

Knowledge, Attitude and Perception Regarding Organ Donation among the Nursing Students

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ABSTRACT

A descriptive cross-sectional study was undertaken to assess the knowledge, attitude and perception regarding organ donation among the nursing students. The study was conducted at National Institute of Nursing Education, Postgraduate Institute of Medical Education and Research, Chandigarh. Using stratified systematic random sampling technique, 200 nursing student undergoing graduation and postgraduation courses were enrolled in the study. The tool used for data collection was a self-administered structured questionnaire consisting of three parts, i.e. information profile, assessment of knowledge, and assessment of attitude and perception regarding organ donation. For the assessment of knowledge, 17 multiple choice questions with one correct answer was used. The maximum attainable score was 18. One question had two right answers and was given a score of two. A five point Likert scale consisting of 15 questions was used for assessment of both attitude and perception of subjects regarding organ donation. Maximum attainable score was 65. Data collected was analyzed using descriptive and inferential statistics. The results of study revealed that 74.5% of the subjects had average knowledge, 22% had poor knowledge and only 3.5% had good level of knowledge regarding organ donation. The mean knowledge score of the subjects was 10.56 ± 2.01 with the range of 5 to 17. Regarding attitude and perception toward organ donation, 55.5% had neutral attitude and perception, 43.5% had positive attitude and perception and only 1% had negative attitude and perception.

It was concluded that majority of students had average knowledge about organ donation with neutral or positive attitude and perception. There is need to organize separate educational programs on organ donation for the nursing students other than their classroom teaching.

Keywords: Attitude, Knowledge, Nursing students, Organ donation, Perception.

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INTRODUCTION

Organ donation is the removal of tissue from human body (living/dead) for the purpose of transplantation into another person as a treatment.¹ Organs that can be donated and transplanted include kidney, heart, liver, pancreas, intestine, lungs, skin, bone marrow, cornea, etc.² Demand of organs for transplantation continue to exceed the limited supply all over the world. This gap of demand and supply is the main obstacle to transplantation.³ There is lack of awareness and correct knowledge among public, myths and misconceptions surrounding organ donation due to religious and cultural barriers leading to hesitancy in the donation of human organ. The countries, such as China, Japan, India and Pakistan, are among those where the knowledge and practices of organ donation is quite deficient.⁴ In the western world, 90% of donations are from brain dead donors and only 10% are from living donors. Currently in India, about 95% of all the transplants are living donations and just 5% are from brain dead or deceased organ donors.⁵

Nurses have an important role to play in the process of promotion of organ donation. They can be involved in the procurement process and counseling of potential donors. In the community settings she can provide accurate and objective information concerning donation to the public. However, in the hospital she can identify the potential donor, work closely with the healthcare facility, the organ procurement organization (OPO) and/or tissue bank, provide clinical expertise, emotional support and objective and accurate information to families who are considering organ and tissue donation. She can also advocate the patients and families in the informed choice process, recognizing and respecting their cultural and religious beliefs, etc.⁶

In the hospital care setting, they are usually the first person who comes in contact with the dying patients. For that matter, they should learn to recognize and identify the potential organ donors as early in course of treatment as possible. They should be very vigilant while working bedside. They should have the skill of differentiating between clinical and biological death. Through careful assessment, nurses monitor for signs of brain death. So, particular attention should be paid to help nurses to develop and improve skill in this area.⁷ Organ and tissue

of brain dead patient must be meticulously maintained, both hemodynamically and thermodynamically to avoid the damage and to maintain optimum function for procurement. It is the nurse who maintains hemodynamic stability so that organs of the donor remain viable by the time the other related formalities are completed.⁸

Randhawa suggests that nurses should be trained regarding the process of organ donation.⁹ A lack of knowledge regarding organ donation among medical, nursing, dentistry and health technician students has been reported by Goz et al (2006).¹⁰

The nursing students are the potential practicing nurses. They can educate the public, motivate and encourage them regarding the process of organ donation. However, it is important that they should be well equipped with the knowledge regarding organ donation. With this background, the current study was conducted to assess the knowledge, attitude and perception of nursing students regarding organ donation.

