



Community based cross-sectional study about organ donation of knowledge, attitude, and awareness in Urban area.

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Abstract: -

Introduction. Organ donation is defined as when person allows an organ of theirs to be removed, legally, either by consent while the donor is alive or after death with the assent of the next of the kin. India, in particular, has a huge shortage of organs and donors. Donation of organs is an imperative component of transplantation. Attitude are generally influenced by social and cultural factors. Knowledge, attitude and behavior are the key factors that influence rates of organ donation. Hence, this study has been undertaken to assess the knowledge, attitude and awareness with socio-demographic variable regarding organ donation among the study population in the selected places of Urban area.

Objectives. The association of socio-demographic variable between knowledge, attitude, and awareness and to assess the correlation analysis of knowledge Vs attitude, knowledge Vs awareness, and attitude Vs awareness towards organ donation among the study population in the Urban area.

Methods. A community based cross-sectional descriptive study was conducted from November 2019 to January 2020 among the study population residing near Urban Health Centre in Dahanu, Palghar, Maharashtra. The individual information will have kept private and after verbal consent. Study was initiated after obtaining clearance from the Institutional Ethics Committee. The data collection tool was a multi section questionnaire including socio-demographic variables, knowledge, attitude, and awareness. Data were entered in an MS Excel 2013 sheet and further analyzed by SPSS (Statistical Package Social Sciences) for windows version 22.

Results. Out of 500 respondents, 264 (52.8%) were female and 236 (47.2%) were male in the study population. The mean age was 36.84 ± 12.32 years. Marital status has statistically significant association between knowledge, attitude, and awareness. And the correlation between knowledge Vs attitude, knowledge Vs awareness, and attitude Vs awareness with socio-demographic variable has statistically significant about organ donation.

Conclusion. Overall 50% study population were having knowledge and attitude about organ donation while 60% study population were aware about organ donation.

Keywords. Organ donation, knowledge, attitude, awareness, correlation analysis.

Introduction: -

Organ donation is defined as when person allows an organ of theirs to be removed, legally, either by consent while the donor is alive or after death with the assent of the next of the kin.¹ Common transplantation includes kidneys, heart, liver, pancreas, intestines, lungs, bones, bone marrow, skin, and corneas. Some organs and tissues can be donated by living donors, such as a kidney or part of the liver, part of the pancreas, part of the lungs, or part of the intestines. Even though possible while living, most donations occur only after the donor's death.² A significant number of deaths due to organ failure can be prevented by timely donation and transplantation of organs.^{1,5}

In India, the Transplantation of Human Organs Act (THOA) was enacted in 1994.³ In addition, organ donation following brainstem death as is infrequent in India. THOA (1994) defines brainstem death as the stage at which all functions of the brainstem have permanently and irreversibly ceased.

In 1994, the legislative foundation for brain death and organ donation, amended in 2011, was officially established in India, under Transplantation of Human Organs Act (THOA).⁴ It provided a much-needed legal and transplantation system for organ donation. Yet again in 2015, the health ministry in India announced a policy mechanism to facilitate cadaver organ donation to further address institutional roadblocks.⁵ There is an increasing discrepancy between the number of patients on the waiting list for organ transplantation and the available number of deceased donor organs.⁶ India, in particular, has a huge shortage of organs and donors.⁷ Every year, 6000 patients expire while waiting for an organ donation. Achieving a name on the waiting list means that there is still a 10-30% chance for not getting a transplant. This is due to the scarcity of transplantation organs worldwide.^{8,9} Donation of organs is an imperative component of transplantation.⁹

Attitudes are generally influenced by social and cultural factors. Knowledge, attitude and behavior are the key factors that influence rates of organ donation. Cultural and religion have also been documented to affect the decision-making process of organ donation. Hence, it is crucial to assess the knowledge and attitudes with socio-demographic variables of the general population towards organ donation.¹⁰

There is a paucity of studies assessing the community awareness, attitude and practice with respect to organ donation in India. Hence, this study has been undertaken to assess the knowledge, attitude and awareness regarding organ donation among the study population in the selected places of Urban area.

