Community Based Study to Assess the Knowledge and Attitude of General Population towards Organ Donation

Seema Rani[1], Alka Mishra[2], Neha Dagar[3]

[1]Associate Professor, Rufaida College of Nursing, Jamia Hamdard, New Delhi, [2]Public Health Nurse, Department of Community Medicine, VMMC & Safdarjung Hospital, New Delhi, [3]Nursing Tutor, College of Nursing, Holy Family Hospital, New Delhi

Abstract

Introduction: Organ donation is the process of surgically removing an organ or tissue from one person (the organ donor) and placing it into another person (the recipient). The study was conducted in urban and rural communities of Delhi to assess the knowledge and attitude of general population towards organ donation.

Methodology: Quantitative approach and cross -sectional study design was used for conducting the study. Purposive non-probability sampling technique was adopted to select the communities and the sample and the sample size was 1089. Structured knowledge and attitude interview schedules were used to assess the knowledge and attitude respectively regarding organ donation. Data was collected in home settings from people above 18 years of age. Data was collected regarding background variables of study subjects and their knowledge and attitude regarding organ donation.

Result: Sample characteristics revealed that 59.5% of respondents were females, 64%) were in the age group of 18 to 35 years, 84.7% followed Hindu religion and 63.6% were educated up to secondary level or above. Majority of subjects (78.6%) were aware that organ can be donated to save life of another person, while 38.8% subjects knew that organs can be donated both during life and after death. Majority of subjects were aware that only eyes (76.7%) and kidney (63.5%) can be donated. Overall about 10.8% had good knowledge and 55.5% had average knowledge about organ donation. Age, gender and education had statically significant association with knowledge regarding organ donation with p-value less than 0.05. Majority (83.2%) had in appropriate attitude towards organ donation. Statistically there was no significant association between level of attitude with background variables namely age, gender, religion and education.

Conclusion: The findings of study revealed that general population had average knowledge about the organ donation, but inappropriate attitude towards organ donation.

Keywords: *Organ donation, Knowledge, Attitude, Perception.*

Introduction

Each year, in India four lakh people die while waiting in queue for an organ transplant. There is a clear and huge gap between the demand and supply of organs donated and hence the number of people waiting for a transplant is becoming larger. Transplants serve as a ray of hope to improve span and quality of life given the successful outcomes. Due to increase in ageing population and increase in number of organ failure cases, people needing a transplant is expected to rise steeply.[1,2] Against two lakh livers, kidneys each and fifty thousand hearts required; 708 livers, 10,000 kidneys and 339 hearts are donated in our country.[2] In

Corresponding Author:
Seema Rani
Associate Professor, Rufaida College of Nursing, Jamia Hamdard, New Delhi
e-mail: seema9rani@yahoo.co.in
Contact Number: 9811136923

India, every year nearly 500,000 people die because of non-availability of organs. About 200,000 people die of liver diseases and 50,000 people die from heart disease and 150,000 people await a kidney transplant but only 5,000 get. Around 100,000 people suffer from corneal blindness and await transplant.[1]

In India, with a population of 1.3 billion people, the organ donor rate per million populations (PMP) is around 0.8 persons. This is relatively a very small and insignificant number compared to the figures around the world.[3] India has among the lowest rates of organ donation in the world at 0.8 donors per million population, which is far less compared to over 32 and 47 donors per million populations in USA and Spain respectively. on an average, five lakh Indians die every year unable to get an organ transplant in time due to the shortage of organs. Also, it may be noted that a regular drive in the area of organ donation may yield in good results. In 2013, 313 donations took place and this figure almost tripled to 905 organ donations in 2017. Rather than looking at the national average, it may be better to look at the state wise figures and many states have crossed 1 or 2 donations per million population. Tamilnadu has worked exemplary in the area of organ donation with 1.3 donors per million population and topped the list of organ donations followed by Maharashtra among various states in India.[2,4]

There are misconceptions around organ donation in our country that people are unwilling to donate their organs during or after life and not many patients are diagnosed with brain death. Fact is that in India, every day almost 60 families donate the eyes of their loved ones. Also, periodically many whole body donations are taking place to the Anatomy department for research. According to the estimate of MOHAN Foundation and National Organ and Tissue Transplant Organisation (NOTTO), close to 100,000 are diagnosed with brain death every year and at any given time, every major city has 8 to 10 brain deaths in various ICUs of the city. Another fact is that when a trained counsellor talks to the relatives of a brain dead patient and explains the situation; almost 65% of them agree to donate. [5]

