

Assessment of Attitude Towards Blood and Organ Donation among Rural Population of South India.

Roseline Fatima William¹, Jeevithan Shanmugam², Shanmugapriya Duraisamy³

¹Professor and HOD, Department of Community Medicine, Karpaga Vinayaga Institute of Medical Sciences and Research Centre, Chinna Kolambakkam, Palayanoor, Maduranthakam, Chengelpet, Tamil Nadu, India

²Associate Professor, ³Assistant Professor, Department of Community Medicine, KMCH Institute of Health Sciences and Research, Coimbatore, Tamil Nadu, India

Abstract

Background: Organ donation is a greatest milestone in modern science. The number of individuals waiting for organ and tissue donation is increasing day by day. However the amount of organs donated compared to need is very less in India. The need for blood is a vital measure in emergency and an essential component in healthcare delivery system. Despite large population, need of blood still remains challenge in India because of lack of people who are willing to donate blood. Awareness about the importance of organ/blood donation and the attitude towards it among the individuals plays a crucial role in increasing the organ and blood donation rate benefitting more recipients.

Objective: To assess the knowledge and attitude towards organ and blood donation among rural population in south India.

Methodology: A community based cross sectional study was conducted among 300 adults residing in rural field practice area of a tertiary care hospital in Salem. A pre tested semi structured questionnaire were used to collect data. Data entered and analysed in MS Excel.

Results: 66% of the study participants were females. 83% were aware about the need for blood and organ donation. The major source of information was media followed by friends and relatives. Around 10% of the study participants had donated blood and 55.7% were willing for blood donation. The main reasons for unwillingness was fear of becoming weak followed by contracting infections. Among those who are aware of organ donation 50.7% and 25% were willing to donate organ and full body respectively and the main reason for unwillingness of organ donation was lack of adequate knowledge.

Conclusion: Though the knowledge on organ donation is more than 80% for both blood and organ donation. attitude and willingness are poor. Extensive health education programs can be conducted to create more awareness.

Keywords: Blood Donation, Organ Donation, Awareness, Attitude, Rural Population.

Introduction

Access to safe blood for transfusion is an essential component of effective health care. Voluntary donors are the back bone of adequate and safe blood supply. Blood transfusion services based on voluntary blood donation generally meet the demand for blood and blood products. Lack of knowledge, fear, facilities, convenience and the quality of service are common factors that influences one's decision on whether or not to donate blood repeatedly on a

voluntary basis. Understanding blood donors' motivations is of prime importance to improve the effectiveness of donor recruitment and retention. Such information would be helpful for tailoring targeted programmes and campaigns more precisely in the future in order to reach out more people as regular, non-remunerated, voluntary donors. Factors that motivate or discourage individuals from donating blood have been decided to be explored [1].

Organ donation is 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 kin [2]. Organ donation (OD) has been one of the greatest milestones in modern science and has been a new ray of hope [3]. India's organ donation rate (ODR) is 0.34 per million populations (PMP), which is poorer than many developed countries like Spain where the donation rate is 36 PMP. In

Address for Correspondence

Dr. Jeevithan Shanmugam, Associate Professor, Department of Community Medicine, KMCH Institute of Health Sciences and Research, Coimbatore - Tamil Nadu, India M: 9965570174 E-Mail: dr.jeevithan@gmail.com

Received: April 2020
Accepted: October 2020

2015, only 5000 Kidney transplants were done in India as against the demand for 1.75 lakhs. Similarly, only 1000 got their liver transplanted against 50,000 people dying of end stage liver disease and were in the need for liver transplant. Statistics are distressingly poor in case of transplantation of heart or lung. Rate of corneal transplant was 1 in 25,000 when compared with 1 in 199 and 1 in 14,000 in the United States and Brazil, respectively. Only 0.08% of Indians donate their organs when compared with 70%–80% of Spaniards and Belgians. About 50,000 people in India die every year due to non-availability of organs for transplant at the right time [2].