METHODOLOGY

The study was conducted at National Institute of Nursing Education (NINE), PGIMER, Chandigarh. It was a cross-sectional study of descriptive nature, conducted in the month of March 2014. The study participants were undergraduate and postgraduate students of the institute. Using stratified systematic random sampling technique, a total of 200 nursing students including 35 students from each year of BSc Nursing (4 years) program (35 × 4), 19 students from each year of BSc nursing (post-basic) (19 × 2) and 11 students from each year of MSc nursing (11 × 2) were enrolled for the study. Every 3rd students was taken from BSc Nursing (basic), every 3rd student was taken from BSc Nursing (post basic) and every 2nd student was taken from MSc Nursing.

A questionnaire consisting of 3 sections was used: Section A consists of information variables like age, sex, course being attending, religion, income of family, type of family, etc. Section B contained 17 multiple choice questions to assess the knowledge regarding organ donation among nursing students. Maximum attainable score was 18 and one question was given score of two as there were two right responses. Section C was a five point Likert scale consisting of 15 questions to assess the attitude and perception regarding the organ donation among the subjects. Maximum attainable score was 65.

The institution ethical committee of Nine, PGIMER, Chandigarh, granted the ethics approval for conducting this study. All nursing students were contacted in their respective classrooms and were explained about the study. They were asked to fill-up the questionnaire within 30 minutes. Informed verbal consent was obtained

from each student under study. Confidentiality of subject was maintained. The data were analyzed using mean, percentage, etc.

RESULTS

As per Table 1, around 90% of the subjects were between 17 to 24 years of age. Mean age \pm SD was 21.44 ± 2.7 with the range of 17 to 34 years. Majority were females. Seventy percent subjects were undergoing BSc Nursing (4 years), 19% were undergoing BSc Nursing (post-basic) and 11% were undergoing MSc Nursing. Fifty-eight percent belonged to the Hindu religion. Fifty-two percent were from urban area and 48% were from rural area. A total of 83.5% belonged to nuclear family and 16.5% were from joint family.

Table 1: Information profile of the subjects (n = 200)

Variables	n (%)
Age (years)	
17–20	87 (43.5)
21–24	92 (46)
25–28	15 (7.5)
29–34	06 (03)
<i>Mean age (years) \pm SD = 21.4 \pm 2.76</i>	
<i>Range 17 to 34 years</i>	
Sex	
• Male	5 (2.5)
• Female	195 (97.5)
Course being attended in nine	
• BSc Nursing (Basic)	140 (70)
• BSc Nursing (Post basic)	38 (19)
• MSc Nursing	22 (11)
Religion	
• Hinduism	116 (58)
• Sikhism	72 (36)
• Muslim	12 (6)
Domiciliary background	
• Rural	96 (48)
• Urban	104 (52)
Type of family	
• Nuclear	167 (83.5)
• Joint	33 (16.5)
Number of family members	
• 2–5	149 (74.5)
• 6–9	47 (23.5)
• 10–13	4 (2)
Monthly family income (in ₹)	
• <5000	4 (2)
• 5001–20000	52 (26)
• 20001–50000	100 (50)
• >50001	44 (22)
Per capita income (in ₹)	
• 1000–5000	66 (33)
• 6000–10000	84 (42)
• 11000–15000	26 (13)
• 16000–20000	18 (09)
• >20000	6 (03)



Table 2 shows that 31% subjects had information about organ donation from television/radio, 24.5% had from curriculum, 20% had from newspaper/magazine. A total of 19.5% had heard from doctor and only 7.5% had information from seminars and workshops.

Table 3 represents the knowledge of the subjects regarding organ donation. A significant number of the subjects (99%) were aware that family's consent is required for donation after death. A total of 96.5% knew that in case of living donation consent has to be given by donor himself and an equal number (96.5%)

Table 2: Source of information regarding organ donation (n = 200)

Source of information	n*(%)
Television/radio	62 (31)
Curriculum	49 (24.5)
Newspaper/magazines	40 (20)
Doctors	39 (19.5)
Others (seminars and workshop)	35 (7.5)

*Percentage >100 as multiple responses were given by subjects

Table 3: Knowledge regarding organ donation among the subjects (n = 200)

