International Medicine
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Research Article

A Cross Sectional Study on The Knowledge and Attitude Regarding Organ Donation Among Patients Attending A Primary Health Centre In Pathanamthitta District Kerala, India

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ARTICLE INFO

Article History:

Received: 02-01-2024

Accepted: 27-01-2024

Keywords:

Organ Donation

Primary Health Centre

Socio-demographic factors

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ABSTRACT

Background and Objectives: Organ donation is a complex issue that involves ethical, legal and cultural considerations. It is crucial to understand the awareness and attitude regarding organ donation among general population as the final say in organ donation is theirs. In the recent years many initiates have been taken by health organizations to bring out a positive attitude among the general population. Studies conducted in this area will help us to understand where we are lagging in bringing about a positive attitude among general population. The objectives of this study are to assess the knowledge and attitude regarding organ donation among patients attending general OPD of a Government Primary Health Centre in Pathanamthitta district and to find any relation between socio-demographic factors and willingness for organ donation. ***Methods:*** Institution based cross sectional study was done. A structured online questionnaire was used to collect data regarding socio-demographic details, knowledge and attitude regarding organ donation via face to face interview of the patients attending Primary Health Centre. Universal sampling method was used. Descriptive analysis of the data collected was done using IBM SPSS. ***Results:*** In our study all the participants were aware about organ donation but knowledge regarding organ donation was limited to only half the study population. The study found that although all participants were aware about organ donation only 77.3% felt the need for organ donation to be promoted. Out of the people who felt organ donation need to be promoted only 56.1% were willing to donate organ after death. Even smaller percent (22.7%) was willing to donate when alive. Further, there were significant associations between age, gender, education, economic status of the participants with their intention to donate organs. ***Conclusion:*** The study found that all participants were aware about organ donation although knowledge regarding organ donation is limited to half the study sample. Only half of the study participants were willing to donate organ after death majority of participants were not willing to donate organ when alive as they felt it is detrimental to the health of donor. Statistically significant association is established between age, gender, socio-economic status and willingness to donate organ.

INTRODUCTION

Organ donation is defined as when a 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]. Organ donation in India has always been on a lower side and around 5 lakh people die every year in India due to unavailability of organs. With the rising trend of chronic disease like diabetes and hypertension has led to an ever-growing need for organ transplantation [2]. A cadaver or deceased donor can save up to 9 lives, but despite this organ donation is still a neglected issue. Lack of knowledge, awareness, and infrastructure are some of the reasons behind shortage of organ donation in India. Organ transplantation is the most preferred treatment modality for end-stage organ diseases. The need for the transplants is higher than the availab-ility. Prerequisites for the success of transplantation program include awareness and positive attitudes towards organ donation [3-5].

Organ India reports that 1.5 lakh brain deaths occur annually due to road traffic accident. Living person need not donate organs if proper channels are used for timely procurement of organ once a person is declared brain dead. Many are not aware of the proper legal laws of organ procurement [6]. The legislation called the Transplantation of Human Organ Act (THO) was passed in India in 1994 to streamline organ donation and transplantation activities. Broadly, the act accepted brain death as a form of death. With the acceptance of brain death, it became possible to not only undertake kidney transplantations but also start other solid organ transplants like liver, heart, lungs, and pancreas. Illicit traders' prey on the homeless and those stuck in debt-traps to push them into black market of human organs [7]. Buying or selling of an organ is in 11 contravention of the Transplantation of Human Organs

and Tissues Act, a central legislation that governs organ transplants in the country.Recently, the government has added a few legislations in the form of a Gazette to curb the illegal unrelated donation activities and has tried to plug the loopholes in the THO act[8-10].

In Kerala, the Department of Health has taken up the task of promoting deceased organ donation and transplantation in Kerala. It has evolved a programme Kerala Network for Organ Sharing Mrithasanjeevani -Deceased Donor Organ Transplantation Program, Kerala [11]. This online secure registry is for organ recipients waiting for organ transplantation from various hospitals in Kerala that are authorized to undertake transplantation of organs. A similar desktop waiting list will be made available to all the registered hospitals for organ transplantation. The date of registration of a recipient will be the date of starting dialysis. A synchronization of this registry with central registry will ensure the waiting list priority of the patients[12, 13].

The aim of this study is to assess the awareness regarding organ donation among the general population and to assess their attitudes toward organ donation and to arrive on a conclusion on what more can be done to improve the awareness and bring about a positive attitude.

MATERIALS AND METHODS

In order to satisfy the objectives of the study, the following method was used.

Study Design:
Descriptive cross-sectional study.

Study Setting:
Kaithaparambu Primary health Centre, Adoor, Pathanamthitta district, Kerala state, India.

Study Period:
A Period of 3 months (Sixth April 2023 to 15th June 2023).

Study Sample:
Patients attending general OPD of a PHC in Pathanamthitta.

Inclusion Criteria:
All the patients attending general OPD of the study setting.

Exclusion Criteria:
Patients who are not willing to participate in the study and P-atients who are unable to answer.