The number of individuals waiting for organ and tissue transplantation are increasing day by day [3]. Wig et al [4] stated, there is a need for educating people regarding organ donation to the number of donor organs and awareness of donation. Many studies have been done on college students regarding their awareness on blood and organ donation. There are only a very few studies which have been done to understand the awareness and attitude of people in rural India who could be a potential donors at the right time. Hence this cross sectional study was done to assess the attitude and awareness towards Blood Donation and Organ donation among rural population of south India.

Methodology

This community based cross sectional study was done among 300 adults in the rural field practice area of a tertiary care medical college hospital in Salem between January to March 2014. A pre - tested semi structured questionnaire was used to collect data regarding the knowledge and attitude towards blood and organ donation through face-to-face interview method. The participants were briefed about objectives of the study, confidentiality of information and participant's rights. Institutional ethical clearance was obtained before the start of the study. Informed consent

was obtained and the data collected was maintained with strict confidentiality. The data collected was entered in Microsoft excel and was analyzed using the same. The results were expressed as percentages.

Results

Of the 300 participants, 34% of study population were males and 66% were females. Around 29% were in the age group of 26-35 years and 23% were in the age group of 36-45 years. 77.7% of the study population were literates.

17% of the study population were unaware about blood and organ donation. 83% were aware about the need for blood donation. Only 55.3% knew about their own blood group. Only 10% of the study population has donated blood so far. 63.4 % of the study population were able to tell few indications for blood transfusion (Table 1). The main source of awareness for both blood and organ donation was media (49.67% & 63% respectively) followed by friends and relatives (21.33% & 13% respectively) (Table 2).

76.7% of those who were not willing to donate blood had the fear that their body will become weak after donating blood. Another 6.7% felt that they may contract infection due to blood transfusion and 3.8% of study population had fear for needle prick. 12.8 % of the study population were willing to donate but due to systemic disease they were not eligible for blood donation (Table 3).

83% of the study participants were aware about organ donation. 58% had knowledge on indications for organ donation. 20.7% knew one has to register themselves for organ donation priorly. 50.7% reported that they were willing for eye donation and 25% were willing for full body donation (Table 4).

Among those who were aware of organ donation, 79% of the study population were aware that eye can be donated

Table 1: Knowledge and Attitude towards blood donation

Knowledge and Attitude towards blood donation	Frequency (n=300)	Percentage
Aware about the importance and need for blood donation	248	82.66
Know their own blood group	166	55.33
Donated blood till now	30	10
Aware about functioning of blood bank	175	58.4
Aware about few indications of blood donation	190	63.4
Aware about few contraindications of blood donation	213	71
Willingness for blood donation	167	55.7
Willingness to donate to unknown persons (Among 167 who were willing to donate)	143	85.62
Willing to donate any time (Among 167 who were willing to donate)	144	86.2

Table 2: Source of information about blood and organ donation among study participants

Sources	Blood Donation		Organ Donation	
	Frequency	Percentage	Frequency	Percentage
Media	149	49.67	189	63
Medical workers	9	3	6	2
Friends and relatives	64	21.33	39	13
Medical camps /awareness programmes	22	7.33	14	4.67
Others	4	1.33	1	0.33
Not aware	52	17.34	51	17
Total	300	100	300	100

Table 3: Reason towards unwillingness for blood donation:

Reasons	Frequency	Percentage
Fear of needle/blood	5	3.8
Body weakness	102	76.7
Fear of infection	9	6.7
Systemic illness	17	12.8
Total	133	100

