

# A Review to survey the Effectiveness of a Structured Teaching Program (STP) on Knowledge and Awareness Regarding Organ Donation Among Degree Students

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**Abstract-** A quasi-experimental (pre/post-test) design was employed to achieve the study's objective. This study aimed to assess the effectiveness of an intervention focused on a structured teaching program about organ donation among first-year degree students at Himaja Degree College, Puttur, Andhra Pradesh. A simple random sampling technique was used to select students between the ages of 18 and 20 years. In the pre-test scores regarding organ donation among degree students, 29 (58%) of them demonstrated poor knowledge, 17 (34%) exhibited below-average knowledge, and 4 (8%) showed above-average knowledge. The mean and standard deviation of the pre-test scores were 2.28 and 0.702, respectively.

A scheduled teaching program on organ donation was conducted for 50-degree students. After 7 days, a post-test was administered to the same sample.

In the post-test scores regarding organ donation among degree students, 7 (14%) demonstrated poor knowledge, 10 (20%) exhibited below-average knowledge, and 33 (66%) showed above-average knowledge. The mean and standard deviation of the post-test scores were 3.38 and 0.812, respectively.

**Degree Students' Opinions on Organ Donation:** The majority of students, 30 (60%), have heard about organ donation, Specifically, 39 (78%) of students have not attended any organ donation campaigns, Of the students who participated in organ donation campaigns, 20 (40%) were from public meeting, Additionally, 28 (56%) of students are willing to donate an organ despite their religious beliefs, However, 33 (22%) of students cited reluctance due to psychological tensions as the reason for rejecting organ donation.

The item analysis on students' knowledge and awareness regarding organ donation varied. Fifteen students (30%) were neutral about their attitude towards organ donation. An equal number of students (30%) believed their religion does not allow organ donation due to cultural practices and beliefs. Twenty-nine students (58%) believed that organ donation can save lives, while 18 students (36%)

were neutral about their willingness to donate their organs. More than 26 students (52%) believed that the health status of the recipient is important when donating an organ. Fourteen students (28%) felt that organ donation is not acceptable in most societies. Eighteen students (36%) were neutral about the feasibility of a natural funeral process after organ donation. About 25 students (50%) were neutral regarding concerns about body mutilation following organ donation. The study concluded that the structured teaching program was effective in improving knowledge about organ donation among degree students.

**Index Terms-** Structured teaching programme, Knowledge and Awareness, Organ Donation, Dree Students.

## I. INTRODUCTION:

Organ transplantation is a medical procedure in which an organ is removed from one person and placed into the body of a recipient. Vital organs such as the heart, pancreas, liver, kidneys, and lungs can be transplanted from a donor to a person whose organs are failing, known as the recipient<sup>2</sup>.

Anyone, regardless of age, sex, caste, or religion, who meets certain health criteria, can potentially donate their organs. Individuals with conditions such as diabetes mellitus, hypertension (increased blood pressure), asthma, and can still be organ donors, provided that their organs are deemed suitable for transplantation and that their medical condition does not pose a risk to the recipient. It's important for potential donors to be free from communicable diseases that could be transmitted through organ transplantation<sup>4</sup>.

The general public's limited awareness about organ donation and its consequences is a significant issue. Additionally, there is insufficient education among medical professionals to identify potential donors and

effectively counsel families. Another challenge is family reluctance to give consent for organ donation, even if the deceased had previously expressed a desire to donate. Emotional and ethical dilemmas often arise for families when making decisions about organ donation, adding complexity to an already difficult situation. Addressing these challenges requires comprehensive education, support, and communication strategies for both the public and medical professionals alike<sup>6</sup>.

Three lakh (3,00,000) patients are waiting for organ donation in the country, and the increase in donors has not matched the demand. Experts stress the urgent need to boost the deceased donation rate, emphasizing the importance of raising awareness among ICU doctors and families about how one deceased donor can potentially save several lives<sup>7</sup>.

In India, the scenario of organ transplantation is notable, with the country conducting the third-highest number of transplants globally. Organs from deceased donors accounted for nearly 17.8% of all transplants in 2022. The total number of deceased organ transplants has seen a significant increase, rising from 837 in 2013 to 2,765 in 2022. Moreover, the total number of organ transplants, including those from both deceased and living donors, has surged from 4,990 in 2013 to 15,561 in 2022. Despite these advancements, the demand for kidney transplants remains high, with an estimated 1.5-2 lakh people needing a kidney transplant each year<sup>3</sup>.

