

Knowledge, Attitudes and beliefs about Organ Donation among Physiotherapy Students

Priyanka Sharma¹, Rahul Sharma², Charu Chadha³, Jyoti Kataria⁴, Tabish Fahim⁵

¹ Assistant Professor, Banarsidas Chandiwala Institute of Physiotherapy, Kalkaji, New Delhi, India.

² Research Fellow, Department of Neurology, AIIMS, New Delhi, India

³ Assistant Professor, Banarsidas Chandiwala Institute of Physiotherapy, Kalkaji, New Delhi, India

⁴ Assistant Professor, School of Physiotherapy, Delhi Pharmaceutical Sciences & Research Society

⁵ PhD Scholar, Maharaj Vinayak Global University, Jaipur

Abstract

Background: Many patients with organ failure die because of non-availability of donor organs. The dearth of organs could be accounted due to lack of knowledge or unwillingness to donate organs.

Aim: This study was aimed at investigating the extent to which Physiotherapy College students know about organ donation, their perception & belief about donating organs, because through them the message can reach the public through their direct contact with people in the outpatient department, admission wards and medical camps.

Method: Observational cross-sectional type of study was done among 210 adults (aged ≥ 18 yrs.) sampled by simple random sampling method. Self administered questionnaires were used to obtain information from the participants.

Results: 92% of the respondents in all 4 years were followers of Hinduism, 4-5% followers of Sikhism and Islam respectively and about 3% were followers of other religions. 90% of the participating Physiotherapy students were from higher socio-economic strata. Awareness of organ donation was seen to increase from 80.29% to 100% from 1st BPT to 3rd BPT years of education. Internet was found to be the most effective source of awareness of organ donation for respondents in all the 4 years. Newspapers & Television were also found to be effective sources. Majority of the students from all the 4 years were aware about the donation of Eyes Tissues (89.2%-98.18%) & Kidney (89.28%-96.36%). Least knowledge was about the donation of pancreas. Only 8.92% of BPT 1st year students were aware about it.

Conclusion: Better knowledge may ultimately translate into the act of donation. Efforts should be made to give comprehensive & appropriate education to Physiotherapists about organ donation to bridge this gap.

Key Words: Organ Donation, Physiotherapist, Knowledge, Attitude, Beliefs, Physiotherapy Students.

INTRODUCTION

Organ donation is the donation of biological tissue or an organ of the human body, from a living or dead person to a living recipient in need of a transplantation" [1]. Today Organ Transplantation is a major treatment protocol for a number of cases of end stage organ failure. [2]

However the shortage of transplantable organ is a global problem. Previous research indicates that the major limiting factor to donation is the low consent rate. [3]

The deceased organ donation rates in India—which vary in different parts—have been estimated to be 0.08 per million populations per year. [4]

Accordingly identifying & addressing the barriers to organ donation remains the focus of many who are interested in improving access to transplantation. [5]

Alghanim in a community based study compared the knowledge and attitude towards organ donation between urban and rural populations and found that the urban populations were more likely to have information about organ donation, to report willingness to be donors and have knowledge regarding “brain-death”. He also states that providing the general public with relevant information and correcting some of the misconceptions are likely to increase the number of individuals willing to donate organs. [6]

Educators should be aware of the need to increase the influence on health professionals in increasing organ donation. [7] To identify educational strategies that give greater emphasis, it is important to assess the degree of knowledge and the attitudes of physiotherapy students regarding organ donation. Therefore, we decided to carry out a survey among Educators should be aware of the need to increase the influence on health professionals in increasing organ donation. To identify educational strategies that give greater emphasis, it is important to assess the degree of knowledge and the attitudes of physiotherapy students regarding organ donation.

Furthermore, it is of great importance to understand the impact of the educational process among other cultural factors on medical students’ attitude towards Organ Donation [8]

Therefore, we decided to carry out a survey among physiotherapy students from one of the reputed Institute of Physiotherapy, New Delhi, with the following objectives:

- (1) To describe the students’ knowledge of cadaver and live organ donation;
- (2) To assess the students’ attitudes toward donating their own and their relatives’ organs; and
- (3) To verify whether this attitude varied according to gender and age.