Aims and objectives: -

The objectives of the present study included the following:

- 1) The association of socio-demographic variables between knowledge, attitude, and awareness regarding organ donation in the Urban area.
- 2) To find out the relationships of knowledge Vs attitude, knowledge Vs awareness, and attitude Vs awareness regarding organ donation in the Urban area.

Methods: - A community based cross-sectional descriptive study was conducted from November 2019 to January 2020 among the study population residing near Urban Health Centre in Dahanu, Palghar, Maharashtra. The methods and aims of the study were explained to them and ensures them that the individual information will be kept private and after verbal consent. Study was initiated after obtaining clearance from the Institutional Ethics Committee.

The data collection tool was a multi-section questionnaire. The first section includes socio-demographic information such as age, gender, education, and marital status and out of 21 questions the second section contains 8 questions to test the knowledge level of participants about organ donation. The third section contains 8 questions to test the attitude of participants towards organ donation and the last section i.e. fourth section contains 5 questions to test the awareness of the participants about the organ donation. The respondents had to indicate their responses as either Yes/No/Can't Say.

Data were entered in an MS Excel 2013 sheet and further analyzed by SPSS (Statistical Package for Social Sciences) for Windows version 22. Descriptive statistics, frequency and mean were assessed as appropriate. In this study, knowledge, attitude, and awareness were calculated by continuous scale, after data collection applying normality test to check the continuous scale is normal or not, found that knowledge, attitude, and awareness were non-normal data.

Results: -

The study population consisted of 500 respondents. The mean age was 36.84 ± 12.32 years. In this study shows that, out of 500 respondents 236 (47.2%) were male and 264 (52.8%) were female respondents. (Fig.No.1). Majority were 307 (61.4%) belong to 21-40 Years age-group, followed by 134 (26.8%) were belong to 41-60 Years age-group, 34 (6.8%) were belong to less than or equal to 20 years of age-group and only 25 (5%) were belong to greater than or equal to 61 years of age-group. (Fig.No.2). Also in the marital status majority of the study population 335 (67%) were married, followed by 147 (29.4%) were unmarried and only 18 (3.6%) study population were divorced/separated/widow. (Fig.No.3). And 195 (39%) study population were under graduates, 137 (27.4%) were belong to higher secondary school, 104 (20.8%) were belong to senior secondary school whereas only 64 (12.8%) study population were belonging to post graduation & higher education. (Fig.No.4).