Sample Size:
Considering the willingness to donate organ (p=59%) from the previous study by Prasanna Mithra et al., absolute precision (d) as 8, the minimum sample size obtained was 151; calculated using the formula 4PQ/d^2 [14].

Sampling Technique:
Universal sampling method.

Data Collection Tools and Technique:
Data was collected using a semi structured questionnaire which has 25 questions divided into 3 parts. The first part has questions regarding the sociod-emographic details of study participant, the second part assessed the awareness regarding organ donation and the third part assessed the attitude towards organ donation. These questions were asked in a face to face interview manner to the patients attending the OPD in the PHC.

Methods of Data Collection:
Approval was obtained from Institutional Research and Ethics Committee and study was conducted at Kaithaparambu PHC after obtaining necessary permissions from the Medical officer. Study participants were selected using universal sampling method. Informed consent was obtained from study subjects. A semi structured interview schedule was administered to the subjects and data was obtained.

Data Analysis:
Data obtained was entered into Microsoft Excel and coded. Data was analyzed used SPSS software version 21. Descriptive statistics including frequency and percentage were calculated for all variables. Association between various qualitative variables was found using chi-square test.

Ethical Considerations:
Clearance from Institutional Ethics Committee was obtained to conduct the study. Written informed consent was obtained from the participants before the onset of the study. Confidentiality of the information was maintained during every stage of study.

RESULTS

A cross-sectional study was conducted among 173 patients attending general OPD of a PHC in Pathanamthitta district to assess the awareness and attitude towards organ donation.

A. Description of Study Sample

Table 1: Distribution of the study sample by demographic characteristics (Socio-demographic characteristics).

Items	Groups	Male		Female		Total
		Frequency	Percentage	Frequency	Percentage	
Age	Less than 20	5	2.8%	4	2.3%	9
	21 - 40	24	13.8%	24	13.8%	48

	41 - 60	25	14.4%	33	19.07%	58
	>60	37	21.3%	21	12.1%	58
Total		91	52.6%	82	47.3%	173
Religion	Hindu	51	29.4%	37	21.3%	88
	Christian	23	13.2%	32	18.4%	55
	Muslim	14	8.09%	13	7.5%	27
	others	3	1.73%	0		3

A.2: Socio-Economic Characteristics of Participants

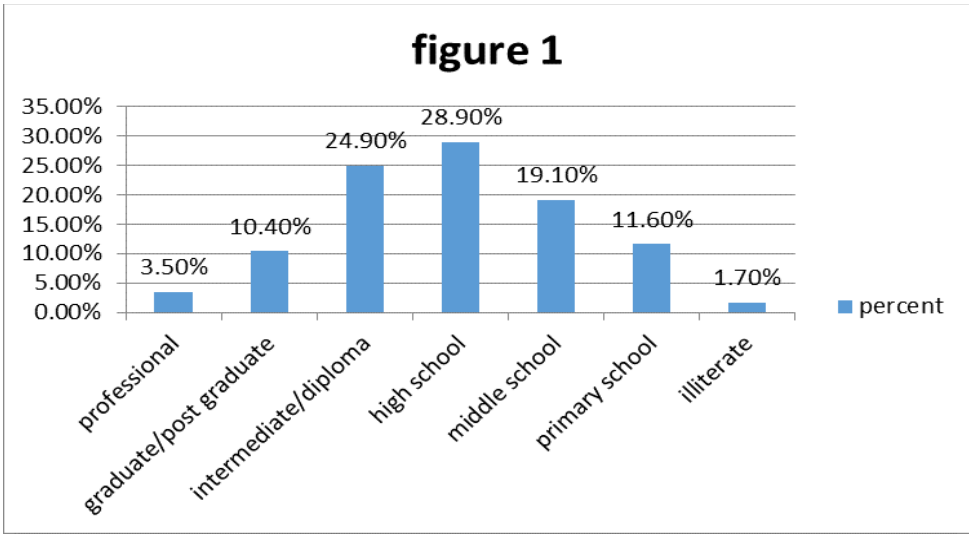

Figure 1: Distribution of participants by educational qualification.

Figure 1 shows the distribution of participants by educational qualification from the data collected. Accordingly it can be seen that only 1.7% of people are illiterate and that majority of participants have completed their schooling.