No correlation is revealed in the studies conducted in corporate and government hospitals between people giving consent and their economic and literacy levels. Also, it is revealed that if families are counselled about the irreversible nature of brain death and having option to save lives by donating the organs of their loved one and given time to decide; many agree to organ donation. The problem is that there are no uniform mechanisms in hospitals in India to identify and certify brain death. [6]

India is running a well- developed corneal donation programme; however, donation after brain death has been relatively slow. Most of the transplants done in India are living related or unrelated transplants. To curb organ commerce and promote donation after brain death in 1994 the government of India enacted a law called “The Transplantation of Human Organs Act” that brought about a remarkable change in the organ donation and transplantation scene in India. Despite the law there have been stray instances of organ trade in India. This resulted in the amendment of the law further in 2011. Deceased donation after brain death slowly started happening in India and 2012 was the best year for the programme. [7]

Organ donation is the process of surgically removing an organ or tissue from one person (the organ donor) and placing it into another person (the recipient). Transplantation becomes necessary because the recipient’s organ has either stopped functioning or has been damaged by disease or injury. To save lives of many young and old, organ transplantation is one of the greatest advances in modern medicine.[8] In organ donation, a person pledges during her/his lifetime, that after death, certain (or all) organs from the body can be used for transplantation to help terminally ill patients get a new lease of life. With recent advances in transplantation, people of all ages and medical histories can donate organs. However, the decision on the organs and tissue that can be donated is taken only after certifying donor’s medical condition. Donation may beliving donation and deceased cadaver donation. Living donation may further be classified as living related donation and living unrelated donation. Organs that can be donated include kidneys, liver, pancreas, lungs and heart, while tissue constitutes eyes, skin, bone, bone marrow, nerves, brain, heart valves, eardrum, ear bones and blood. [1]

Reasons of shortage of organ donations and transplantation are many; namely; cultural and social factors, lack of correct information and motivation, lack of transplant facilities and persuasion by the health care facilities, etc. The present study was taken up to assess the knowledge and attitude of the general population towards organ donation in selected rural and urban areas of Delhi. Study also aimed to seek association of

knowledge and attitude regarding organ donation with selected demographic variables.

Methodology

Quantitative approach was considered as a good fit for the present study. The cross-sectional study design was optimal for the study as it analysed the data obtained from the survey of knowledge and attitude of general population regarding organ donation. The setting for the present study was home in selected urban and rural communities of Delhi. The population comprised of people above 18 years of age. Purposive non-probability sampling technique was adopted to select the communities and the sample and the sample size was 1089. Structured knowledge and attitude interview schedules were used to assess the knowledge and attitude respectively regarding organ donation. Verbal consent was taken from subjects before interviewing them.

Section I of the tool consisted of background variables of the subjects namely; gender, education, age and religion. Section II i.e. structured knowledge questionnaire comprised of 8 questions pertaining to knowledge about organ donation. All the items in the knowledge questionnaire were scored and one point was assigned to each item for a correct response. A score 0 was allotted for each wrong response. Section III i.e. structured attitude questionnaire consisted of 13 items depicting attitude of study subjects related to organ donation. Data were collected through interview technique.

To ensure the validity of the content, the tools were submitted to the five experts from the field of nursing, community medicine, psychology, and community health nursing. Their suggestions were incorporated and tools were modified accordingly. The reliability of structured knowledge interview schedule was established by using K.R -20 formula and was found to be highly reliable i.e. 0.81. The reliability the attitude scale was established by using Cronbach Alpha test and was found to be highly reliable i.e. 0.86. Average time taken to respond to both the tools was 8 to 10 minutes. The overall knowledge score was used to judge participants' knowledge level as poor (0-3), average (4-6), and good (7-8). The overall attitude score was used to judge participants' attitude level as inappropriate (0-10) and appropriate (11-13). Analysis was done using SPSS version 21.

