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A comparative study of knowledge, attitude, and practices about organ donation among blood donors and nonblood donors

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Abstract:

INTRODUCTION: Shortage of organs by donation is a national problem which needs a multipronged approach for its strengthening. Educating the people and increasing the awareness of the need for donation would be of the foremost priority. Identifying the target population who are more likely to respond would be very important to reap the maximum results. There is speculation that blood donors would be more amenable and likely to accept the idea and thought of organ donation. This study is being designed to study the same.

METHODOLOGY: This was a cross-sectional comparative questionnaire-based study among two groups: blood donors and nonblood donors. Donors were defined as aged above 18 years and have made at least one whole blood/apheresis donation. Nondonors were the ones who were aged above 18 years and have not donated whole blood/apheresis blood products in the past. All the responses were entered in the Microsoft Excel sheets, and statistical analysis was carried out using Statistical Package for Social Sciences.

RESULTS: A total of 829 participated in the study. Among the 829 participants, 416 were donors, and 413 were nondonors. There was no difference in knowledge regarding organ donation among the groups except for perceived risks of organ donation among nondonors. Concerning attitudes, they were more favorable among blood donors, and it was statistically significant at a $P < 0.05$.

CONCLUSION: There was no difference with respect to knowledge between donors and nondonors. However, donors had a more favorable attitude toward organ donation. Factors like concerns about misuse of donated organs, lack of clarity on their religion's policy toward organ donation, and potential for harm for the organ donor seem to account for the unfavorable attitude of nondonors toward organ donation.

Keywords:

Blood donors, nondonors, organ donation

Introduction

The organ donation rate is low in India, and there is a gross mismatch between the number of people developing organ failure requiring transplantation and the organ donor pool.^[1] A multipronged strategy is

necessary to improve organ donation in India. Even though many individuals have heard about organ donation, only 1/3rd of adults were found to have adequate knowledge of organ donation in Puducherry.^[2] Therefore, efforts at improving awareness about organ donation among the public may contribute to improved donation rates. Identifying a suitable target population to focus the awareness activities will be useful.

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People who donate blood or have donated blood in the past (“donors”) are more likely to engage in other prosocial behaviors such as engaging in other voluntary activities, donating cash or kind, participating in citizen initiatives, and taking care of needy people compared to individuals who have never donated blood (nondonors).^[3] It is expected that the donors may accept the idea of organ donation more easily because they are already involved in acts of altruism.^[4] There is little literature comparing the knowledge and attitudes of donors and nondonors. This study was designed to study the differences between the knowledge and attitudes about organ donation among blood donors compared to nonblood donors.

Methodology

Study design and study setting

This was a cross-sectional comparative study among two groups: blood donors and nonblood donors. Donors were defined as people who were aged above 18 years and have made at least one whole blood/apheresis donation. Nondonors were the ones who were aged above 18 years and have not donated whole blood/apheresis blood products in the past.^[5] Knowledge refers to facts or information known to the donors, theoretical or practical understanding regarding organ donation. Attitude refers to the views or opinions of the subjects regarding the act of organ donation. Practices refer to the act of donating or pledging organs by the subjects. Since the questionnaire was in English, only participants who could read, write, and comprehend English were chosen for the study. Donors (>18 years of age) were selected from those who had made at least one previous blood donation from the blood center at our institution and outdoor blood donation camps. Nonblood donors were selected from age- and sex-matched controls attending blood camp as volunteers and others who have never donated and have accompanied the donors at various sites.

Sample size and sampling method

The sample size was estimated using the statistical formula for comparing two proportions. The minimum expected percentage difference between the two groups about knowledge and favorable attitude was kept at 10% with an overall prevalence of 50%–60%. The sample size was estimated to be a minimum of 385 in each group, with a sample error of 5% at a 95% confidence interval. The study was powered at 80%. Purposive sampling was used to achieve the required sample size.

Questionnaire

The standardized questionnaire used by Taimur *et al.* from Pakistan in their study was utilized for this study after validating its content to our setting and checking for reliability.^[6] The questionnaire had a total

of 27 items enquiring about their knowledge (K_{1-12}) and what they feel about organ donation (A_{1-9}). There were 6 questions (P) which enquired if they have already donated an organ or have committed to do so in the future and so. The questions were designed to allow the selection of the most appropriate response among the options provided, with the option to write remarks if any.