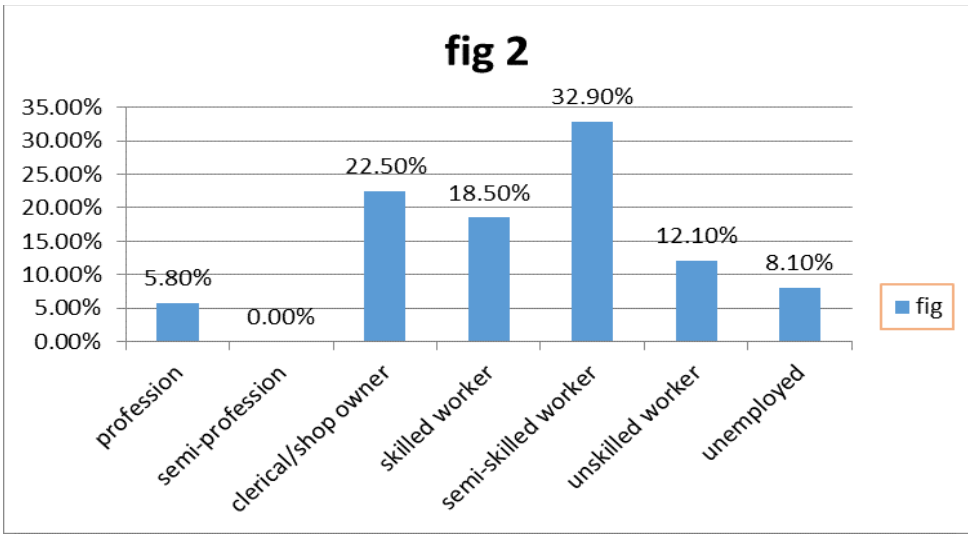

Figure 2: Distribution of the study sample by occupation

Figure 2 shows the distribution of participants according to their occupation. Among the participants it can be seen that very few (5.80%) are professionals and some 8.10% are unemployed. Most of the participants belong to semi-skilled worker category.

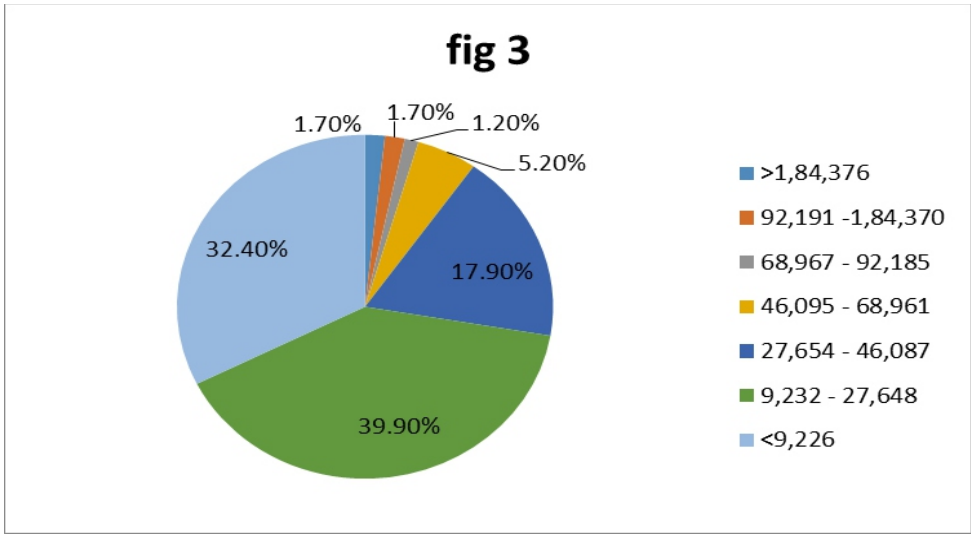

Figure 3: Distribution of the study sample by total monthly family income.

Figure 3 shows the distribution of participants according to their total family income per month. It can be seen that majority have income below 27,648.

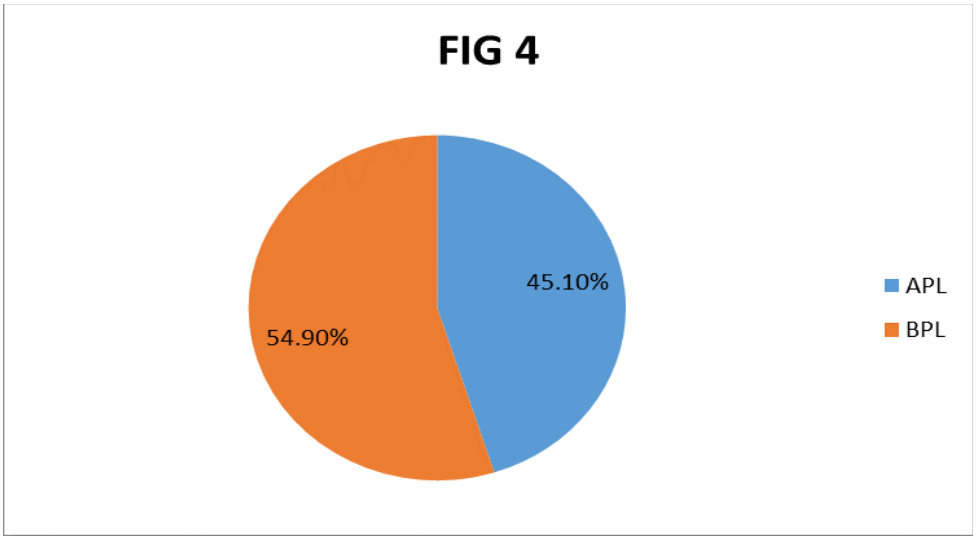

Figure 4: Ddistribution of the study sample by socio-economic status.