Results

Section-1: Background characteristics

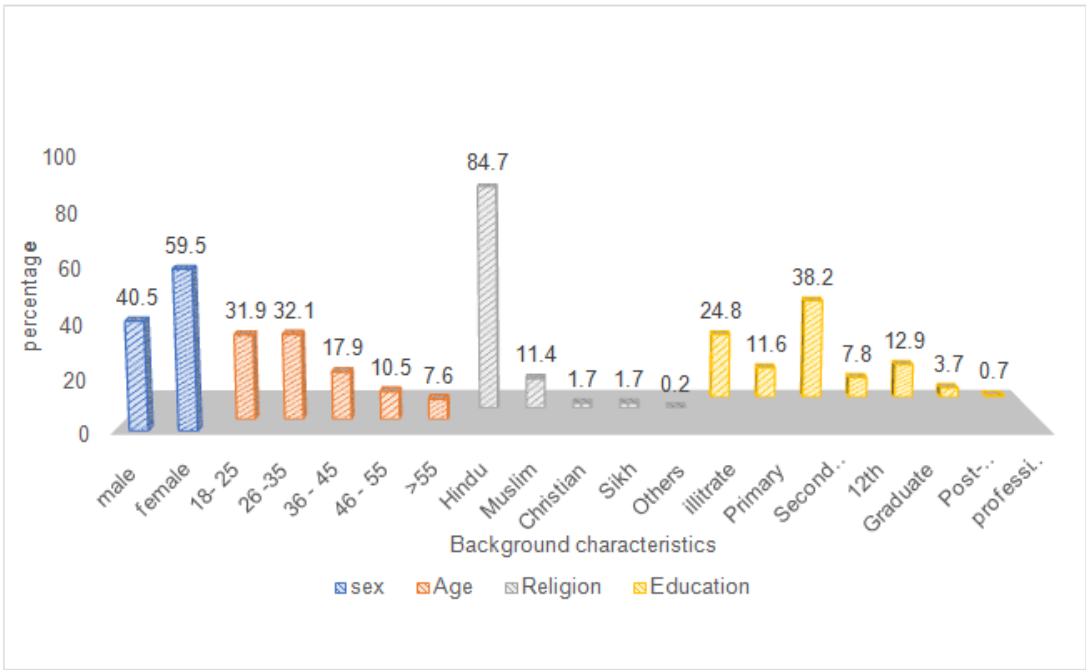

Fig 1: Bar diagram showing percentage distribution of study subjects according to background characteristics

A total of 1089 subjects were interviewed. Out of the total sample, 59.5% were females, 64% were in the age group 18-35 years, 84.7% followed Hindu religion, 38.2% studied up to secondary level and 24.8 were illiterate.