Method of data collection

Both the groups answered the questionnaire in written format on their own or with assistance from the interviewer if required, after obtaining their written consent for participation in the study. The participants’ sociodemographic details were also collected, including Education status, occupation, religion, monthly income, family structure, and mode of transport regularly used by the individual for day-to-day commutes used.

Statistical analysis

All the responses were entered in the Microsoft Excel sheets, and statistical analysis was carried out using Statistical Package for Social Sciences version 20, IBM Corp, Chicago, IL, USA. Descriptive statistics about the sociodemographic status and responses were summarized as frequency and proportions. The difference among groups was tested using the Chi-square test for independent variables, and $P < 0.05$ was considered significant.

Ethical considerations

The study was reviewed by the Institutional Ethics committee and approved on January 30, 2017 (IEC approval number JIP/IEC/2016/1000). All the data were collected in an anonymized manner.

Results

Out of 4802 people approached in 94 blood donation camps, a total of 829 participated in the study. Twenty-six entries were incomplete and hence excluded from the analysis. Among the 829 participants, 416 were donors, and 413 were nondonors. The sociodemographic characters of the participants are summarized in Table 1.

Of the participants, 4.2% had not heard of the term “organ donation.” A quarter of them (25.7%) of the participants were not aware of organ donation was allowed in their religion. Similarly, 26% of the participants were not aware of who should consent for organ donation if the donor was mentally disabled. Of the participants, 63.5% who regularly used a personal vehicle for day-to-day commutes thought that there was some risk involved in organ donation. About 27.6% of the participants were aware that there is some legislation regarding organ donation. Sixty-seven percent of the

Table 1: Frequencies of sociodemographic characters of the participants

Sociodemographic characteristics	Frequency, n (%)		
	Donors (n=416)	Nondonors (n=413)	Total (n=829)
Age (years)			
18-34	376 (90.4)	405 (98)	781 (94.2)
35-54	40 (9.6)	7 (1.7)	47 (5.7)
55-65	0	1 (0.2)	1 (0.1)
Sex			
Male	385 (92.6)	312 (75.5)	695 (83.8)
Female	31 (7.4)	101 (24.4)	132 (15.9)
Occupation			
Student	171 (41.1)	288 (69.7)	459 (55.4)
Government employee	14 (3.4)	8 (1.9)	22 (2.7)
Private sector employee	165 (39.7)	102 (24.7)	267 (32.2)
Volunteer	5 (1.2)	1 (0.2)	6 (0.7)
Self employed	21 (5.0)	5 (1.2)	26 (3.1)
Unemployed/homemaker	40 (9.6)	9 (2.1)	49 (5.8)
Education			
Primary (up to class 5)	10 (2.4)	11 (2.7)	21 (2.5)
Secondary (class 5-10)	238 (57.2)	188 (45.5)	426 (51.4)
Higher secondary (class 11-12/ equivalent)	111 (26.7)	134 (32.4)	245 (29.6)
Diploma	21 (5.1)	26 (6.3)	47 (5.6)
Graduation	25 (6.0)	36 (8.7)	61 (7.4)
Postgraduation	11 (2.6)	18 (4.4)	29 (3.5)
Marital status			
Single (never married)	310 (74.5)	354 (85.7)	664 (80.1)
Married	100 (24.0)	55 (13.3)	155 (18.7)
Engaged to be married	6 (1.4)	4 (0.9)	10 (1.2)
Religion			
Hindus	316 (76.0)	350 (84.7)	666 (80.3)
Christians	52 (12.5)	30 (7.3)	82 (9.9)
Muslims	46 (11.1)	30 (7.3)	76 (9.2)
Others	2 (0.5)	3 (0.7)	5 (0.6)
Cumulative monthly household income			
<5000	10 (2.4)	11 (2.7)	21 (2.6)
5000-20,000	244 (58.7)	188 (45.5)	432 (52.1)
20,000-50,000	109 (26.2)	134 (32.4)	243 (29.3)
50,000-80,000	22 (5.3)	36 (8.7)	58 (7.0)
80,000-100,000	12 (2.9)	18 (4.3)	30 (3.6)
>100,000	19 (4.6)	26 (6.2)	45 (5.4)
Number of dependent family members			
≤2	88 (21.2)	89 (21.5)	177 (21.2)
3	197 (47.4)	160 (38.7)	357 (43.1)
4	90 (21.6)	110 (26.6)	200 (24.1)
5	37 (8.9)	27 (6.5)	64 (7.7)
6	2 (0.5)	7 (1.7)	9 (2.2)
≥7	2 (0.5)	9 (2.1)	11 (2.6)
Means of transport used			
Public transport	136 (33.1)	164 (42.3)	300 (36.2)
Personal bicycle	30 (7.5)	39 (14.5)	69 (8.3)
Personal motorbike	236 (59.8)	182 (48.1)	418 (50.4)
Personal car	14 (3.4)	28 (6.8)	42 (5.1)