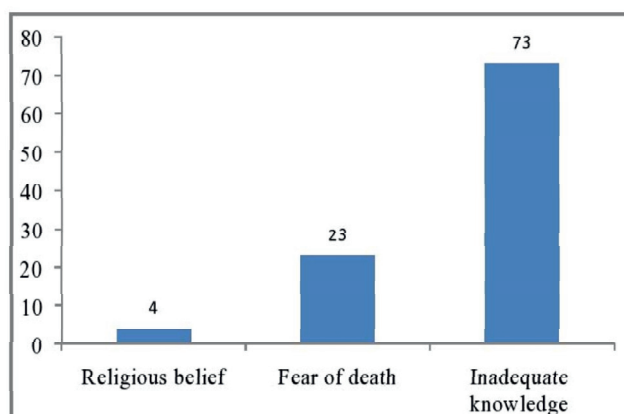
Table 4: Knowledge and attitude towards organ donation

Knowledge and attitude towards organ donation	Frequency (n=300)	Percentage
Aware about the importance and need for organ donation	249	83
Knowledge on indications of organ donation	174	58
Aware about registration for organ donation	62	20.7
Willingness for eye donation	152	50.7
Willing for full body donation	75	25

Table 5: Aware of Organs that can be Donated

Awareness	Frequency	Percentage
Eye	237	79
Kidney	191	63.67
Heart	165	55
* Liver	52	17.33
Lungs	41	13.66
Tissues	19	6.33
Full Body Donation	138	46

* Multiple Responses

**Fig 1 : Reason Towards Unwillingness for Organ Donation**

and followed by kidneys (63.67%), heart (55%), Liver (17.33%) and Lungs (13.6%). 46% were aware about full body donation (Table 5). 73% of those who were unwilling for organ donation opined that they did not have adequate knowledge and awareness regarding organ donation and 23% felt that if organ is donated, it means they invite their own death soon (Fig. 1).

Discussion

India's organ donation rate (ODR) stands at an abysmal 0.34 per million populations. Only 0.08% of Indians donate their organs [2]. India faces many deaths due to less number of people donating their organs. We could give a better livelihood to many families if organ donation is done at the right time. Lack of awareness is the main reason for not donating.

In our study, 83% of the study participants were aware of blood and organ donation. In a study done by Odusanya et al [5] in Lagos, Nigeria reported that 60% respondents were aware of organ donation. Raktium et al [2] observed that 79% of the respondents were aware of organ donation. However, in a study done by Annadurai et al [6] in Chennai among medical students 100% were aware of blood and organ donation.

In current study, 55.3% of the study population were aware about their own blood group. In a study done by Shah et al [7] on American pregnant women aged 18–46 years old, only 33.2% of the study population were aware of their blood group. In another study done by Bider Z. and Cotterchio M [8] among Canadians, 56% were aware of their blood group.

The main source of awareness for both blood and organ donation among study participants in our study was media (49.67% & 63% respectively) followed by friends and relatives (21.33% & 13% respectively). The mass media plays an important role in motivating people. The content of the information and mode of presentation should be explicit to increase people's awareness, eliminate various false conceptions and foster trust in blood transfusion services [1]. In a study done by Dubey et al [1] in Lucknow 45.2% reported that media was the main source of awareness. In a study done by Nainasam et al [3] in Chennai, media was their main source of awareness (40%) followed by family members (19.3%) and friends (18.9%). Similar results were reported in studies done by Khalid et al [9] & Saleem et al [10] in Pakistan and Vaishaly et al [11] in Maharashtra.

Though 83% and above were aware about the need for blood donation only 10% have donated blood so far. The main reason for not donating blood was because of the opinion that they will become weak after donating blood