Section-2: Knowledge of Respondents about organ donation

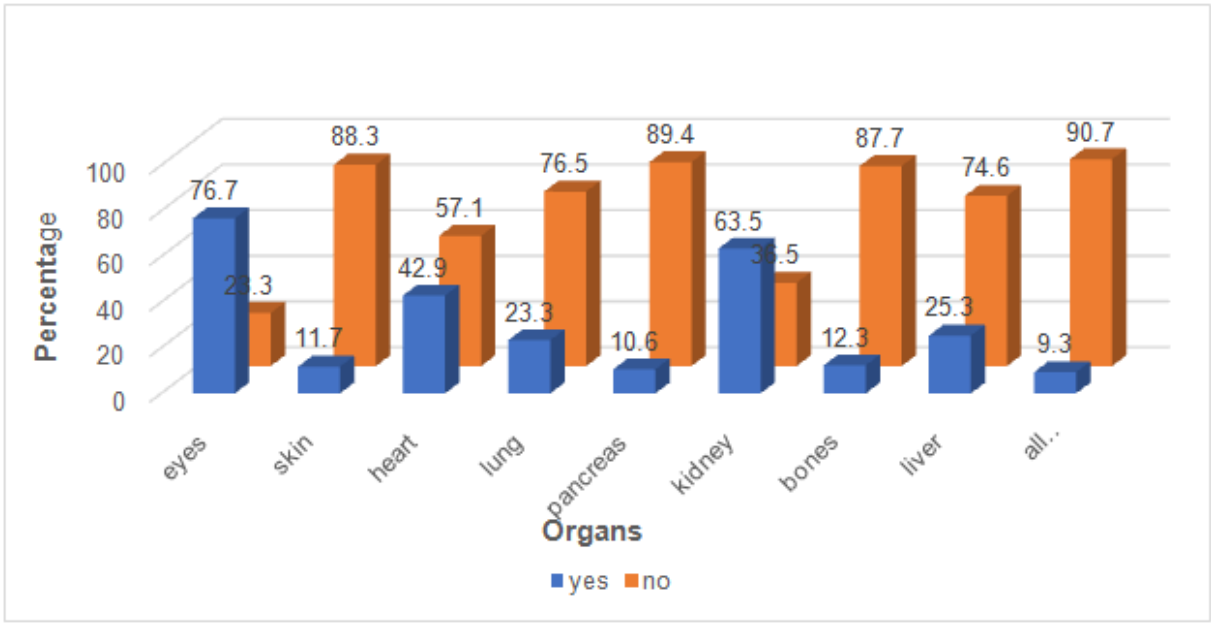

Fig. 2: Bar diagram showing percentage distribution of study subjects according to knowledge about the organs that can be donated

Among the subjects, 76.7% and 63.5% respectively were aware about eyes and kidney donation. Heart was among the other organs which could be donated and known to 42.9% of the subjects. Very few subjects were aware about donation of other organs and tissues.

78.6% subjects were aware that organ can be donated to save life of another person whereas 21.4% didn't know this fact. 12.6% of the subjects didn't know when organs can be donated as against 38.8% subjects, who knew that organs can be donated both during life and after death. 14.3% thought that organ donation was possible only during lifetime and 38.8% believed that it can be done only after one's death.

Table 1: Percentage distribution of study subjects according to knowledge category n=1089

Level of Knowledge (Range of score: 0 to 8)	Frequency	Percent
Poor knowledge (0-3)	367	33.7
Average knowledge (4-6)	604	55.5
Good knowledge (7-8)	118	10.8

Very little proportion of subjects i.e. 10.8% had good knowledge about organ donation, whereas 89.2% had either poor or average knowledge about the issue.

Table 2: Association between knowledge levels of community with demographic variables n = 1089

Variables	Knowledge score categories			Test	df	p value
	Poor	Average	Good			
Age (in years)						
18 - 25	93	216	38			
26 - 35	122	197	31			
36 - 45	69	99	27	χ^2	8	0.008*
46 - 55	48	51	15			
56 and above	35	41	07			
Education						
Illiterate	149	91	30			
Primary	47	68	11			
Secondary	103	166	29			
Senior secondary	29	79	10	χ^2	16	0.000*
12^{th}	25	48	12			
Graduate	11	133	16			
Post graduate	01	29	10			
Professional	02	06	00			
Religion						
Hindu	324	508	90			
Muslim	33	73	18			
Christian	05	09	04	χ^2	10	0.075
Sikh	02	12	05			
Others	01	01	00			
Gender						
Male	122	262	57	χ^2	02	0.000*
Female	245	342	61			

* Significant at 0.05 level of significance

Chi square test was computed to find the association of demographic variables with knowledge levels of the subjects. Age, education level and gender had statistically significant association with knowledge about organ donation with p-value less than 0.05.

Section-3: Attitude of study subjects regarding organ donation

Table 3: Percentage distribution of study subjects according to attitude category n=1089

Level of Attitude (Range of score: 0 to 13)	Frequency	Percent
Inappropriate attitude (0-10)	906	83.2
Appropriate attitude (11-13)	183	16.8

Majority of the subjects i.e. 83.2% had inappropriate attitude towards organ donation whereas 16.8% of them had appropriate attitude.

Table 4: Association between attitude levels of community with demographic variables n=1089

Demographic variable	Attitude		Test	Df	p-value
	Inappropriate	Appropriate			
Age (in years)					
18 - 25	301	46			
26 - 35	296	54			
36 - 45	163	32	χ^2	05	0.433
46 - 55	99	15			
56 and above	72	11			
Education					
Illiterate	210	60			
Primary	105	22			
Secondary	249	49			
Senior secondary	102	16	χ^2	08	0.022
12^{th}	70	15			
Graduate	117	23			
Post graduate	30	10			
Professional	06	05			
Religion					
Hindu	688	157			
Muslim	189	33	χ^2	05	0.164
Christian	11	03			
Sikh	11	06			
Others	01	00			
Gender					
Male	356	85	χ^2	01	0.063
Female	548	100			

Level of significance 0.05

Statistically there was no significant association between level of attitude with background variables namely age, gender, religion and education.