In 2022, despite the significant demand for organ transplants, the number of individuals who received transplants remains low. Only around 10,000 people received a kidney transplant out of the estimated 1.5-2 lakh who needed one. Similarly, of the 80,000 individuals who required a liver transplant, less than 3,000 were able to undergo the procedure. Additionally, of the 10,000 people in need of a heart transplant, only 250 were fortunate enough to receive one. These statistics underscore the ongoing challenges and disparities in access to organ transplantation services in India<sup>8</sup>.

## II.NEED FOR THE STUDY

Organ donation encompasses the entire process of retrieving a human organ from either a living or deceased person, known as the donor, and transplanting it into a recipient. The recipient is typically a patient suffering from organ failure, whose survival depends on receiving an organ replacement. The process of

recovering organs from donors is referred to as retrieval<sup>1</sup>.

**The Living Donation Process:** The living donor's medical compatibility is verified by a doctor. The transplant can only proceed once all tests have conclusively confirmed that the donor is compatible with the recipient.

**The Deceased Donation Process:** A deceased donor is typically someone who has experienced a fatal head injury or brain haemorrhage. They are declared brain stem dead by a team of medical experts in a hospital. Before the process of organ retrieval can proceed, the donor's family must provide consent for the donation<sup>9</sup>.

Once the organs have been retrieved, they have a limited window of time before they must be transplanted into the recipient. The timeframe varies depending on the organ: Heart & Lungs: 4-6 hours, Liver: 6-12 hours, Kidneys: Up to 30 hours, Intestine: 6 hours, Pancreas: 6 hours. It's crucial to transplant the organs quickly to ensure their viability and increase the chances of a successful transplant<sup>11</sup>.

Medical science has made remarkable strides in recent years in the realm of organ donation and transplantation. With organ donation from one person having the potential to save up to 9 lives and enhance the quality of life for many others, the impact is profound. However, despite these advancements, a significant portion of the population in India remains hesitant to participate in this noble cause due to prevalent myths and a lack of awareness about organ donation. Addressing these misconceptions and increasing awareness is crucial to encourage more people to consider organ donation and positively impact the lives of those in need<sup>10</sup>.

India witnesses a significant number of solid organ transplants annually, with approximately 17,000–18,000 procedures performed each year. This places India as the third-highest performing country in the world for organ transplants, following the US and China. However, the transplantation rates per million population in India, currently at 0.65, lag several high-income countries. Despite this, there has been notable progress in the field, particularly in the harvesting of organs from deceased donors. The average number of organ transplants per donor has increased from 2.43 in 2016 to 3.05 in 2022, indicating improvements in organ procurement and utilization<sup>12</sup>.

An interventional study assessed the impact of a structured training program on cadaver organ donation and transplantation knowledge and perception among nursing students at a Northern Indian nursing teaching institute. The study Results revealed that the pre-test group exhibited the lowest mean knowledge (50.2346, SD = 15.35188), while immediately after training, the group showed the highest mean knowledge (57.3900, SD = 14.34626). One-month post-training, knowledge slightly decreased but remained higher than pretraining levels (mean = 52.3607, SD = 13.28141). The study concluded that nursing students' positive attitudes may contribute to future advancements in cadaver organ donation and transplantation <sup>5</sup>.

III. METHODS

3.1. RESEARCH DESIGN: The study employed a quasi-experimental research design with a one-group pre-test and post-test, utilizing randomization.

3.2 SETTING OF THE STUDY: The study took place at Himaja Degree College, located in Puttur, Andhra Pradesh.

3.3 POPULATION: The target population for this study comprises first-year B. Com degree students at Himaja Degree College in Puttur, Andhra Pradesh.

3.4 SAMPLE SIZE: The sample consisted of 50 students aged between 18 and 20 years.

3.5 SAMPLING TECHNIQUE: Out of the 80 first-year B. Com degree students, a simple random sampling technique was employed. The lottery method was used to select 50 samples from this population.

3.6 VARIABLES OF THE STUDY

i. Independent Variable: The structured teaching program on Organ Donation.

ii. Dependent Variable: Degree students' knowledge gain on Organ Donation.

iii. Extraneous Variables: Age, Gender, Religion, type of the family, food pattern, Income /month, marital status, Area of living and opinion of degree students about organ donation questions.

3.7. SAMPLING CRITERIA

Inclusion Criteria:

1. Availability of students at the time of data collection and willingness to participate in the study.
2. Both male and female genders are included.
3. Ability to read and write in English and Telugu.

4. Students aged between 18 and 20 years.

Exclusion Criteria:

1. Individuals who are unwilling to participate in the study.
2. Degree students belonging to the 2nd and 3rd year B. Com who are not available at the time of data collection.