Questions	Correct responses [n (%)]
For donation after death, family's consent should be considered.	198 (99%)
Contraindications for organ donation are any cancer, HIV disease, TB active or untreated, donor sepsis.	193 (96.5%)
For living donation, consent is given by donor himself/herself.	193 (96.5%)
The organs that can be donated by a cadaver are kidney and heart, bone marrow, liver and lungs, cornea and skin.	179 (89.5%)
The term organ donation means the removal of the tissues of human body for the purpose of transplantation to another person.	175 (87.5%)
Organ donation involves risks to recipient.	169 (84.5%)
Organs can be pledged regardless of age.	150 (75%)
The organs that can be donated during life are kidney, pancreas and liver.	139 (69.5%)
Organs can be donated after 18 years of age.	102 (51%)
Brain dead and heart beating patients are eligible for cadaver organ donation.	87 (43.5%)
For eye donation after death, time limit is 6 hours.	83 (41.5%)
If the organs are already pledged, no consent is required from the family after death of the person.	89 (39.5%)
Awareness regarding both local and international legislation with regards to organ donation.	72 (36.0%)
No one can make decisions about organ donation in case of unclaimed dead bodies.	50 (25.0%)
Transplantation of human organ act, 1994 is the legal position on organ donation in India.	33 (16.5%)
Parents/guardians cannot make substitute decision for mentally disabled persons in the regard of organ donation.	30 (15.0%)

demonstrated knowledge regarding contraindications to organ donation.

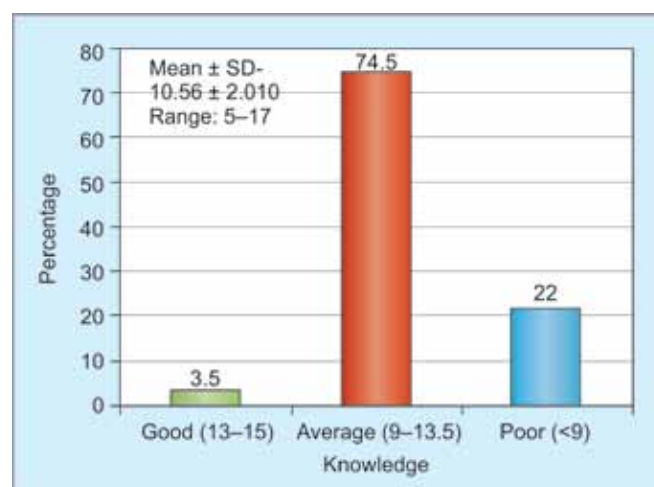
As shown in Graph 1, the mean \pm SD knowledge score of the subjects was 10.56 ± 2.1 with the range of 5 to 17. Majority (75%) had average knowledge score, 22% were in the poor category and only 3% could score good score regarding organ donation.

Table 4 depicts the itemwise responses of the subjects regarding their attitude and perception toward organ donation. While 43% subjects strongly agreed, almost an equal number (42%) agreed to consider themselves as a donor in future. Seventy percent of subjects strongly agreed that organ donation should be supported. A total of 46.5% of students agreed that there is danger of donated organs being misused, abused or misappropriated. There was strong disagreement among 45% subjects with regard to religion not supporting organ donation. Fifty-one percent disagreed that organ or tissue removal disfigures the body. Forty percent disagreed that physical and psychological disabilities of recipients matter in their decision to donate organ. Fifty-five percent strongly disagreed that religion of the recipient matter in their decision to donate organ. Fifty-seven percent agreed that they require more information and knowledge regarding organ donation.

Table 5 shows that 55.5% subjects had neutral attitude and 43.5% subjects had positive attitude regarding the organ donation. The mean score of attitude and perception was 47.8 ± 7.203 with the range of 24 to 65.

Table 6 shows that majority of subjects as per all demographic variables scored in the average category of knowledge. There were more subjects with positive attitude and perception in age category of 25 to 28 years and income of 16,000 to 20,000/.

More than three-fourth of the subjects from all the nursing programs had average knowledge about organ donation, though the number was little more for the



Graph 1: Knowledge score of students regarding organ donation

Table 4: Assessment of attitude and perception regarding organ donation among nursing students (n = 200)