Discussion

During the interpretation of study results it was found that general population both in rural as well as urban areas lacks knowledge as well as attitude about the organ donation. The finding of present study are consistent with an explorative study conducted by G. Josephine R Little Flower and Balamurugan E.[9], with a sample of 400 eligible subjects from the general public of Puducherry, India which found that only 10.6% people had adequate knowledge regarding organ donation while 38.6% and 50.6% had inadequate and moderate respectively.

Findings of this study also in line with the cross-sectional study done by Annadurai K., Mani K, Ramasamy J.[10], to assess the knowledge, attitude and practice about organ donation among 440 college students aged 18 years in Chennai. Study concluded that students lacked knowledge and 75% of the students were not in favour of organ donation and have negative attitude about organ donation. The study also revealed that there was significant association between knowledge about organ donation and educational status like the current study results. Both studies revealed that awareness regarding the organs that can be donated in the descending order is eyes, kidneys followed by heart.

Results of the present study are in agreement with the result of study done by Alghanim SA[11] in Saudi Arabia to assess knowledge and attitude of rural and urban population towards organ donation which concluded that there was deficit in knowledge and attitudes of respondents about organ donation although better in urban population.

During informal talks with the subjects after data collection, they expressed that they were never informed about organ donation by any health care providers during their visits to the health care facility. Although the limited information they got was through media. Following data collection, a formal educational

Conclusion

The current study revealed the marked deficit in knowledge and negative attitude about organ donation in study population. The introduction of the subject in early age, clarification of doubts by organising public health education programs at various for a like schools, health centres and hospitals may help in building knowledge base and positive attitude towards donation of organs which will in turn meet the needs of organs and hence save many lives. Health care workers especially nurse and medical social workers may prove to be precious assets to spread the word about organ donation in hospitals as well as community health centres.

Conflict of Interest: None

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References

1. Available at:https://www.thebetterindia.com/75687/organ-donation-india/
2. https://sites.ndtv.com/moretogive/india-needs-people-step-cause-organ-donation-2695/[Accessed on 26 May. 2020].
3. Available at: http://timesofindia.indiatimes.com/aboutorgandonation.cms [Accessed on 26 May. 2020].
4. https://www.tribuneindia.com/news/haryanatribune/state-lags-way-behind-in-organ-donation-34419 [Accessed on 26 May. 2020].
5. Navin S, Shroff S and Niranjan S.Deceased Organ Donation in India. MOHAN Foundation. Available at: https://www.mohanfoundation.org/organ-donation-transplant-resources/organ-donation-in-india.asp [Accessed on 26 May 2020].
6. Vaishaly K. Bharambe, Rathod H., Paranjape V. M., Kanaskar N., Shevade S., Survase K., Arole V., Singh Sakshi, Brahmbhatt Gaurav & Alam Feroz. Awareness regarding body and organ donation amongst the population of an urban city in India. Nitte University Journal of Health Science. 2015; 5 (4): 51-57.
7. Sulania A, Sachdeva S, Jha D, Kaur G, Sachdeva R. Organ Donation and Transplantation: An Updated Review. MAMC Journal of Medical Science. 2016; 2 (1): 18-27.
8. Organ Donation and Transplantation (Internet) [Accessed on 2020 May 27]. Available at: https://my.clevelandclinic.org/health/articles/11750-organ-donation-and-transplantation
9. G. Josephine R Little Flower and Balamurugan E. A study on public intention to donate organ: Perceived barriers and facilitators. British Journal of Medical Practioners. December, 2013; 6(4): 636.
10. Annadurai K., Mani K, Ramasamy J. A study on knowledge, attitude and practices about organ donation among college students in Chennai, Tamil Nadu. Prog Health Science. 2013; 3(2): 59-65.
11. Alghanim SA. Knowledge and attitudes toward organ donation: a community-based study comparing rural and urban populations. Saudi Journal of Kidney Diseases Transplant. 2010 Jan; 21(1):23-30.