3.8. ETHICAL CONSIDERATIONS

Written permission was obtained from the Principal of Himaja Degree College in Puttur, Andhra Pradesh.

Written informed consent was obtained from each participant.

3.7 DEVELOPMENT AND DESCRIPTION OF TOOL

The collected data will be analysed using descriptive and inferential statistics. A self-structured questionnaire was developed for data collection, organized into the following sections:

SECTION A: This section includes questions related to socio-demographic variables.

SECTION B: This section comprises knowledge and awareness questions related to organ donation, assessed on a Likert scale. The maximum score is 5. Respondents who are very concerned with the statement receive a score of 5, those who are concerned receive a score of 4, those who are neutral receive a score of 3, those who are unconcerned receive a score of 2, and those who are very unconcerned receive a score of 1.

4.DATA ANALYSIS AND INTERPRETATION

4.1. SECTION-I: Frequency and percentage distribution of demographic variables among Degree Students.

Table:2 (N=50)

S. No	Demographic Variables	Frequency	Per %
1.	Age in Years		
	a.16-20 Years	50	50
	b. 21-24 Years	0	0
	c. 24 Years & Above	0	0
	Total	50	50
2.	Gender		
	a. Male	4	8 %
	b. Female	46	92 %
	Total	50	100%
3.	Religion		
	a. Hindu	43	86 %
	b. Christian	4	8 %
	c. Muslim	3	6 %
	d. Others	0	0
	Total	50	100 %
4.	Type of Family		
	a. Nuclear Family	31	62 %
	b. Joint Family	16	32 %

	c. Extended Family	3	6 %
	Total	50	100 %
5.	Food pattern		
	a. Vegetarian	24	48 %
	b. non-vegetarian	26	52 %
	Total	50	100 %
6.	Income per Month		
	a. Rs. <6000	23	46 %
	b. Rs. 6001-10,000	5	10 %
	c. Rs. 10,001-15,000	3	6 %
	d. Rs. >15,001	19	38 %
	Total	50	100 %
7.	Marital Status		
	a. Unmarried	46	92 %
	b. Married	3	6 %
	c. Divorced	1	2 %
	d. Widow/Widower	0	0
	Total	50	100 %
8.	Area of Living		
	a. Urban	13	26 %
	b. Rural	31	62 %
	c. Semi -Urban	6	12 %
	Total	50	100 %
9.	Do you Know about Organ Donation		
	a. Yes	30	60 %
	b. No	20	40 %
	Total	50	100 %
10.	If yes, how do you Know about Organ Donation		
	a. Mass Media	14	28 %
	b. Family Members and Friends	2	4 %
	c. Textbooks	14	28 %
	Total	30	60 %
11.	Have you attended any organ donation campaigns at any time?		
	a. Yes	11	22 %
	b. No	39	78 %
	Total	50	100 %
12.	If yes, where did you Attend the Campaign		
	a. Hospitals	12	24 %
	b. Schools	18	36 %
	C Public Meetings	20	40 %
	Total	50	100 %
13.	Are you Willing to Donate an Organ against your Religions beliefs		
	a. Yes	28	56 %
	b. No	22	44 %
	Total	50	100 %
14.	If No, what is the Reason to Reject the Organ Donation		
	a. Psychological Tensions	33	66 %
	b. Religious Beliefs	9	18 %
	c. Lack of Family Support	8	16 %
	Total	50	100%

4.2. SECTION II: Degree Students' Opinions on Organ Donation

i. Percentage Distribution of Students know about the Organ Donation.

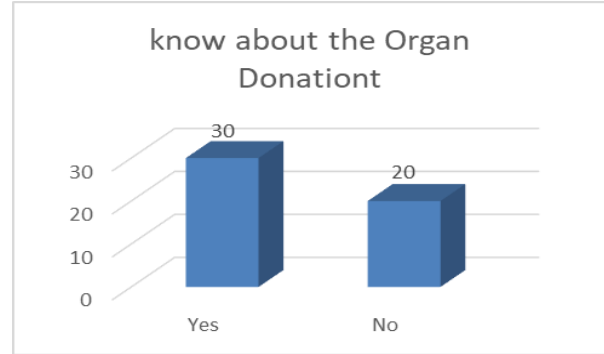


Fig:1

The majority of students, 30 (60%), have heard about the organ donation, while 20 (40%) are unaware of organ donation.

ii. Percentage Distribution of Students "Have you attended any organ donation campaigns at any time?"