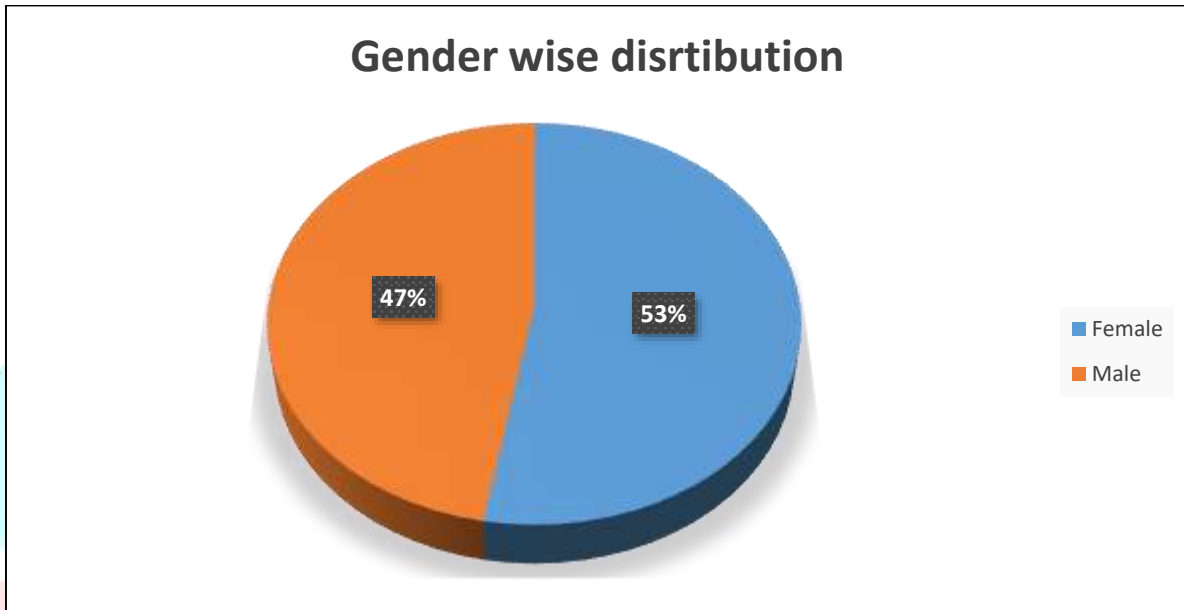
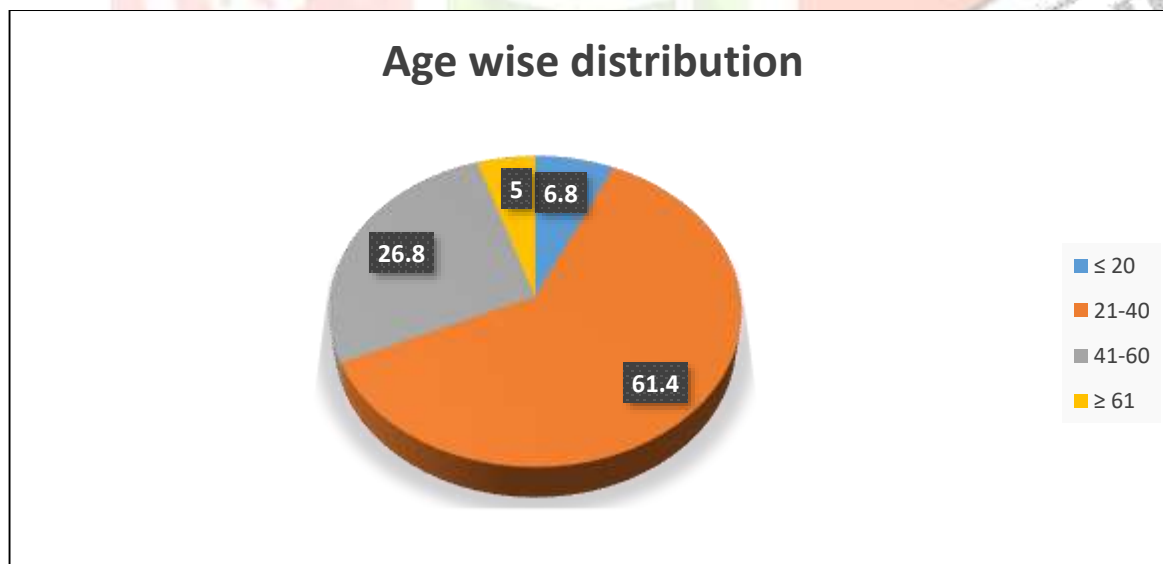
Fig. No. 1: - Gender wise distribution in the study subject.**Fig. No. 2: - Age wise distribution in the study subject.**