Material & Methods

Study Design and Study Setting

A cross sectional survey was conducted at one of the reputed Institute of Physiotherapy, New Delhi.

Ethical clearance was obtained from the Institute Ethics Committee of the institute. The survey was conducted during January and February 2018. It was completely anonymous, voluntary, self-administered, collected on the spot and stored confidentially.

Sample Size and Sampling Method

A sample size of 220 was used. Convenience sampling was used to draw the sample for this survey. All consenting physiotherapy students studying in the institute were interviewed. Socio-demographic data from the non-respondents including their gender, age and education was also collected.

Method of Data Collection

Information was collected using face to face interviews based on a structured, pre-tested questionnaire. Pre testing was done on adults falling in the same age brackets, in a similar setting, to screen for potential problems in the questionnaire. The interviewers discussed the questionnaire thoroughly among themselves before data

collection to decrease interviewer bias. With the exception of a few open ended questions, the interview was based on prompted questions.

Questionnaire

The questionnaire was divided into three sections with the first two sections comprising the socio demographic information while the third section assessed Knowledge, Attitude and Practice Variables (KAP) of organ donation. The individuals were divided into high, middle and low socio-economic classes on the basis of eight variables. This was done because a single variable can't adequately reflect the socioeconomic status of an individual. The variables used included the place of residence of the respondent, presence of basic amenities at home such as clean potable water, electricity, natural gas, 3 square meals a day and adequate sanitation system, ownership of the house, level of education, employment status, cumulative monthly household income, personal means of transport and number of dependant members of the family. Organ donation was defined as "the removal of the tissues or organs of the human body from a cadaver or from a living donor, for the purpose of transplanting or grafting them into other persons" [1].

Effective legislation was taken to mean a legislation which achieves what it sets out to achieve, meets its designated objectives, and delivers the requisite outcomes.

Knowledge, Attitude and Practice Variables

Knowledge of the respondents was assessed through questions regarding meanings of the terms "organ donation", awareness of donation by living people as well as cadavers, risks involved in organ donation, and the sources of information for their knowledge. Attitudes of the respondents regarding organ donation was determined through questions regarding opinions on issues such as the willingness to donate organs in the future, influence of religion on attitude towards organ donation, allowance for incentive based organ donation, and factors influencing choice of recipient for future donation. Practices were admeasured by enquiring about actual donation of any organ and any untoward effects observed by individuals in the process that they attribute to organ donation. [9]

Statistical Analysis

Descriptive statistics, frequency, means (SD) etc were estimated as appropriate. Crude associations were assessed using Odds ratio, Pearson Chi -square test and t-test. All P values were considered significant at < 0.05. Variables with a significant p-value were further evaluated using multiple logistic regression analysis to determine their adjusted association with awareness of organ donation, and motivation to donate. All odds ratios were reported with a 95% confidence interval. Tables and figures were used for an all-inclusive viewing of results.

Ethical Considerations

The study was given ethical approval by Ethical Review Committee as well as the Department of Physiotherapy. All ethical requirements including confidentiality of responses and informed consent were stringently ensured throughout the project.

Results

The demographic data of the respondents from 1st, 2nd, 3rd & 4th year BPT students was as shown in Table 1.

Table 1 : Demographic Data

Demographic data				
	BPT 1st year	BPT 2nd year	BPT 3rd year	BPT 4th year
Age	17-20	18-22	19-23	19-24
Mean Age±SD	18.75±62	19.25±75	20.83±68	21.12±76
Number of Respondents(n)	56	54	52	55
Number of Female Respondents(n)	41(73.21%)	38(70.37%)	39(75%)	45(81.81%)
Number of Male Respondents(n)	15(26.78%)	16(29.62%)	13(25%)	10(18.18%)

92% of the respondents in all 4 years were followers of Hinduism, 4-5% followers of Sikhism and Islam respectively and about 3% were followers of other religions. 90% of the participating Physiotherapy students were from higher socio-economic strata. The results have been grouped into two subgroups which are knowledge (Table 2, 3) and attitude (Table 5). The knowledge of the respondents regarding organ donation, organ donors and brain death is summarized in Table 2 along with the study of sources from where the knowledge of organ donation was obtained. Table 3 depicts the level of knowledge of respondents about the different organs that can be donated, the related contraindications and ability of one donor to donate to multiple recipients.