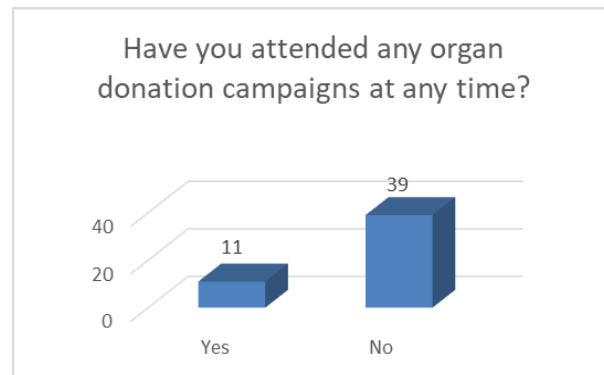


Fig:2

The majority of students, specifically 39 (78%), have not attended any organ donation campaigns, while 11 (22%) have attended such campaigns.

iii. Percentage distribution of students' attending locations at organ donation campaigns.

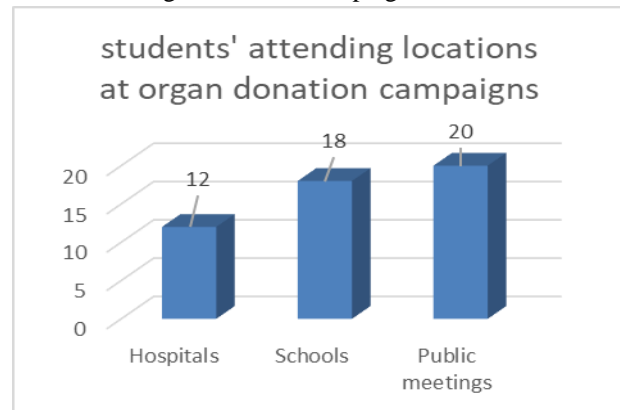


Fig:3

The majority of students who participated in the organ donation campaign came from various locations: 20 (40%) from public meetings ,18 (36%) from schools, 12 (24%) from hospitals.

iv. Percentage Distribution of Students' Willingness to Organ Donation against religious beliefs

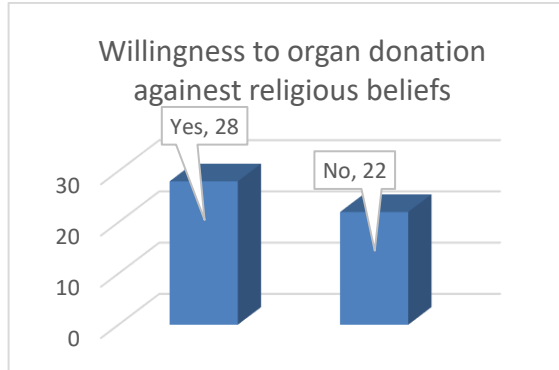


Fig:4 The majority of students, 28 (56%), say "Yes" to donating an organ despite their religious beliefs, while 22 (44%) say "No."

v. Percentage Distribution of the student's is a Reason to Reject Organ Donation

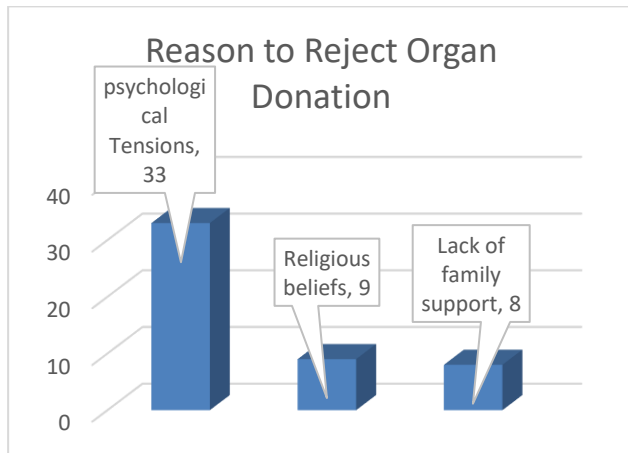


Fig:5 The majority of students, 33 (66%), cited reluctance due to psychological tensions as the reason for rejecting organ donation. Additionally, 9 students (18%) mentioned religious beliefs, and 8 students (16%) attributed their decision to a lack of family support.