participants felt a need to have effective laws to govern organ donation. Most participants (87.5%) felt that organ donation needs to be actively promoted among the population.

Nine questions were in the format of yes, no, and do not know as responses. The responses with differentiation between donors and nondonors for these questions are summarized in Table 2. The awareness about the various

organs that could be donated between the groups is compared and shown in Figure 1.

Responses to questions assessing the knowledge among the participants about who should give the consent for organ donation in various circumstances are summarized in Table 3. The other responses to various knowledge and attitudes items among the two groups of participants are summarized in Tables 4 and 5. Figure 2 shows the responses of participants on, which all organs can be donated. Table 6 summarizes the preference of their donation about the characters of the recipients among the groups.

Six of the donors had committed to donating their organs in which 4 of them had committed to donating eyes, and the other two had committed to donating kidneys after death. One of them had already donated a kidney to his brother. Among the nondonors, one of them had committed to donating all the organs after death.

Table 2: Donation characteristics of the blood donor group

	Frequency (%)
Number of previous donations	
<5	359 (86.3)
5-10	49 (11.8)
>10	8 (1.9)
Time since the last donation (years)	
<1	265 (63.7)
1-5	144 (34.6)
>5	7 (1.7)
Preference for blood donation	
Voluntarily out of my own free will	186 (44.7)
When a friend or family member wants it	209 (50.2)
Not particularly interested, did out of coercion	21 (5.1)
Experienced any reaction to blood donation	
Yes	41 (9.9)
No	375 (90.1)

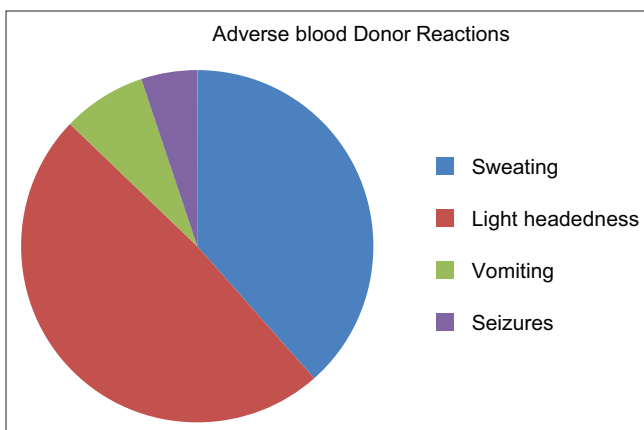


Figure 1: Reactions reported to blood donation by donors

Of the Christians, 32% preferred to donate their organs to people of their religion only. This preference to donate to the same religion was 25% in Hindus whereas it was least in Muslims (13%).

Discussion

Our study showed that there was not much difference in the knowledge about blood donation between donors and nondonors. However, their knowledge concerning who should give organ donation consent was more accurate than the nondonors. Regarding attitude, the donors were much more favorable compared to nondonors. Donors attributed organ donation to be a responsibility, whereas the nondonors thought it as less so. Comparatively, a more significant number of donors expressed willingness to donate if the need arises. They were also more liberal regarding whom the recipient should be and the risks associated with donation than nondonors. A greater number of blood donors also had signed the blood donor cards. A significant number of nondonors thought that organ donation will harm the donor.

A study from Hong Kong has shown that blood donors have better knowledge about organ donation and are more willing to donate their organs and sign an organ donation card compared to the general public.^[7] Our study did not show significant differences, possibly because both groups were derived from the same population with similar exposure to resources and matching demographical profiles.