The figure 4 shows the distribution of participants according to their socio economic status.it can be seen that majority of participants who come to PHC belong to a lower socio-economic status.

B: Knowledge Regarding Organ Donation

Awareness about organ donation:
All the participants were aware of organ donation.

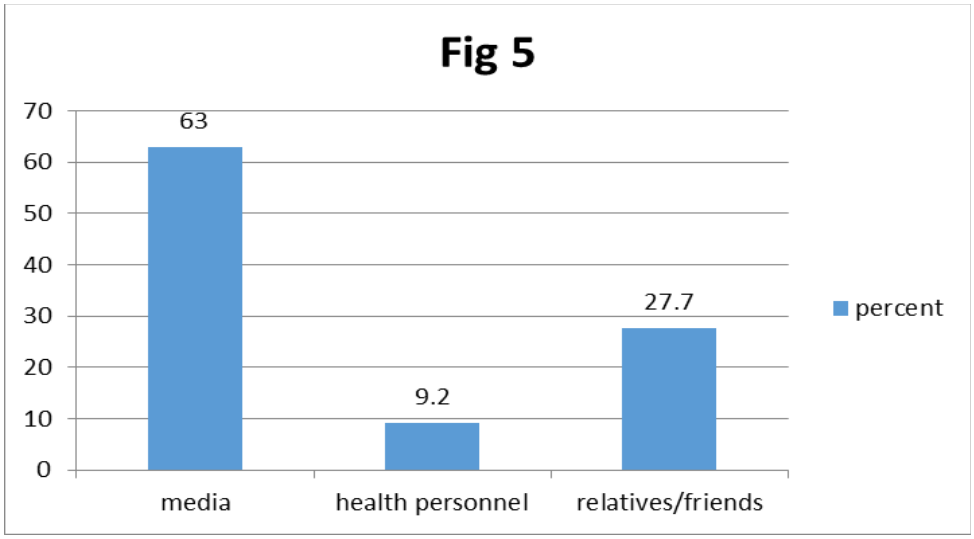

Figure 5: Source of awareness about organ donation among study sample.

Figure 5 shows the source of awareness about organ donation among the study population. Majority (63%) of participants w--ere aware of organ donation through media and only small fraction thru health personnel.

Questions to assess knowledge regarding organ donation among study population

QUESTIONS	YES	NO
Is there any age limit for organ donation?	80 (46.2%)	93 (53.8%)
Are you aware that organ donation for monetary benefit is illegal	130 (75.1%)	43(24.9%)
Awareness about laws regarding organ donation	33 (19.1%)	140(80.9%)
People who think organ donation is detrimental to the health of donor	116(67.1%)	56(32.4%)
Knows anyone who has donated organ or received organ	54 (31.2%)	118 (68.2%)
Heard about mrithasanjeevani platform	78(45.1%)	94(54.3%)

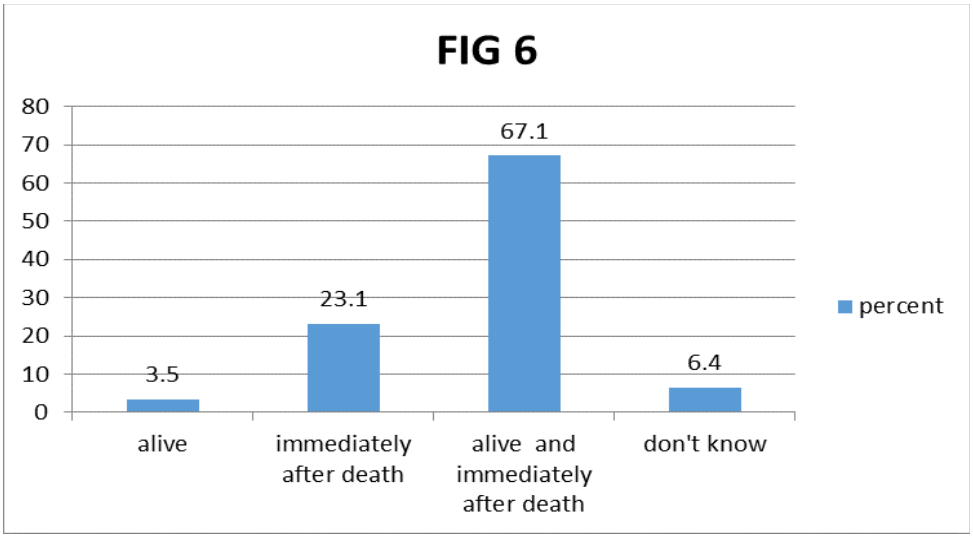

Figure 6: Knowledge regarding time for organ donation among study sample.

The figure 6 shows the knowledge of people regarding when organ donation can be done. Majority (67.1%) of participants k--nows that organs can be donated while alive as well as immediately after death.