Fig. No. 3: - Marital status wise distribution in the study subject

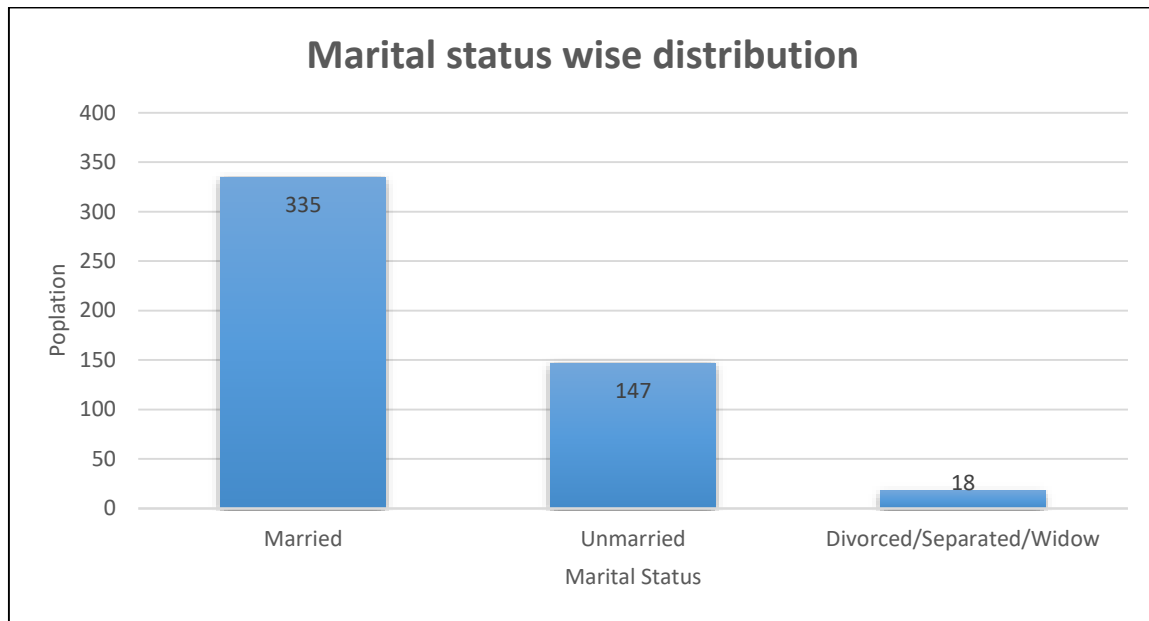


Fig. No. 4: - Education wise distribution in the study subject.

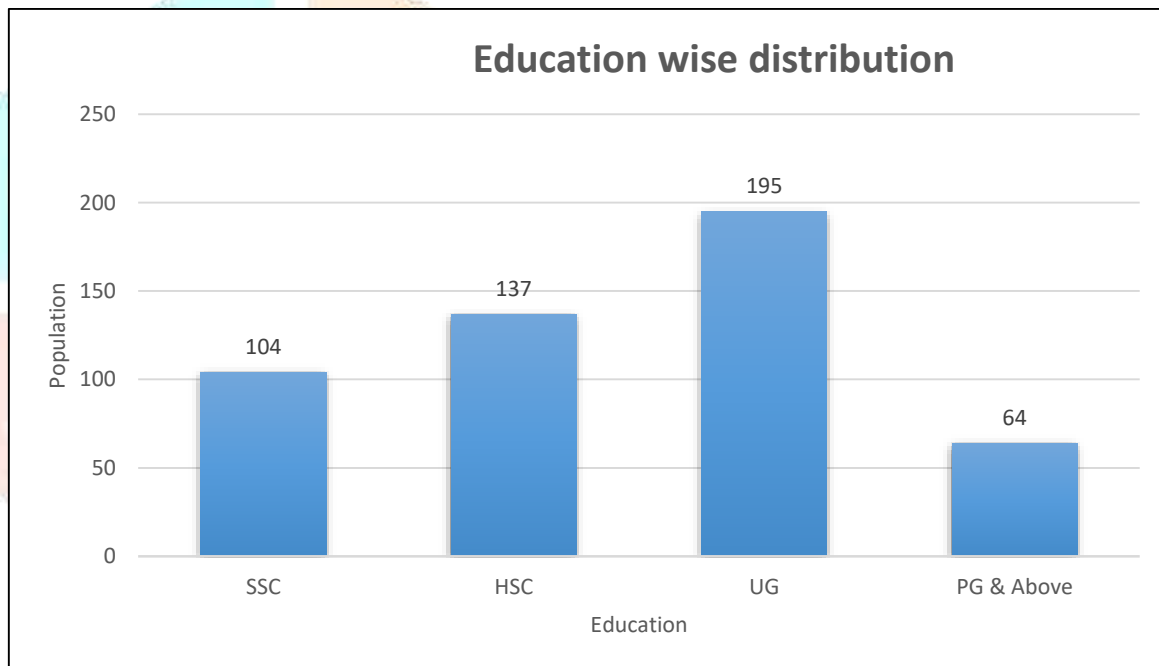


Table No. 1: - Association of socio-demographic variable between Knowledge, Attitude, and Awareness about organ donation.