Item	Strongly agree %	Agree	Uncertain	Disagree	Strongly disagree
Considering oneself as a donor in future.	86 (43)	84 (42)	25 (12.5)	4 (2.0)	1 (0.5)
Organ donation should be supported.	140 (70.0)	55 (27.5)	1 (0.5)	2 (1.0)	2 (1.0)
There is a danger that donated organs could be misused, abused or misappropriated	37 (18.5)	93 (46.5)	43 (21.5)	23 (11.5)	4 (2.0)
My religion does not support organ donation.	5 (2.5)	6 (3.0)	21 (10.5)	78 (39.0)	90 (45)
Wealthy people and celebrities are given preference for organ donation.	20 (10.0)	41 (20.5)	39 (19.5)	62 (31.0)	38 (19.0)
Organ/tissue removal disfigures the body.	5 (2.5)	12 (6.0)	29 (14.5)	102 (51.0)	52 (26.0)
Your relation with the recipient matter, when you are donating the organ.	26 (13.0)	37 (18.5)	28 (14.0)	72 (36.0)	37 (18.5)
Smoking status of recipient person matter in your decision to donate the organ.	9 (4.5)	51 (25.5)	44 (22.0)	73 (36.5)	23 (7.0)
Drinking status (alcoholic status) of recipient person matter in your decision to donate the organ.	9 (4.5)	55 (27.5)	36 (18.0)	76 (38.0)	24 (12.0)
Age of recipient person matter in your decision to donate the organ.	18 (9.0)	54 (27.0)	26 (13.0)	71 (35.5)	31 (15.5)
Physical disability of recipient person matter in your decision to donate the organ.	7 (3.5)	35 (17.5)	26 (13.0)	80 (40.0)	52 (26.0)
Psychological disability of recipient person matter in your decision to donate the organ.	8 (4.0)	35 (17.5)	27 (13.5)	80 (40.0)	50 (25.0)
Religion of recipient person matter in your decision to donate the organ.	2 (1.0)	10 (5.0)	7 (3.5)	71 (35.5)	110 (55.0)
Require more information and knowledge about organ donation.	66 (33.0)	114 (57.0)	4 (2.0)	13 (6.5)	3 (1.5)

Table 5: Attitude and perception toward organ donation (n = 200)

Score	[n (%)]
Negative (<32.5)	2 (1%)
Neutral (32–46.5)	111 (55.5%)
Positive (46.5–65)	87 (43.5%)

Mean \pm SD = 47.8 \pm 7.203; Range: 24–65; Maximum attainable score = 65

postgraduate nursing students. More students undergoing undergraduate nursing program had neutral attitude toward organ donation. However, 91% postgraduate nursing students were having positive attitude. (Table 7).

DISCUSSION

Organ transplantation could be a miracle for the person who has lost hope for life. Many people lose their lives because of nonavailability of organ. It is estimated that 1 to 4% of people who die in hospital and 10 to 15% from those who die in intensive care units are the potential donors.¹¹ So, if the nurses working in these areas are knowledgeable enough regarding early identification of the potential donor they can influence the willingness of public to donate the organ.

This cross-sectional study was conducted among nursing students to assess their knowledge, attitude and perception regarding organ donation. The present study revealed that around two third students had average knowledge, 22% had good knowledge and only 3.5%

students had poor knowledge regarding organ donation. Regarding attitude and perception, 55.5% had neutral attitude, 43.5% had positive attitude and only 1% students had negative attitude. The mean knowledge score was 10.56 \pm 2.01 with the range of 5 to 17. Actually, the current nursing curriculum includes only 1 to 2 hours of teaching regarding organ donation in the subject of medical surgical nursing. None of the subjects under study had undergone any separate training related to organ donation, but still maximum subjects had scored average score in the questions regarding knowledge. A similar study was conducted in Hong Kong among undergraduate and postgraduate nursing students which shows that subjects had average knowledge regarding organ donation and transplantation and they emphasized on the need of educational and promotional material regarding organ donation.¹² Another study conducted on nurses in Hong Kong regarding knowledge and awareness regarding tissue and organ donation also found that nurses were in need of education about all aspects of brain death and organ donation including how and when to approach families to inform and ask for organ donation.¹³ Similarly, a survey conducted in Tehran University of Medical Sciences, Iran, on nurse's knowledge and attitude towards organ and tissue donation showed that education program can enhance nurses knowledge and commitment to the organ donation process and ultimately increase the donation rate.¹⁴

A significant number of the subjects were aware about what all organ can be donated during life and after death



Table 6: Knowledge, attitude and perception regarding organ donation as per identification profile of students