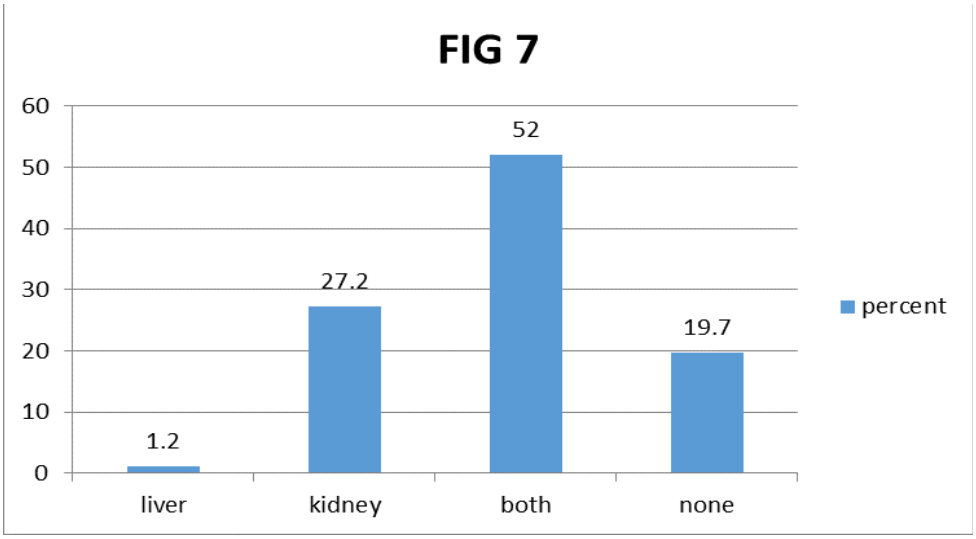

Figure 7: knowledge regarding which organ can be donated when alive among study sample.

The fig 7 shows people knowledge on which organ can be donated when alive. half (52%) the participants knows that b-oth kidney and liver can be donated when alive; a small fraction thinks no organ can be donated when alive.

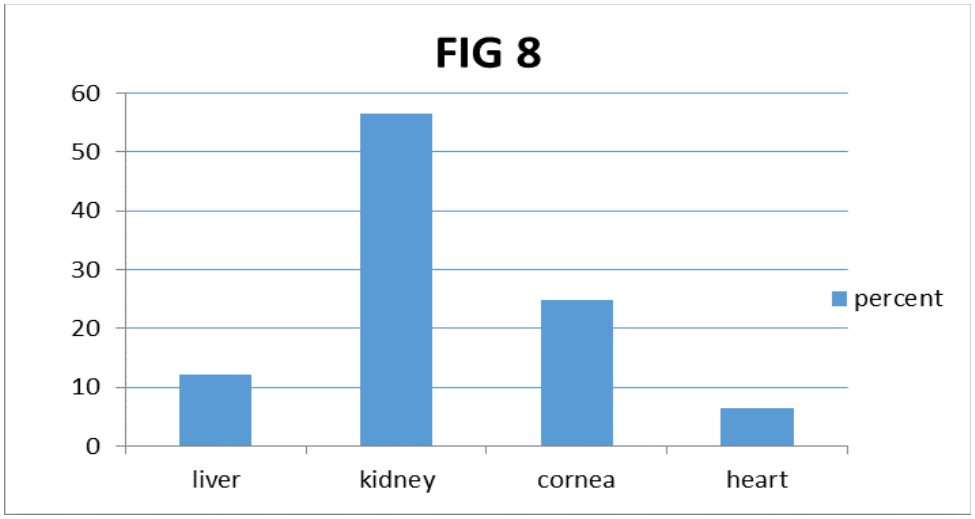

Figure 8: The most heard organ donation among study sample.

The fig 8 shows which organ donation the study participants have heard about the most. Majority (56.6%) have heard of kid-ney donation the most.

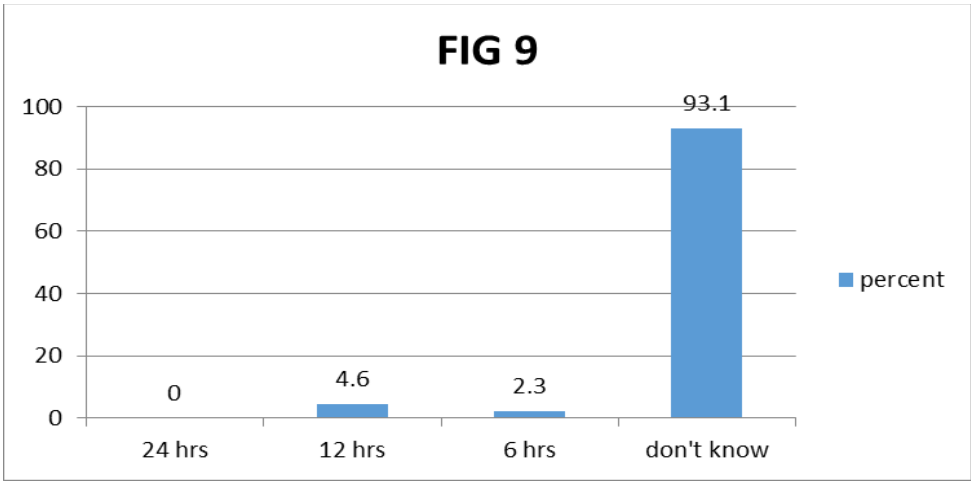

Figure 9: knowledge regarding time limit for eye donation among study sample.

