)	
25-35	43(27.4)	30(25.2)	73(26.4)
35-45	46(29.3)	32(26.9)	78(28.3)
45-55	37(23.6)	32(26.9)	69(25.0)
55-65	31(19.7)	25(21.0)	56(20.3)
Total	157(100.0)	119(100.0)	276(100.0)

**Table 2: Education wise male and female participants**

Education	Female n (%)	Male n (%)	Total (%)
Illiterate	23(14.6)	11(9.2)	34(12.3)
Primary	7(4.5)	8(6.7)	15(5.4)
Secondary	70(44.6)	40(33.6)	110(39.9)
Higher secondary	25(15.9)	29(24.4)	54(19.6)
graduation	32(20.4)	31(26.1)	63(22.8)
Total	157(100.0)	119(100.0)	276(100.0)

Amongst 276 participants 203 (73.55%) responded that they were having knowledge about organ and body donation. Amongst these 203 participants 116 (57.1%) with age below 45 years were aware about organ donation (Chi square=8.737, P=0.003). The proportion of participants responding about having knowledge of organ donation found increasing with higher educational level (chi-square for trend=44.602, p<0.001). Gender wise there was similarity in the proportion of participants having the knowledge of organ donation. (Table 3)

**Table 3: Awareness regarding organ donation**

Characteristic (%)	Total n(%)	No. of participants aware n(%)	No. of participants unaware n(%)
<b>Sex</b>			
<b>Female</b>	157(56.9)	109(53.5)	48(65.8)
<b>Male</b>	119(43.1)	94(46.3)	25(34.2)
<b>Age</b>			
<b>&lt;45years</b>	143(51.8)	116(57.1)	27(37.0)
<b>≥45 years</b>	133(48.2)	87(42.9)	46(63.0)
<b>Level of education</b>			
<b>Illiterate &amp; Primary</b>	49(17.8)	22(10.8)	27(37.0)
<b>Secondary</b>	110(39.9)	73(36.0)	37(50.7)
<b>H Sc &amp; above</b>	117(42.4)	108(53.2)	9(12.3)

52 (18.8%) of the total participants does not know anything about organ donation. However most of the participants have received knowledge from Newspaper 85(35.8%) as well as from Television 112(40.6%). There were (164, 59.4%) participants have received the knowledge about organ donation from the single source amongst various sources studied in the present study, amongst them 64 (39%) received knowledge from the Television and 34 (20.7%) received knowledge from Newspapers. Amongst 224 participants having single or multiple sources of the knowledge about organ donation significantly vary high proportion 123(54.9%) of participants were with age less than 45 years. (Chi-square=4.574, p=0.032). (Table 4)

**Table 4: Sources of information about organ donate**

Sources	No.	%
No Source	52	18.8
Only one	164	59.4
Two	39	14.1
Three	13	4.7
Four	4	1.4
Five	4	1.4
Total	276	100.0

The proportion of participants having single or multiple source of the knowledge found increasing with increasing educational level (chi-square for trend=26.976,  $p<0.001$ ). In comparison to males significantly high proportion of females found to have some source of the knowledge about organ donation (chi square=3.982,  $p=0.046$ ). According to 85 (30.8%) participants opinion; organ(s) can be donated during life. While according to 36(13%) participants; organ(s) can be donated after brain death. Twenty (7.2%) participants responded that a person can donate organ(s) during life or even after brain death. More than half of study participants (153, 55.4%) responded that a person with brain death can be considered as live. While 57 (20.7%) responded such a person can be consider as died. It was observed that, majority of participants (202, 73.2%) knows that eyes can be donated and implanted in other live person. While according to 111 (40.2%) and 89 (32.2%) participants Heart and Kidney can be donated and implanted, respectively. It was observed that 150 (54.3%) participants knew that one kidney can be donated by a living person. While only 2 (0.01%) participants knew that liver can be donated by a living person. However, 14 (5.1%) participants were known that both, one kidney and some part of liver can be donated by any person. The study found that about half of participants (133, 48.2%) were willing to donate the organ or body after death. However, 107(38.8%) were known the legal provision of organ donation. There was discrepancy in the knowledge regarding formalities to be completed for organ donation and body donation. According 153 (55.4%) participants organ donation formalities should be done in Government hospitals, while 122 (44.2%) knows that body donation formalities should be done in government hospitals. In present study only one (0.4%) participant found with one kidney donation.

## DISCUSSION

In our study, the major sources of knowledge of participants were Television & Newspaper (75.4%). Similar (83%) rate was found by Balaji KL. [16] This infers that Television & Newspaper are most effective in providing knowledge of organ & body donation to the people. Only 37 (20.7%) participants knew that brain-death person is legally dead. However, 153 (55.4%) participants had no idea about brain–death. According to the study of Saad A A 30.5%have heard about brain death

and 69.5% have not heard about brain death. [17] In general the person living in the rural area was less likely to have information about brain-death as compared to urban area. [18] They were exactly not known to whom should be contacted for organ & body donation, which organs can be donated, and whether in life or after brain-death. To increase the knowledge & attitude towards organ & body donation in rural people, it is essential to decide the plan to educate the people of all ages. This can be achieved by conducting the researches on this topic at large in rural area of different parts of our nation. Another finding in this study was 35 (12.68%) of the participants were willing to donate their body & were ready to sign the donor card after they received the knowledge. According to Saad Abdullah Alghanim proportion of participants willing to donate their body was 42.8% while ready to sign the donor card was 12.2%. However, awareness regarding eye donation reported by K K Maanojan et al [1] was very less (47%) than the present study (73.2%). The corneal transplants done is far less than the actual requirement in India. [19]

#### **4. CONCLUSION**

This study was conducted with an aim to know about the community level knowledge, attitude and practice regarding organ and body donation. It was observed that age group of <45 years and, who were educated, had general idea regarding organ donation. Though in majority of participants, the source of knowledge being mass media, there is still a lack of awareness with regard to brain-death and also most of them are not aware about the procedure, facts, organs that can be donated. It is estimated that in India only few (10%) organs are donated every year. This is negligible when compared to the demand. Hence it is the need of the hour to educate and emphasize the community, about the organ donation through mass media or at village level health programs through lectures, short films and posters. The strength of the study is that this is a community based study and also one of the few studies in India that have assessed the awareness and attitude regarding organ donation among the people in rural community. However, larger emphases are needed to put on spreading awareness for understanding of the concept of brain-death and organ donation. [20] The communication gap between patients and doctors should be bridge for the generation of a more favorable attitude towards organ donation in the population. This needs to be addressed through awareness campaigns in the community and also popularized during their contact with the health system. [21]

#### **CONFLICT OF INTEREST**

Authors have no conflict of interest.

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