More commonly, donors learned about organ donation from the doctor and other health-care providers, whereas nondonors learned mostly from multiple sources, including magazines and newspapers. This may be because donors tend to come across doctors while

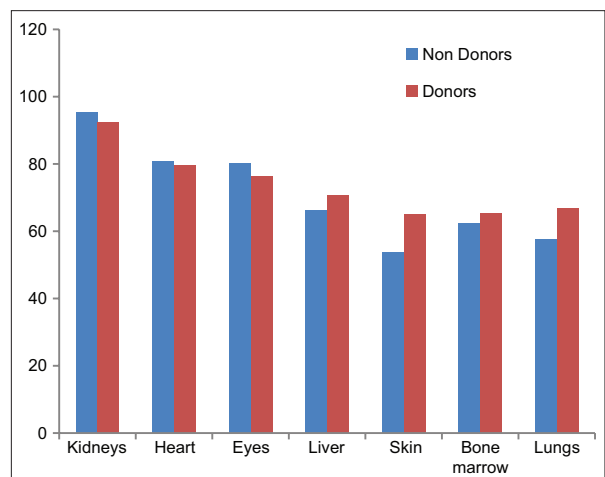


Figure 2: Responses of participants on awareness about the organs that can be donated (K12)

Table 3: Responses for knowledge and attitude and practices questions among the participants

Question	Responses						Chi-square test, <i>P</i>
	Donors (<i>n</i> =416)			Nondonors (<i>n</i> =413)			
	Yes, <i>n</i> (%)	No, <i>n</i> (%)	Do not know, <i>n</i> (%)	Yes, <i>n</i> (%)	No, <i>n</i> (%)	Do not know, <i>n</i> (%)	
K1. Have you heard of the term organ donation? (11)	383 (92.1)	17 (4.1)	16 (3.8)	382 (92.5)	18 (4.3)	13 (3.1)	0.85
K2. Does your religion allow organ donation? (14)	265 (63.7)	39 (9.4)	112 (26.9)	283 (68.5)	29 (7.0)	101 (24.5)	0.27
K3. Can parents/guardian make substitute decision for mentally disabled persons in regard of organ donation? (21)	294 (70.7)	23 (5.5)	99 (23.8)	252 (61.0)	44 (10.7)	117 (28.3)	0.004
K4. Does organ donation involve any risks? (34)	265 (63.7)	95 (22.8)	56 (13.5)	261 (63.2)	62 (15)	90 (21.8)	0.001
K5. Are you aware of any legislation with regard to organ donation? (36)	103 (24.8)	313 (75.2)	-	125 (30.3)	288 (69.7)	-	0.08
K6. Do you know your blood group? (24)	395 (95)	21 (5)	-	201 (48.7)	212 (51.3)	-	<0.0001
A1. Should organ donation be promoted? (22)	353 (84.9)	45 (10.8)	18 (4.3)	372 (90.1)	18 (4.4)	23 (5.6)	0.002
A2. Is there any need for having effective laws to govern the process of organ donation? (37)	270 (64.9)	8 (1.9)	138 (33.2)	285 (69.0)	23 (5.5)	105 (25.4)	0.002
P1. Have you ever donated an organ? (25)	1	415	-	0	413	-	-
P2. Have you ever commit/signed to donate an organ? (25)	4	412	-	1	412	-	-

K=Knowledge, A=Attitude, P=Practices

Table 4: Responses for knowledge assessing questions among participants about consent for organ donation

Question	Responses							Chi-square test, <i>P</i>
	Self, <i>n</i> (%)	Family members, <i>n</i> (%)	Spouse, <i>n</i> (%)	Friends, <i>n</i> (%)	Doctor, <i>n</i> (%)	Court, <i>n</i> (%)	None/NGO, <i>n</i> (%)	
K7. For living donors who should give the consent? (18)								
Donors	343 (82.5)	27 (6.5)	23 (5.5)	8 (1.9)	8 (1.9)	7 (1.7)	0	<0.0001
Nondonors	291 (70.5)	72 (17.4)	17 (4.1)	8 (1.9)	16 (3.9)	8 (1.9)	1 (0.2)	
Total	634 (76.5)	99 (11.9)	40 (4.8)	16 (1.9)	24 (2.9)	15 (1.8)	1 (0.1)	
K8. For donation after death, who should give the consent? (19)								
Donors	5 (1.2)	335 (80.5)	32 (7.7)	8 (1.9)	12 (2.9)	0	24	0.94
Nondonors	0	321 (77.7)	36 (8.7)	6 (1.5)	13 (3.2)	12 (2.9)	25	
Total	5 (0.6)	656 (79.1)	68 (8.2)	14 (1.7)	25 (3.0)	12 (1.5)	49 (5.9)	
K9. In the case of unclaimed dead bodies who should make the decision? (20)								
Donors					147 (35.3)	107 (25.7)	162 (38.9)	0.11
Nondonors					159 (38.5)	81 (19.6)	173 (41.9)	
Total					306 (36.9)	188 (22.7)	335 (40.4)	