Table 2: Knowledge of organ donation and different categories of donors with specific knowledge of brain death

	Items Studied	BPT 1st year	56	BPT 2nd year	54	BPT 3rd year	52	BPT 4th year	55
1	Awareness of organ Donation	50	89.29	49	90.74	47	90.38	55	100.00
2	Awareness of need for Donation of organs?	52	92.86	50	92.59	50	96.15	55	100
3	Source of Awareness of Organ Donation:								
	Newspaper	40	71.43	38	70.37	36	69.23	32	58.18
	Television	41	73.21	40	74.07	32	61.54	37	67.27
	Internet	49	87.5	50	92.59	35	67.31	35	63.64
	Family members	24	42.86	23	42.59	26	50	20	36.36
	Discussed at Physiotherapy Institute	28	50	32	59.25	38	73.08	40	72.73
4	Awareness of possible donors								
	Living Healthy Person	30	53.57	32	59.25	38	73.08	42	76.36
	Brain Dead Person	32	57.14	35	64.81	39	75	40	72.73
	Naturally dead person	38	67.86	30	55.55	37	71.15	38	69.09
	Don't Know	12	21.43	10	18.51	11	21.15	7	12.73

5	Awareness about aspect of brain death								
	Irreversible	28	50	25	46.29	30	57.69	32	58.18
	Loss of Brain Functioning	38	67.86	39	72.22	42	80.77	41	74.55
	Patient can recover from it	20	35.71	22	40.74 1	28	53.85	30	54.55
	Body may feel warm due to patient being on Ventilator	10	17.86	15	27.77 8	18	34.62	22	40

Table 3: Knowledge about different organs donated & Contraindications to organ donation

	Items Studied	BPT 1st year	56	BPT 2nd year	54	BPT 3rd year	52	BPT 4th year	55
1	Knowledge about when organ donation cannot be done								
	If donor is HIV, Hepatitis B or Hepatitis C Positive	45	80.36	49	90.74	48	92.31	50	90.91
	If donor has active cancer	50	89.28	47	87.04	50	96.15	52	94.55
	organ to be donated is badly injured	48	85.71	46	85.19	48	92.31	51	92.73
	There is an active legal case related to death of the donor	20	35.71	25	46.30	37	71.15	40	72.73
2	Knowledge of organs that are donated								
	Eye Tissues	50	89.29	49	90.74	51	98.08	54	98.18
	Lungs	31	55.36	32	59.26	36	69.23	43	78.18
	Liver	26	46.43	20	37.04	31	59.62	37	67.27
	Intestine	5	8.93	16	29.63	29	55.77	32	58.18
	Ligament	21	37.50	14	25.93	26	50.00	29	52.73
	Heart	42	75.00	47	87.04	50	96.15	32	58.18
	Kidney	50	89.29	49	90.74	50	96.15	53	96.36
	Skin	14	25.00	18	33.33	23	44.23	27	49.09
	Bone	15	26.79	20	37.04	17	32.69	23	41.82
	Pancreas	5	8.93	12	22.22	19	36.54	22	40.00
3	Knowledge that a single donor donate to multiple recipients								
	TRUE	42	75.00	45	83.33	46	88.46154	50	90.91
	FALSE	13	23.21	7	12.96	4	7.692308	5	9.09

Table:4 Attitude towards organ donation, willingness to donate organs and to promote organ donation and reasons for unwillingness to be an Organ donor