Variable	Knowledge		Attitude		Awareness	
	Median (IQR)	Mean rank	Median (IQR)	Mean rank	Median (IQR)	Mean rank
Age						
≤ 20	25.00 (37.50)	185.04	50.00 (40.63)	241.93	40.00 (40.00)	235.40
21-40	62.50 (50.00)	265.13	50.00 (37.50)	260.05	60.00 (40.00)	254.04
41-60	50.00 (62.50)	237.31	50.00 (62.50)	237.92	60.00 (40.00)	255.25
≥ 61	50.00 (75.00)	230.60	37.50 (37.50)	212.38	40.00 (60.00)	202.16
P-value	0.008*		0.231		0.303	
Gender						
Female	50.00 (62.50)	258.35	50.00 (50.00)	258.36	60.00 (40.00)	271.44
Male	50.00 (50.00)	241.71	50.00 (37.50)	241.71	60.00 (40.00)	227.08
P-value	0.195		0.194		0.000*	
Education						
SSC	43.75 (62.50)	227.59	50 (62.50)	239.95	40.00 (55.00)	235.69
HSC	50.00 (50.00)	236.66	50 (62.50)	246.92	60.00 (40.00)	228.05
UG	62.50 (62.50)	273.41	50 (37.50)	266.14	60.00 (40.00)	276.25
PG & Above	50.00 (50.00)	247.56	50 (43.75)	227.65	60.00 (40.00)	244.17
P-value	0.030*		0.203		0.011*	
Marital Status						
Unmarried	62.50 (62.50)	271.88	62.50 (50.00)	268.48	60.00 (40.00)	262.13
Married	50.00 (50.00)	246.67	50.00 (37.50)	246.77	60.00 (40.00)	251.20
Divorced /Separated /Widow	12.50 (37.50)	147.14	37.50 (15.63)	173.11	40.00 (20.00)	142.56
P-value	0.002*		0.020*		0.003*	
Overall	50.00 (50.00)		50.00 (46.88)		60.00 (40.00)	
*p-value ≤ 0.05 is statistically significant						

The above Table No 1 shows that, overall 60% study population had awareness about the organ donation whereas 50% study population had knowledge and attitude about the organ donation. After using Man-Whitney Non-Parametric test shows that, age is statistically significant associated with knowledge (p-value=0.008) but age is not statistically significant with attitude (p-value=0.231) and awareness (p-value=0.303) about organ donation. Also gender is not statistically significant associated with knowledge (p-value=0.195) and attitude (p-value=0.194) whereas gender is statistically significant associated with awareness (p-value=0.000) about organ donation. Also education is statistically significant associated with knowledge (p-value=0.030) and awareness (p-value=0.011) but gender is not statistically significant associated with attitude (p-value=0.203) about the organ donation. Whereas marital status is statistically significant associated with knowledge (p-value=0.002), attitude (p-value=0.020), and awareness (p-value=0.003) about the organ donation in the study population.

Table No 2: - Correlation of Knowledge Vs Attitude, Knowledge Vs Awareness, and Attitude Vs Awareness with socio-demographic variable about organ donation.

Variable	Knowledge Vs Attitude		Knowledge Vs Awareness		Attitude Vs Awareness	
	r-value	p-value	r-value	p-value	r-value	p-value
Age						
≤ 20	0.641	0.000*	0.557	0.001*	0.444	0.009*
21-40	0.750	0.000*	0.529	0.000*	0.555	0.000*
41-60	0.772	0.000*	0.498	0.000*	0.650	0.000*
≥ 61	0.689	0.000*	0.452	0.000*	0.676	0.000*
Gender						
Female	0.792	0.000*	0.613	0.000*	0.617	0.000*
Male	0.684	0.000*	0.402	0.000*	0.554	0.000*
Education						
SSC	0.772	0.000*	0.639	0.000*	0.638	0.000*
HSC	0.769	0.000*	0.399	0.000*	0.557	0.000*
UG	0.745	0.000*	0.480	0.000*	0.594	0.000*
PG & Above	0.620	0.000*	0.602	0.000*	0.492	0.000*
Marital Status						
Unmarried	0.712	0.000*	0.627	0.000*	0.581	0.000*
Married	0.752	0.000*	0.464	0.000*	0.581	0.000*
Divorced /Separated/ Widow	0.704	0.001*	0.128	0.614	0.412	0.090
Overall	0.744	0.000*	0.521	0.000*	0.583	0.000*
*p-value ≤ 0.05 is statistically significant						

In the above Table No 2 shows that, Knowledge was strongly positive correlated ($r=0.744$) and statistically significant ($p=0.000$) with attitude. Knowledge was moderately positive correlated ($r=0.521$) and statistically significant ($p=0.000$) with awareness about organ donation. And attitude was moderately positive correlated ($r=0.583$) and statistically significant ($p=0.000$) with awareness about organ donation.