The figure 9 shows awareness of study population on when eye donation can be done. Majority is not aware about the time limit for organ donation.

C. Attitude Regarding Organ Donation Among Study Population

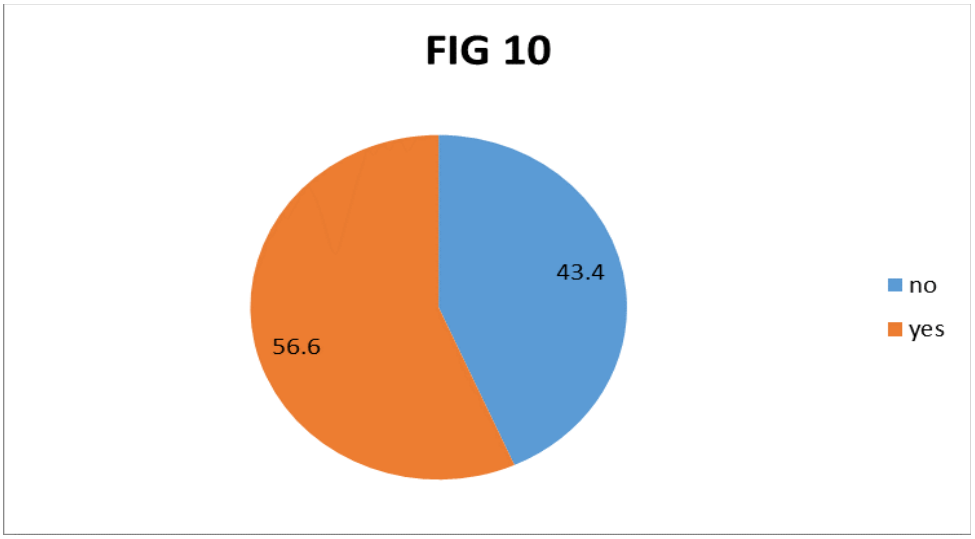

Figure 13: Willingness to donate organ of deceased relative among study sample.

The figure 13 shows the willingness of participants to donate organ of a deceased relative. Majority (74.6%) of participants were not willing to donate organ of a deceased relative.

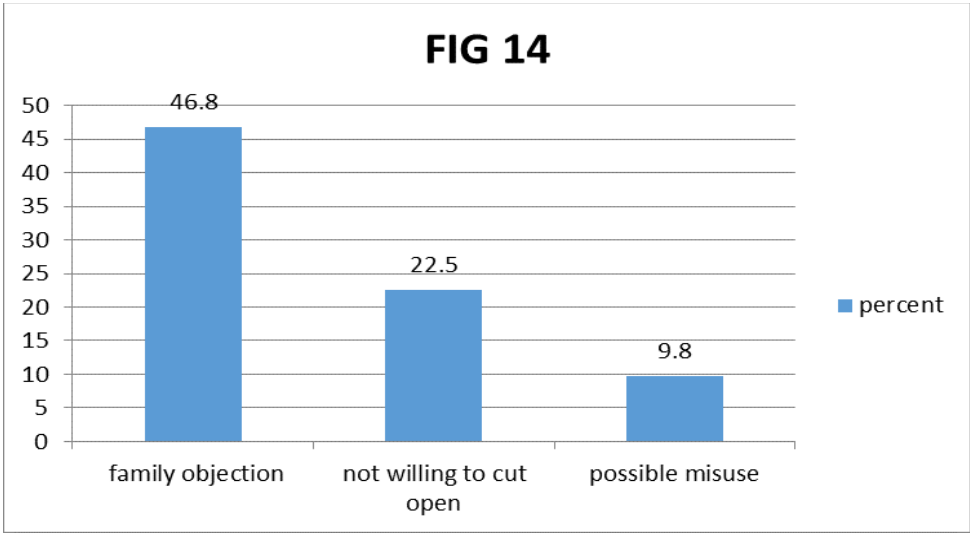

Figure 14: Reason for not donating organ among study population.

The figure 14 shows the reason for not donating among the participants.46.8% of participants were not willing to donate organ due to family objection.