Items Studied	BPT 1st year	56	BPT 2nd year	54	BPT 3rd year	52	BPT 4th year	55
1 Would you like to be an organ Donor								
Yes	40	71.43	43	79.63	45	86.54	44	80
No	10	17.86	8	14.81	3	5.77	5	9.09
Don't Know	6	10.71	2	3.70	3	5.77	5	9.09
2 Whom would you like to Donate to								
Family Member	41	73.21	45	83.33	48	92.31	52	94.55
Friend	38	67.86	42	77.78	38	73.08	50	90.91
Unknown Individual	25	44.64	29	53.70	30	57.69	35	63.64
3 What are your reasons for opting against Organ Donation								
It is against your Religious beliefs	5	8.93	6	11.11	4	7.69	5	9.09
I don't Believe in Organ Donation	2	3.57	3	5.56	5	9.62	4	7.27
I don't wish to go through the disfigurement involved	10	17.86	4	7.41	7	13.46	3	5.45
I don't believe in the ability of the system to support the donated organs till they reach a suitable owner	25	44.64	20	37.04	30	57.69	38	69.09
I Live very far away from closest centre of organ donation	11	19.64	5	9.26	7	13.46	10	18.18
4 Do you feel that organ donation is an individual's social commitment?								
Yes	45	80.36	43	79.63	47	90.38	49	89.09
No	8	14.29	9	16.67	5	9.62	4	7.27
5 Would you like to be a Part of organ Donation group in your city & motivate others for organ Donation?								
Yes	40	71.43	42	77.78	43	82.69	48	87.27
No	13	23.21	11	20.37	8	15.38	3	5.45

The attitude of the respondents towards organ donation and the aspects such as willingness to be an organ donor and to motivate others for donating organs, who they were willing to donate to, and reasons for opting against organ donation in case of those unwilling to donate are depicted in Table 4.

Awareness of organ donation was seen to increase from 80.29% to 100% from 1st BPT to 3rd BPT years of education. Internet was found to be the most effective source of awareness of organ donation for respondents in all the 4 years. Newspapers & Television were also found to be effective sources. Majority of the students from all the 4 years were aware about the donation of Eyes Tissues (89.2%-98.18%) & Kidney (89.28%-96.36%). Least knowledge was about the donation of pancreas. Only 8.92% of BPT 1st year students were aware about it.

Discussion

Organ donation needs agreement not only from the individual him-or herself but also from close relatives, such as parents. Organ donation procedures after death will not be conducted without family consent. Therefore, in-depth information and knowledge about organ donation can lead to positive perceptions and attitudes as well as reduce reluctance towards organ donation.

The majority of participants in our survey were young, and over 60% were women. The preponderance of women can be to the overwhelming majority of women in the Physiotherapy Institute. A positive influence of younger age on willingness to become living kidney donors has been reported. [10]

However, willingness for self-organ donation after death was not influenced by age in our study population. [11]

This study investigated the Knowledge, attitude & beliefs of Physiotherapy students towards organ donation. Undergraduate students from all 4 years of Physiotherapy Institute participated in this study.

While those in 1st year of BPT (duration-1 year) had just started their Physiotherapy education & had knowledge of anatomy, Physiology, Biochemistry, Psychology, Sociology, Exercise & Electrotherapy those in 2nd year of BPT (duration-1 year) were undergraduate students with some knowledge of Pharmacology, Microbiology, Pathology, Medicine, Pediatrics, General Surgery ,Exercise & Electrotherapy. The 3rd year (duration-1 year) students were in the process of studying Neurology, Psychiatry, Orthopedics, Applied Biomechanics & kinesiology, and gynecology and obstetrics. It was observed that the awareness regarding organ donation was 89.29% in the 1st year increasing to 100% by the BPT 4th year. This is similar to the findings of 98.7%, 97% and 97.5% reported by Bharambe et al, Bapat et al. and Ali et al. in studies carried out at Medical College Hospitals in Pune,India; South India and Karachi, Pakistan, respectively .[12,13,14]

73.21% of the 1st year students reported television, while 54.88% and 71.42% reported internet and newspaper as the sources of their knowledge regarding organ donation activity (Table 2). In a similar kind of study conducted by Bharambe et al [12], it was found out that 55.4%, 69.4% & 58% of 1st year MBBS students got awareness of organ donation mainly through Newspaper, television & Internet Respectively. In a study carried out by Bapat et al.[13] television, newspaper, radio and magazines were responsible for 61%, 60%, 31% and 51%, respectively of knowledge promotion regarding this issue. The students in a similar study carried out by Bilgel et al. reported media and college education as sources of knowledge in 72.1% and 22.7%, respectively .[15] Thus, it appears that Internet, Television and Newspaper are the most effective for knowledge promotion regarding organ donation.