Discussion: - This study was conducted to assess the level of knowledge, attitude and awareness regarding organ donation ($n=500$). The mean age was 36.84 ± 12.32 years. Out of 500 respondents 236 (47.2%) were male and 264 (52.8%) were female respondents. Majority were 307 (61.4%) belong to 21-40 Years age-group, 335 (67%) were married, and 64 (12.8%) study population were attended post-graduation & higher education.

overall 60% study population had awareness about the organ donation whereas 50% study population had knowledge and attitude about the organ donation. In the study population, socio-demographic variables were statistically significant associated with knowledge ($p=0.002$), attitude ($p=0.020$), and awareness ($p=0.003$) about organ donation.

In Usha Bapat et. al⁶, the study population consisted of 143 respondents. The mean age was 28.31 ± 3.50 years; maximum concentration was in the group of 27-29 years. There was a near equal distribution of gender. 97% study population were aware of organ donation and cadaver donation. There was a statistically significant correlation between attitudes, beliefs and demographics. Subjects coming from urban background had positive attitudes. Similarly, subjects who were unmarried had positive beliefs. There was statistically significant correlation between attitudes and demographics, beliefs and demographics.

In the study population, 21-40 years of age-group has more knowledge (62.50%) than 41-60 Year age-group (50%), greater than 61 years of age-group (50%) and less than 20 years of age-group had adequate knowledge whereas less than 20, 21-40, 41-60 years of age-group had same attitude (50%) while greater than 61 years of age-group respondents had 37.50% attitude. 21-40 and 41-60 years of age-group respondents had 60% awareness than less than 20, and greater than 61 years of age-group which had 40% awareness.

In Sarveswaran G. et. al¹¹, the mean age of the study population was 44.6 ± 15.4 years. Majority 147 (57.2%) were female; 195 (75.9%) were married; and almost one-third of the study participants, 78 (29.9) were graduates. Overall 60% had positive attitude towards organ donation. The participants of >30 years and female gender were found to have less

positive attitude towards organ donation. However, these variables are not statistically significant. Overall 28% participants had adequate knowledge and 57.6% had positive attitude towards organ donation.

In the study population, Male and female had 50% knowledge, and attitude and 60% awareness about the organ donation. Undergraduate respondents had more knowledge (62.50%) than post graduate (50%), higher secondary school (50%), and senior secondary school (43.75%) whereas same attitude (50%) had found in all educational group. And higher secondary school, undergraduate, and post-graduate & above respondents had 60% aware whereas senior secondary school respondents had only 40% aware about organ donation. In the marital status, it is found that unmarried, and married respondents had same knowledge (62.50%), attitude (62.50%) and knowledge (50%), and attitude (50%) respectively. Whereas divorced/separated/widow respondents had less knowledge (12.50%), and adequate attitude (37.50%) about organ donation. And both unmarried and married respondents had 60% aware and divorced/separated/widow respondents had 40% aware about organ donation.

In VIJAYALAKSHMI et. al.¹⁰, of the 193 people interviewed, 103 (53.4%) were men. The majority participants were between 25 and 40 years (36.3%) with a mean (SD) age of 44.1 (1.55) years. The majority were married. While most of them 93.8% were aware of organ donation. 52.8 % of participants had adequate knowledge about organ donation and majority of participants had positive attitude towards organ donation.

Conclusion: - In this study, overall 50% study population had the knowledge, and attitude and also found that relationship between socio-demographic variables with knowledge ($p=0.002$), and attitude ($p=0.020$) had statistically significant about organ donation whereas 60% study population aware and awareness ($p=0.003$) were statistically significant associated with socio-demographic variable about organ donation.

And overall correlation of socio-demographic variable with knowledge Vs attitude ($r=0.744$) were strongly positive correlated while knowledge Vs awareness ($r=0.521$), and attitude Vs awareness ($r=0.583$) were moderately positive correlated and statistically significant ($p=0.000$) with socio-demographic variables about the organ donation.

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