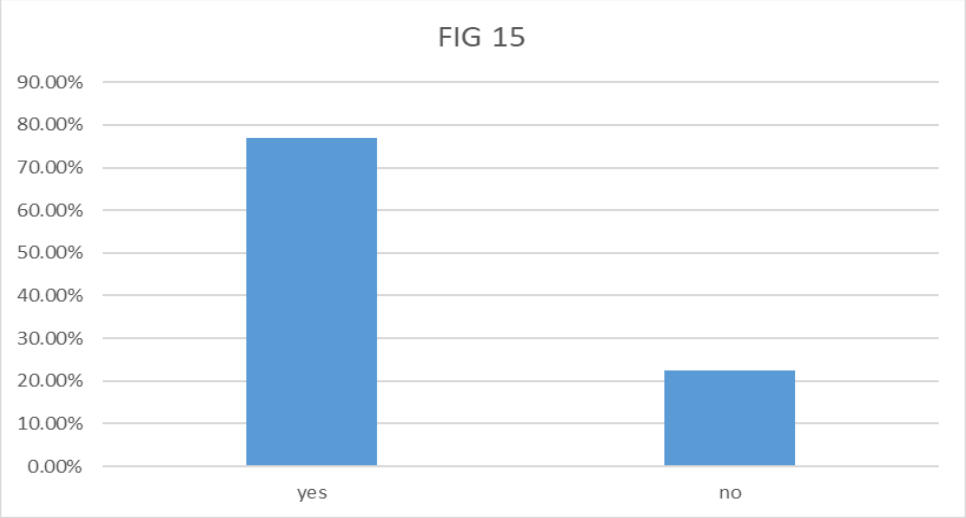

Figure 15: Attitude towards promotion of organ donation among study sample.

The figure15 shows the attitude towards promotion of organ donation among the study population. Majority (76.9%) feels organ donation should be promoted.

D. Association Between Sociodemographic Details and Willing to Donate Organ

Table 2: Association between age and willingness to donate organ and perception on whether to promote organ donation in the study sample

AGE	Willingness to donate organ after death		P value	Willingness to donate organ when alive		P value	Perspective on whether organ donation should be promoted		P value
	Yes	no		yes	no		Yes	no	
Less than 20	8	1	0.000	5	4	0.001	9	0	0.000
21 - 40	35	13		18	30		47	1	
41 - 60	36	22		10	48		47	11	
>60	19	39		6	52		31	27	

Table 2 shows the association between Age and willingness to donate organ after death or when alive. The P value is 0.000(<0.05) hence there is statistically significant association between age and willingness to donate organ. It can be seen that younger age group are more willing to donate organ after death as well as when alive.

Similarly, the table also shows the association between age and perception on need for organ donation to be promoted. The p value is 0.000(<0.05) and hence there is significant association between age and perception on need for organ donation to be promoted. Younger age advocates for the need for organ donation more.

Table 3. Association between gender and willingness to donate organ in the study sample

Gender	Willingness to donate organ after death		P value	Willingness to donate organ when alive		P value	Perspective on whether organ donation should be promoted		P value
	yes	no	0.047	yes	no	0.851	yes	no	0.851
male	58	33		20	71		71	20	
female	40	42		19	63		63	19	

Table 3 shows the association between gender and willingness to donate organ after death/ when alive. The p value for willingness to donate after death is 0.047 (<0.05) hence there is statistically significant association between gender and willing-ness to donate after death.

Willingness to donate organ after death is more by males than females whereas majority of males and females are not willing to donate organ when alive.

Table 4: Aassociation between religion and willingness to donate organ in the study sample

Religion	Willingness to donate organ after death		P value
	yes	no	
Hindu	49	39	0.504
Christian	31	24	
Muslim	15	12	
others	3	0	

Table 4 shows the association between religion and willingness to donate organ after death. It can be seen that there is no signifi-cant association religion and willing to donate organ (P> 0.05).

Education	Willingness to donate organ after death		P value	Willingness to donate organ when alive		P value
	yes	no		yes	no	
Professional	4	2	0.000	1	5	0.067
Graduate/post graduate	14	4		5	13	
Intermediate/diploma	30	13		17	26	
High school	34	16		8	42	
Middle school	11	22		6	27	
Primary school	5	15		2	18	
Illiterate	0	3		0	3	

Table 5 shows the association between education and willingness to donate organ after death/when alive. The p value 0.000(<0.05) hence statistically significant association can be established. It can be seen that more educated the person is gre-ater is the willingness to donate organ after death. However no significant association can be established between education and willingness to donate when alive p value 0.067(>0.05).

Table 6: Aassociation between socioeconomic status and willingness to donate organ in the study sample.

Socio-economic status	Willingness to donate organ after death		P value	Willingness to donate organ when alive		P value
	yes	no		yes	no	
APL	54	24	0.002	26	52	0.002
BPL	44	51		13	92	

Table 6 shows the association between socio-economic status and willingness to to donate organ after death/ when alive. The p value is 0.002(<0.05) hence statistically significant association between socio-economic status and willing to donate organ can be established. Higher the socio-economic class greater is the willingness to donate organ after death /when alive.

DISCUSSION

Deceased organ donation involves the contribution of an organ or a portion thereof from a deceased individual to facilitate transplantation for another person. Typically, organ donors are individuals who have recently passed away or their grieving families. The crucial criterion for donation is the declaration of brain stem death by a team of authorized medical professionals at a hospital. In certain instances, individuals facing imminent heart and lung failure may also have the opportunity to donate organs, provided that both their next of kin and the medical care team concur that all available efforts to save the patient's life have been exhausted (Figure 16).