4.3. SECTION III: Frequency and Percentage Distribution of Level of Knowledge on Organ Donation among Degree Students in Pre & Post-Test

Table:3

Level of Knowledge	Pre-Test	Post-Test	Mean		Standard Deviation	
			Pre-test	Post-test	Pre-test	Post-test
Above Average	4	33	2.28	3.38	0.702	0.812
Average	17	10				
Poor	29	7				

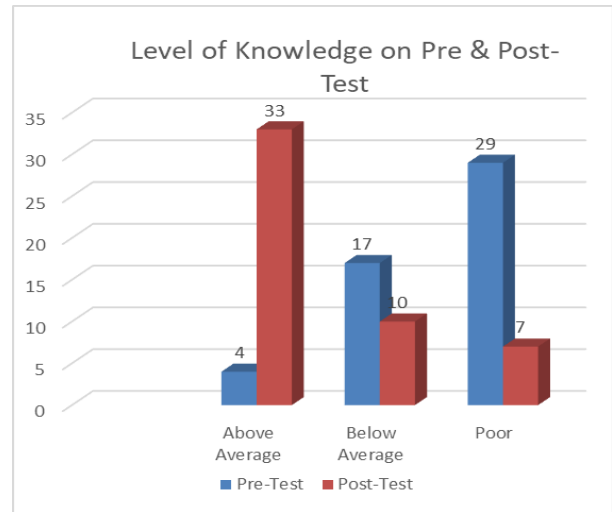


Fig:6 In the Pre-Test, 29 (58%) of degree students demonstrated poor knowledge on organ donation, while 17 (38%) were classified as average, and 4 (8%) were considered above average. In the Post-Test, 7 (14%) students were categorized as having poor knowledge, 10 (20%) were average, and 33 (66%) were above average. The mean and standard deviation of organ donation knowledge among degree students were 2.28 and 0.702, respectively in the pre-test. In the post-test, the mean and standard deviation were 3.38 and 0.812.

4.4. SECTION IV: Item Analysis on Knowledge and Awareness of Organ Donation Among Degree Students

Table:3 (N=50)

S. No	Question	1	2	3	4	5
1	Attitude Towards Organ Donation Among Students	6	9	15	10	10
2	Does your Religion allow Organ Donation.	8	1	13	15	13
3	Do You Believe Organ Donation Can Save Others' Lives?	7	0	0	29	14
4	Would You Be Willing to Donate	1	8	18	16	7

	Your Organ to Any Person?					
5	Does the Health Status of the Recipient Hold Importance to You When Donating an Organ?	7	2	11	26	4
6	Organ Donation from Deceased Individuals Not Acceptable in Most Societies.	13	3	8	14	12
7	Is a Normal Funeral of the Dead Body Not Possible after Organ Donation?	3	13	18	8	8
8	Does Organ Donation of a Deceased Person Result in Serious Mutilation of the Body, Making It Unacceptable to Family Members?	2	5	25	14	4

The item analysis on students' knowledge and awareness regarding organ donation varied. Thirty percent of students (15 students) expressed a neutral attitude towards organ donation. An equal proportion of students (30%) believed their religion prohibits organ donation due to cultural practices and beliefs. Fifty-eight percent of students (29 students) were concerned that organ donation can save lives, while thirty-six percent (18 students) were neutral about their willingness to donate organs. Additionally, more than half of the students (52%, more than 26 students) expressed concern that the health status of the recipient is important when donating an organ. Fourteen students (28%) expressed concern that organ donation is not widely acceptable in most societies. Eighteen students (36%) held a neutral stance on the notion that a normal funeral of the dead body is not possible after organ donation. Approximately 25 students (50%) were neutral regarding concerns about body mutilation following organ donation as perceived by family members.

4.5. SECTION V: Association between Demographic Variables and Knowledge on Organ Donation among Degree Students in Post-Test

There is a significant association between post-test knowledge on organ donation among degree students and the following variables: Religion (p=0.05), Attendance at organ donation campaigns (p=0.05), Location of attendance at campaigns (p=2), Willingness to donate organs against religious beliefs (p=0.03), Reason to

donate (p=0.02). Additionally, income obtained a significant chi-square value of p=0.0006, significant at the 0.01 level.

V. SUMMARY AND CONCLUSIONS

The aim of this study was to evaluate the effectiveness of a structured teaching program (STP) on organ donation among degree students. The findings of the study revealed deficiencies in knowledge and attitudes regarding organ donation, which can be influenced by various factors including sociodemographic variables, understanding of the organ donation process, religious beliefs, concerns related to the decision to donate, and modes of communication. The study underscores the importance of teaching program interventions and guidelines aimed at enhancing the organ donation application process and ensuring a positive experience for students tasked with making the decision. By addressing knowledge gaps and attitudes, such interventions have the potential to increase awareness and acceptance of organ donation among degree students and the wider community.

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