K=Knowledge

donation and health checkups are more likely to discuss health-related issues more often with them. They are also more likely to visit health-care facilities or hospitals and seek health-related information. People who are donors are also people who tend to be surrounded by others who have their way of thinking and attitudes toward the donation.

Medical mistrust or concerns of misappropriation of organs can have implications on the decision to donate

or likelihood to register as an organ donor and affect their ability to motivate others. There was no significant difference among groups regarding these thoughts, but the majority (80%) of the participants had some reservations. A study by Peters *et al.* in America said that nondonors had a more remarkable lack of trust in the organ utilization. The most essential thing in the decision to donate was noted to be the assurance of the respectful treatment of organs in the case of nonblood donors. This may also reflect the mindset of

Table 5: Responses for knowledge and attitude questions among the participants

Question	Responses			Chi-square test, <i>P</i>
	Donors, <i>n</i> (%)	Nondonors, <i>n</i> (%)	Total, <i>n</i> (%)	
K9. The term organ donation means (30)				
Removal of tissues from the cadaver	60 (14.4)	45 (10.9)	105 (12.7)	0.26
Removal of tissues from a living donor	30 (7.2)	27 (6.5)	57 (6.9)	
Removal of tissues for transplantation	169 (40.6)	189 (45.7)	358 (43.2)	
Can include sperm/ova/fetus/sperm	3 (0.7)	7 (1.7)	10 (1.2)	
All of the above	154 (37)	145 (35.1)	299 (36.1)	
K10. From whom did you hear about organ donation? (31)				
Doctor	44 (10.6)	23 (5.6)	67 (8.1)	0.0002
Internet/online resources	20 (4.8)	20 (4.8)	40 (4.8)	
Television	204 (49.0)	173 (41.9)	377 (45.5)	
Radio	10 (2.4)	10 (2.4)	20 (2.4)	
Newspapers/magazines	19 (4.6)	29 (7.0)	48 (5.8)	
Friends and colleagues	23 (5.5)	15 (3.6)	38 (4.6)	
Multiple sources	96 (23.1)	143 (34.6)	239 (28.8)	
K11. Why is organ donation done? (32)				
To save someone's life	295 (70.9)	332 (80.4)	627 (75.6)	0.004
Out of compassion/sympathy	37 (8.9)	35 (8.4)	72 (8.7)	
To earn money	4 (1.0)	2 (0.4)	6 (0.7)	
As a responsibility	80 (19.2)	44 (10.7)	124 (15.0)	
A3. Attitude toward considering your organ for donation (12)				
Would never consider donating an organ	24 (5.8)	21 (5.1)	45 (5.4)	0.09
Will think about it	169 (40.6)	188 (45.5)	357 (43.1)	
Would donate if special circumstances any	42 (10.1)	56 (13.6)	98 (11.8)	
Would definitely want to donate	181 (43.5)	148 (35.8)	329 (39.7)	
A4. Which of the following factor holds the greatest importance to you when donating an organ? (17)				
Relation to the person	87 (20.9)	90 (21.7)	177 (21.3)	0.008
Age of recipient	45 (10.8)	39 (9.4)	84 (8.1)	
Religion of recipient	0	1 (0.2)	1 (0.1)	
Health status of the recipient	228 (54.8)	196 (47.5)	424 (51.1)	
Substance abuse	0	3 (0.7)	3 (0.4)	
Assurance of respectful treatment of the organ	33 (7.9)	65 (15.7)	98 (11.8)	
None	23 (5.5)	19 (4.6)	42 (5.1)	
A5. Why do you think organ donation should not be promoted? (23) (%)				
Maybe ill-treated	33	22	27.5	<0.0001
To avoid mutilation	4	0	2	
Religious beliefs	0	11	5.5	
Family refusal	38	39	38.5	
Harm to the donor	4	22	13	
Violation of rights	21	6	13.5	
A6. Do you know of anyone who has donated an organ? (24)				
Family member	25 (6.0)	35 (8.5)	60 (7.2)	0.53
Friend	19 (4.6)	16 (3.9)	35 (4.2)	
Colleague	4 (1.0)	5 (1.2)	9 (1.1)	
No one	368 (88.5)	357 (86.4)	725 (87.5)	
	<i>n</i> = 265	<i>n</i> = 261	<i>n</i> = 526	

Contd...