Sociodemographic profile	Knowledge score			Attitude and perception scores		
	Good n (%)	Average n (%)	Poor n (%)	Negative n (%)	Neutral n (%)	Positive n (%)
Age						
17–20	01 (1.1%)	62 (71.3%)	24 (27.6%)	0 (0.0%)	56 (64.4%)	31 (35.6%)
21–24	05 (05.4%)	74 (80.4%)	13 (14.1%)	2 (2.2%)	48 (52.2%)	42 (45.7%)
25–28	0 (.0%)	10 (66.7%)	05 (33.3%)	Nil	4 (26.7%)	11 (73.3%)
29–34	01 (16.7%)	03 (50%)	02 (33.3%)	0 (0.05)	3 (50.0%)	3 (50.0%)
Domiciliary background						
Rural	17 (17.7%)	73 (76.0%)	06 (06.2%)	1 (1.0%)	58 (60.4%)	37 (38.5%)
Urban	27 (26.0%)	76 (73.1%)	01 (1.0%)	1 (1.0%)	53 (51.0%)	50 (48.1%)
Religion						
Hinduism	29 (25.0%)	84 (72.4%)	03 (02.6%)	2 (1.7%)	65 (56.0%)	49 (42.2%)
Sikhism	12 (16.7%)	56 (77.8%)	04 (05.6%)	0 (0.0%)	42 (58.3%)	30 (41.7%)
Muslim	06 (50.0%)	06 (50%)	Nil	Nil	6 (50.0%)	6 (50.0%)
Per capita income						
0–5000	15 (22.7%)	49 (74.2%)	2 (3.0%)	2 (3.0%)	42 (63.6%)	22 (33.3%)
5,001–10,000	23 (27.4%)	57 (67.9%)	4 (4.8%)	0 (0.0%)	45 (53.65)	39 (46.4%)
11,001–15,000	04 (15.4%)	22 (84.6%)	0 (.0%)	0 (0.0%)	16 (61.5%)	10 (38.5%)
16,000–20,000	02 (11.1%)	15 (83.3%)	1 (5.6%)	0 (0.0%)	5 (27.8%)	13 (72.2%)
>20,000	Nil	06 (100.0%)	Nil	0 (0.0%)	3 (50.0%)	3 (50.0%)

Table 7: Knowledge, attitude and perception regarding organ donation as per the nursing program being pursued

Program being pursued	Knowledge			Attitude and perception		
	Good	Average	Poor	Negative	Neutral	Positive
BSc Nursing (4 years)	33 (23.6%)	102 (72.9%)	05 (3.6%)	Nil	86 (61.4%)	54 (38.6%)
BSc Nursing (post basic)	07 (18.4%)	29 (76.3%)	2 (5.3%)	02 (5.3%)	23 (60.5%)	13 (34.2%)
MSc Nursing	04 (18.2%)	18 (81.8%)	Nil	Nil	2 (9.1%)	20 (90.9%)

and that family's consent is required for donation after death and in case of living donation, consent has to be given by donor himself/herself. Subjects also have demonstrated good knowledge regarding contraindications to organ donation. Subjects showed lack of knowledge in certain areas, such as legal position of organ donation in India and consent procedures about organ donation after death. More than half of subjects were unaware about the concept of brain death in case of the cadaveric organ donation and only one fourth of subjects were aware about the fact that no one can make decision of organ donation in case of unclaimed dead body and only half of subjects were aware about the legal age of organ donation in India.

Majority of the students undergoing postgraduation had positive attitude and perception toward organ donation. Probably, they have read more about the subject. So, education can definitely have an impact on this cause. McGlade D et al have reported that changes in attitude postintervention were observed in relation to participants' willingness to accept an informed system of consent and with regard to participants' actual discussion behavior.¹⁵ The attitude and perception can be the result of many reasons, religious being one of the main. Many religions, though favorable toward the ideology of

organ donation, are hesitant about the criteria involved in this procedure. However, in the current study, almost comparable number of subjects belonging to all the three religions showed neutral or positive attitude toward organ donation. But, in a survey conducted on Muslims about their attitude toward donation 68.5% agreed to the idea of donation but only 39.3% believed it was compatible with Islam.¹⁶

The knowledge of nurses about different aspects of donation process is essential because they can improve public awareness about organ donation and hence contributing to the improved donation process. We recommend that special educational program should be organized for the nursing students to improve their knowledge regarding organ donation. Because, it has been reported that formal training about organ donation can successfully influence student nurses' attitudes, encourage communication and registration behaviors and help improve knowledge about donor eligibility and brain death.^{17,18}

CONCLUSION

Majority of the students had average knowledge regarding organ donation. Around half each had neutral and positive attitude regarding organ donation.

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