(76.7%) followed by contracting infection (6.7%) and fear for needle prick (3.8%). Similar result was reported in a study done by Cieplaet al [12] and Alfouzanet al [13]. In another similar study by Singh et al [14] from India among the residents of a slum area, 50% perceived that blood donation will have harmful effects on their health and 25% said that they had never felt any reason to donate blood. The other reasons given for refraining from blood donation were concern about its effect on health, self-perception of being unwell, location of the blood bank, fear of needles, pain and distrust of the blood bank whereas various other studies have reported fear of complications, fear of hospitals, lack of awareness, false beliefs and religious traditions as main reasons for not donating blood [15–18]. The most prevalent misbelief was that blood donation is associated with a loss of fertility; other frequent misbeliefs were that it causes permanent weakness, accelerated aging and transmission of HIV. The basis of most of these misconceptions is deep rooted in traditional Indian beliefs [1]. In a study from Tanzania, fear that blood donation would transmit HIV infection and damage health were frequent worries expressed by both donors and non-donors [19]. In contrast, fear of developing AIDS was not a major issue to account for the declining number of donors in a Scottish study [20]. Correcting widespread misconceptions could be important in allaying the fears that prevent people from giving blood.

Though 83% of the study population were aware about organ donation, around 50.7% were willing for eye donation and only 25% were willing for full body donation. Sahu et al. [21] in his study in central India observed that only 44.1% of participants were keen to donate their body for organ donation after death. Soubhanneyaz et al [22] in their study conducted in Saudi Arabia reported that 73.5% of participants were interested in becoming an organ donor. About 62.3% of participants in a study by Saleem et al [10] were seen motivated to donate their organs. In a study done by Hamed et al, 57.9% of study population were willing to donate their organs [23].

Around 17% of those who were willing to donate were ready to donate to their relatives and friends. Similar results were observed in studies done by Sander et al [24] and El Shoubaki H et al [25].

Among those who were aware of organ donation, 79% of the study population were aware that eye can be donated and followed by kidneys (63.67%), heart (55%), Liver (17.33%) and Lungs (13.6%). 46% were aware about full body donation. Similar results were observed in studies done by Annadurai et al [6], Khalid et al [9], Saleem et al [10] and Vaishaly et al [11].

Of the 148 people who were unwilling for organ donation,

73% reported that they did not have adequate knowledge and awareness regarding organ donation. 23% felt that if organ is donated it means they invite their own death soon.

Conclusion

Though the knowledge on organ donation is more than 80% for both blood and organ donation. attitude and willingness is poor. Lack of proper knowledge and fear regarding donation are the main reasons behind the poor attitude. Continuous mass media campaign in the form of short films, advertisement, celebrity endorsement, etc., to emphasize the importance of organ and blood donation and to clear the myths involved is the need of the hour.

Conflict of interest:	All authors declare no COI
Ethics:	There is no ethical violation as it is based on voluntary anonymous interviews
Funding:	No external funding
Guarantor:	Dr. Jeevithan Shanmugam will act as guarantor of this article on behalf of all co-authors.