Table 5: Contd...

Question	Responses			Chi-square test, P
	Donors, n (%)	Nondonors, n (%)	Total, n (%)	
A7. What is the most important risk involved in organ donation? (35)				
Infection	60 (22.6)	75 (28.7)	135 (25.7)	<0.0001
Weakness	54 (20.4)	62 (23.8)	116 (22.1)	
Anxiety/depression	8 (3.0)	22 (8.4)	30 (5.7)	
Pain	86 (32.5)	48 (18.4)	134 (25.5)	
Bleeding	49 (18.5)	20 (7.7)	69 (13.1)	
All the above	8 (3.0)	34 (13.0)	42 (8.0)	
A8. Do you believe that there is a danger that the donated organs would be misused, abused, or misappropriated? (15)				
Never	62 (14.9)	66 (16.0)	128 (15.4)	0.34
Sometimes	280 (67.3)	287 (69.5)	567 (68.4)	
Often	31 (7.5)	29 (7.0)	60 (7.2)	
Most of the time	31 (7.5)	17 (4.1)	48 (5.8)	
Always	12 (2.9)	14 (3.4)	26 (3.1)	

K = Knowledge, A = Attitude

Table 6: Responses for questions regarding preferences to organ donation among the participants (A9)

Preference of recipients (16)	Yes			No			No preference			Chi-square test, P
	Donors, n (%)	Nondonors, n (%)	Total, n (%)	Donors, n (%)	Nondonors, n (%)	Total, n (%)	Donors, n (%)	Nondonors, n (%)	Total, n (%)	
Family and friends	164 (39.4)	165 (40.0)	329 (39.7)	16 (3.9)	13 (3.2)	29 (3.5)	236 (56.7)	235 (56.9)	471 (56.8)	0.86
Nonsmoker	340 (81.7)	301 (72.9)	641 (77.3)	23 (5.5)	22 (5.3)	45 (5.4)	53 (12.7)	90 (21.8)	143 (17.2)	0.003
Nonalcoholic	316 (76.0)	294 (71.2)	610 (73.6)	24 (5.8)	25 (6.1)	49 (5.9)	76 (18.3)	94 (22.8)	170 (20.5)	0.26
Younger age (<50 years)	238 (57.2)	218 (52.8)	456 (55.0)	114 (27.4)	101 (24.5)	215 (25.9)	64 (15.4)	94 (22.7)	158 (19.0)	0.03
Mentally sound	261 (62.7)	192 (46.5)	453 (54.6)	22 (5.3)	38 (9.2)	60 (7.2)	133 (32.0)	183 (44.3)	316 (38.2)	<0.0001
Physically disabled	33 (7.9)	77 (18.6)	110 (13.3)	234 (56.2)	169 (40.9)	403 (48.6)	149 (35.8)	167 (40.5)	316 (38.1)	<0.0001
Same religion	120 (28.8)	82 (19.9)	202 (24.3)	144 (34.6)	161 (39.0)	305 (36.8)	152 (36.5)	170 (41.2)	322 (38.8)	0.01

these people who have not been blood donors in the first place.^[3]

Studies from Randhawa and Moloney in Asian and Australian populations have shown that religion does not seem to be a significant barrier to organ donation. None of the religion objects to organ donation in principle. However, it is possible that given the sensitiveness of the issue, health professionals may avoid discussing them or even may be unaware of the religious issues about transplantation.^[8] Islam, Judaism, and Christians influenced by Greco-Jewish notions are known to be in a fix about the clerical interpretation of the requirement of the body of deceased to “remain unmodified pending bodily resurrection.” This is supposedly countered by higher duty toward saving a life by organ donation.^[4] Religious belief was a far common factor among nondonors concerning the deterrent for organ donation. They also more commonly felt that it would harm the donor. Strong religious beliefs are known to be predictive of lower willingness to donate.^[9]

Far a greater number of blood donors felt that the parents/guardian could make substitute decisions for mentally disabled persons regarding organ donation compared to nondonors. In India though neither Mental Health Act, 1987 nor the Organ Transplant Act, 1994 throws clarity on this.^[10,11] Donors probably felt it more so because of an emotional thought to accentuate donation. For the obvious reason that they were not aware of the process of donation, a greater number of nondonors did not know that for living donors, the consent is given by the donor themselves.