Figure 16: Deceased organ donation.

In the present study, a cross sectional analysis on awareness and attitude towards organ donation among patients attending general OPD of a PHC in Pathanamthitta district.

A total of 174 patients participated in the study. Among the study 82 were female and 91 were males. The study found statistically significant association between gender and willingness to donate organ after death p value 0.047(<0.05). Males (68%) were found to be more willing to donate organ compared to females however this is in contrary to the study conducted in China.

The study population was divided into 4 age groups (<20, 20 - 40, 41-60,>60) out of which majority was above the age of 40. Statistically significant association was found between age and willingness to donate organ p value 0.000(<0.05). The willingness to donate organs was seen highest in below 40 age group similar to the study conducted in coastal South India.

The study assessed other socio demographic details like religion where half (50%) of the study population was found to be Hindu and remaining Christian (32%), Muslim (15.7%) and others (1.73%). No statistically significant association seen between religion and willingness to donate organ p value 0.504 (0.05) similar study result obtained in study done in Kozhikode contrary to the study done by Mithra et al[14- 16].

The socio-economic details assessed in the study was educational qualification and was found that only a minority (1.7%) was illiterate and 25.4% had completed their diploma,28.3% has completed their high school ,10.4% of study population was graduate/post graduate. The study found that higher the education level higher was the willingness to donate organ p value 0.000(<0.05) similar to the result of the study done in china and Pakistan[17-19].

On assessing the occupation of head of family it was found that about 8.1% was unemployed and the remaining were all employed out of which 28.3% belonged to semi-skilled worker category. Majority (58%) of study participants had monthly income of less than 27,648. it was found that 45.1% belonged to higher socioeconomic status. statistically significant association was established between socio economic status and willingness to donate organ p value 0.002(<0.05). The study found that participants in higher socioeconomic level showed more willingness to donate organ (69%) similar to study conducted by Vijaya Lekshmi Porredi et al[20].

From the study conducted it was found that all the participants were aware about organ donation. The source of awareness was mainly (63%) from media similar to study done in Bengaluru and Kerala. Other sources were relatives/friends (27.7%) and health personnel (9.2%)[21-23].

On assessing the knowledge about organ donation, it was found that

46.2% believed there is age limit to organ donation. Majority (75.1%) was aware that organ donation for monetary benefit was illegal similar to study conducted by K L Ballade et al (80%). Still 25% is shockingly not aware that organ donation for monetary benefit is illegal[24]. Out of 174 participants 116 (67.1%) knew that organ donation can be done when alive as well as immediately after death this is much higher than the result obtained in the study done by Raktim et al., 23.1% believed organ donation was done only immediately after death 6.4% didn't know when organ donation can be done. Among the participants who knew organ donation can be done when alive only 52 % knows that both liver and kidney can be donated when alive. 27.2% thinks that only kidney can be donated when alive[25].

The study found that majority (80.9%) was not aware of any laws regarding organ donation. Aamong the study population majority (56.7%) has heard about kidney donation the most. Among the study participants majority (67.4%) thinks organ donation will be detrimental to the health of donor this is higher than the result obtained in study conducted in coastal south India (40%). 68.6% of participants knows people who have donated/received an organ Out of 174 participants, only 2.3% knows that eye donation should be done within 6 hrs.45.1% of participants have heard about Kerala government organ donation platform Mrithasanjeevani[26-28].

The study found that 56.1% were willing to donate organ after death similar result was seen in study conducted in north east India. Out of this 11% would like to donate entire body this is in contrary to study done by K L Balajee et al., where eye donation was the most preferred. Out of the study population only 22.7% is willing to donate organ when alive. Majority (74.4%) is also not willing to donate organ of deceased relative. The main reason for not willing to donate organ was family objection (59.1%) this is similar to the result obtained in study by Balajee et al[1, 29, 30].

CONCLUSION

In our study all the participants were aware about organ donation but knowledge regarding organ donation was limited to only half the study population. The study found that although all participants were aware about organ donation only 77.3% felt the need for organ donation to be promoted. Out of the participants who felt the need for organ donation to be promoted only 56.1% were willing to donate organ after death. Even smaller percent (22.7%) was willing to donate when alive. Further, there is statistically significant associations between age, gender, education, socio-economic status of the participants with their intention to donate organs. Younger age group is seen to be more willing towards organ donation. Male are seen to be more willing for organ donation after death. Higher socio-economic status and education level is associated with higher willingness to donate organ.

ACKNOWLEDGEMENTS

We are thankful to the medical officers of the PHC without whose permission this research couldn't have been completed. We thank the department ethics committee for the approval. We are thankful to all our study participants without whose consent and co-operation this work could have never seen the light of the day. We extend our thanks all others who helped us directly or indirectly.

FUNDING

Nil.

CONFLICT OF INTEREST

There is no conflict of interest.

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