References

- Dubey A, Sonker A, Chaurasia R, Chaudhary R. Knowledge, attitude and beliefs of people in North India regarding blood donation. *Blood Transfus* 2014;12:s21-7.
- Tamuli RP, Sarmah S, Saikia B. Organ donation – "Attitude and awareness among undergraduates and postgraduates of North-East India". *J Family Med Prim Care* 2019;8:130-6.
- Sam N, Ganesh R, Indrapriyadarshini V, Jeyamarthan S, Nandhini CK. Awareness, knowledge, and attitude regarding organ donation among final year students of medical, Dental, Engineering, and Arts and Science Colleges in Thiruvallur and Chennai City, India. *Indian J Transplant* 2018;12:25-9.
- Wig N, Gupta P and Kailash S. Awareness of Brain Death and Organ Transplantation among select Indian Population. *JAPI May* 2003;51:455-8.
- Odusanya OO, Ladipo CO. Organ donation: knowledge, attitudes, and practice in Lagos, Nigeria. *Artif Organs*. 2006;30(8):626-9.
- Annadurai K, Mani K, Ramasamy J. A study on knowledge, attitude and practices about organ donation among college students in Chennai, Tamil Nadu -2012. *Prog Health Sci*. 2013;3(2):59-65.
- Shah KH, Cavallo E, Paisley J, Kurobe A, Newman DH. Can we defer/omit atype and screen blood test for pregnant women who know their blood type? *JEmerg Med* 2011;41(2):223-7.
- Bider-Canfield Z, Cotterchio M. Self-reported ABO blood type compared with DNA-derived blood group. *Epidemiology*. 2014;25(6):936-7.
- Khalid F, Khalid AB, Muneeb D, Shabir A, Fayyaz D, Khan M. Level of knowledge and attitude regarding organ donation: a community-based study from Karachi, Pakistan. *BMC Res Notes*. 2019;12:309.
- Saleem T, Ishaque S, Habib N, Hussain SS, Jawed A, Khan AA, et al. Knowledge, attitudes and practices survey on organ donation among a selected adult population of Pakistan. *BMC Med Ethics*. 2009;10:5 (2009)
- Bharambe VK, Arole VU, Puranam V, Kulkarni PP, Kulkarni PB. Knowledge and Attitude toward Organ Donation among People in Lanja: A Rural Town in India. *Saudi J Kidney Dis Transpl*. 2018;29(1):160-6.
- Ciepiela O, Jaworska A, Łacheta D, Falkowska N, Popko K, Demkow U. Awareness of blood group and blood donation among medical students. *Transfus Apher Sci*. 2017;56(6):858-64.
- Alfouzan N. Knowledge, Attitudes, and Motivations towards Blood Donation among King Abdulaziz Medical City Population. *Internal Journal of Family Medicine*. 2014:1-8.
- Singh B, Pandey RM, D'Souza N. Knowledge, attitudes and socio-demographic factors differentiating blood donors from non-donors in an urban slum of Delhi. *Indian Journal of Community Medicine*. 2002;27:118-23.
- Boulware LE, Ratner LE, Ness PM. The contribution of sociodemographic, medical, and attitudinal factors to blood donation among the general public. *Transfusion*. 2002;42:669-78.
- Glynn SA, Williams AE, Nass CC. Attitudes toward blood donation incentives in the United States: Implications for donor recruitment. *Transfusion*. 2003;43:7-16.
- Hosain GM, Anisuzzaman M, Begum A. Knowledge and attitude towards voluntary blood donation among Dhaka University students in Bangladesh. *East Afr Med J*. 1997;74: 549-53
- Olaiya MA, Alakija W, Ajala A, Olatunji RO. Knowledge, attitudes, beliefs and motivations towards blood donations among blood donors in Lagos, Nigeria. *Transf Med*. 2004;14:13-7.
- Jacobs B, Berege ZA. Attitudes and beliefs about blood donation among adults in Mwanza Region, Tanzania. *East Afr Med J*. 1995;72:345-8.
- MacAskill SG, Hastings GB, McNeill RE, Gillon J. Scottish attitudes to blood donation and AIDS. *BMJ*. 1989;298:1012-4.
- Sahu SK, Rath B, Rath S, Panigrahi S. Knowledge and attitude of educated people towards organ and body donation: A cross sectional study in Southern Odisha. *Sch J Appl Med Sci*. 2017;5:2456-62.
- Soubhanneyaz A, Kaki A, Noorelahi M. Survey of public attitude, awareness and beliefs of organ donation in Western region of Saudi Arabia. *Am J Internal Med*. 2015;3:264-71.
- Hamed H, Awad ME, Youssef KN, Fouda B, Nakeeb AE, Wahab A. Knowledge and attitudes about organ donation among medical students in Egypt: A questionnaire. *J Transplant Technol Res*. 2016;6:155.
- Sander SL, Miller BK. Public knowledge and attitudes regarding organ and tissue donation: an analysis of the northwest Ohio community. *Patient Educ Couns*. 2005;58(2):154-63.
- El-Shoubaki H, Bener A. Public knowledge and attitudes toward organ donation and transplantation: A cross-cultural study. *Transplant Proc*. 2005 Jun;37(5):1993-7.