In the present study 50% of the BPT 1st year students reported "discussion at Physiotherapy Institute" as the source of their knowledge, and this percentage increased to 72.72% in case of final year students. Thus, knowledge of organ donation is being enhanced at the Physiotherapy Institute, but it did not reach cent percent of the students.

53.57 % to 76.36 % of physiotherapy students were aware of live organ donors and 55.55% to 71.15% were aware of organ donation after cardiac death (Table 2). 57.14% of the BPT 1st year students were aware of organ donation following "brain-death". This percentage increased to 72.72% in case of the BPT 4th year students.

Study of the knowledge regarding "brain death" revealed that 35.71% of BPT 1st year & 54.54% of the BPT final year students believed that a person can recover from brain death. This is similar to findings reported by Bharambe et al, [12] where 46.7% of MBBS Final year students believed that a person can recover from brain death .Bardell et al. in a study conducted in Canada, where 36% of the medical students did not know that "brain-death" is different from coma.[16]

The awareness regarding eye, liver, heart and kidney donations amongst the 4th year BPT students was found to be 98.18%, 67.27%, 94.55% and 96.36%, respectively having consistently increased from the awareness levels reported by the 1st year medical students whose awareness Percentage was found to be 89.29%,46.43%,75%,89.29% respectively (Table 3). The awareness reported by the 4th year BPT students regarding donation of other organs and tissues such as lungs, intestines, ligaments, skin, bones and pancreas was found to be in the range between 40% to 78.18% with a fair rise in awareness levels over the years of Physiotherapy education. These findings are higher as compared to those reported by Ali et al. in a study carried out to assess the awareness levels of medical students in Karachi-Pakistan.[14]

Levels of awareness were also observed regarding donation of heart, kidneys, liver, cornea, in our study high but comparatively lower levels of awareness regarding all other organ and tissue donations were observed as compared to the above stated organs. Study carried out by Edwin and Raja reported awareness regarding donation of eye to be 88%, of kidney 33% and of liver 27% amongst the study group. [17]

The results of our study regarding awareness of eye were similar to this study, but, regarding awareness of kidney & liver, the students of BPT final year showed better awareness. This observation is similar to that reported by Annadurai et al. [18] who studied the knowledge of college non-medical students regarding organs that can be donated and found that above 80% were aware of eye and kidney donations, and below 15% had knowledge regarding any other organ or tissue donations [16]. Thus, there are high levels of awareness regarding donation of eyes, kidney, heart and liver among medical students, and knowledge regarding donation of other organs and tissues is low.

The negative attitude towards organ donation was driven by religious beliefs and perceived risks to the donor. The reasons of unwillingness need to be looked into carefully and dealt with to increase acceptability towards organ donation in our country. Thus there is a need for culturally sensitive communication technologies to remove the various misconceptions in the minds of the public regarding organ donation along with increasing the access to the organ donation services. [19]

The lack of success of an organ donation programme cannot be attributed solely to negative social and cultural perceptions. Public opinions regarding organ transplantation can be greatly influenced by the attitude of healthcare professionals working not only at tertiary level centers but also at grassroots levels in primary healthcare centers. [20]

Many strategies can help improve knowledge and attitude towards Organ Donation among Physiotherapy students. Educational tools including lectures, campaigns, advertisements and exhibitions can increase awareness and improve attitude towards Organ Donation among the Physiotherapy students .[21]

Exposure of medical students to patients suffering from the shortage of donor organs will improve their attitude [22]

Transplantation experts can play a major role in addressing the problem and clarifying the need and the benefit of Organ Donation for the patients [23]

Limitation

One of the limitations of this study is its confinement to a single university which mandates studies from other universities to generalize the results.

Conflict of Interest

None Declared

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