Significantly a greater number of donors denied any risks being associated with organ donation compared to nondonors. Donors who already have donated would know the proceedings of the procedure for the same. Once they have successfully donated, they are aware of the possible risks with it or deny it as very minor. The same mindset would make them believe the same about organ donation. However, nondonors have known to conceive the concept of donation to lead to some form of injury and would be extrapolating the same regarding

organ donation. Studies have shown that self-perceived adverse effects of donation have been admitted as a significant deterrent to blood donation. The perception is quite common that around 15% feared surgeries in living donors whereas 38% of the respondents said they did not want to donate from the deceased body to avoid mutilation of the integrity of the body.

Pain and bleeding were the more common risks of organ donation among blood donors. Nondonors mostly presumed it to others like infection, weakness, and anxiety. Donors with previous blood donation experience would be obviously aware of the pain and sometimes bleeding associated with blood donation. Nondonors have been presumed to have few myths about blood donation that they would cause infection, weakness, or anxious about the process of donation. The same seems to have been reflected in organ donation.

It was noted that more than half of nondonors did not know their blood group, whereas most of the blood donors (95%) remembered their blood group. This is expected because most of the donors get to know their blood group before donation. Many blood centers also issue a card or a certificate for those who have donated and usually have the blood group mentioned on it. Also, people who are willing to donate usually make sure of their group to offer the donation when the need arises for a particular group. Awareness of blood groups has widely varied in different populations and geographical locations. Studies on undergraduate medical students about being aware of their blood groups in the first year have shown to be as low as 44% in Nigeria, 74% in Bangalore, India, and 87% in Poland,^[12-14] whereas it is reported that nearly half of the American adult population do not know about their blood group by Emily Petsko in a magazine article in January 2019.^[15] Blood group plays an important role in organ donation/transplant, just knowing your type makes a huge difference.

Surprisingly, a greater number of nondonors felt that organ donation should be actively promoted and that there should be effective laws to govern the process of organ donation. This could be explained by the fact that the nondonors were comparatively from a better educational background in our study group. This is probably a response associated with their higher social capabilities, literacy regarding health, and information-seeking competencies.

A larger proportion of donors felt that organ donation should be made as a responsibility. In contrast, it was attributed as a compassionate thing among nondonors. 43.5% of donors admitted that they definitely would want

to donate an organ if the opportunity arises compared to 35.8% among nondonors. Altruism, social trust, and perceived confidence in their capacity to donate are known to drive the decision to donate more so with blood donors than nondonors. These personal characteristics are also known to determine their prosocial identity and giving behavior.^[16]

The recipient's health status was the most critical factor determining the consideration for organ donation among blood donors, whereas, in nondonors, it was about the assurance of respectful treatment of the donated organ. Donors were more particular that their organs be given to nonsmokers, mentally sound, physically fit, and younger age recipients. Donors are usually known to be more conscious of their health and follow a better and healthier lifestyle. Maybe, also the reason why they preferred the recipients of their donors also to be healthier and probably a worthier use of their organs. Younger-aged recipients and nonsmokers have a better prognosis posttransplant compared to elders and smokers.^[17]

The strength of the study is that it was done on a reasonably large sample size. The questionnaire was detailed and comprehensive. Certain limitations as well would be inevitable with this study. Being an interview-based study, some participants would have filled it up without taking help from the interviewer due to hesitancy despite not having clarity on what is expected. Also, when few people took the help of the interviewer, they would have been a bit biased in answering it either because of the interviewer or peer pressure when there were other people around.

Conclusion

We would like to highlight subtle but important differences in the knowledge and especially in attitudes among donors compared to nondonors toward organ donation. They seem to be more amenable and receptive to a request comparatively, and hence the efforts toward sensitization and recruitment for organ donation toward them would be probably more fruitful. The blood donors may be reached through prevailing blood organizations or their registries, resulting in effective recruitment as organ donors. Future research may be planned to investigate which of the behaviors and factors regarding attitude and knowledge translates into practice.

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Conflicts of interest

There are no conflicts of interest.

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