

# Knowledge and Attitude Regarding Organ Donation among Nursing Students at Teaching Institute in the Northern Part of India

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**Abstract:** *Background:* There are no studies evaluating the effectiveness of STP on organ donation among nursing students during pandemic (COVID-19). *Objectives:* The objectives were to assess the pre & post-test level of knowledge, attitude and their relationship with selected demographic variables regarding organ donation among 1st year B. Sc Nursing students. *Methods:* Pre experimental design was adopted for this study. The sample size was 60 and purposive sampling technique was used. The study was conducted at BECON, Chak Bhalwal, Jammu. The data was collected by using questionnaires and three point Likert scale. A STP on Organ Donation was administered to the 1<sup>st</sup> Year B. Sc nursing students and was evaluated. *Findings:* The findings shows that the majority 0 (0%) had adequate knowledge, 29 (48.3%) had moderate and 31 (51.76%) had inadequate knowledge and 0 (0%) had positive attitude, 25 (41.7%) had neutral attitude and 35 (58.3%) had negative attitude. Findings show that the knowledge and attitude of the nursing students increased after the planned teaching programme. There was no significant association between the post-test level of knowledge and attitude of nursing students regarding organ donation. *Conclusion:* This study concludes that planned teaching programme plays a vital role in increasing the knowledge and attitude level.

**Keywords:** STP-Structured Teaching Programme, BECON-Bee Enn College of Nursing, Attitude, Knowledge

## 1. Introduction

In the holy Quran it has been mentioned that "whoever saves the life of person is as if he has saved the life of the whole of human kind. In developed countries organ donation rate is 20-30% for every million people of population. Organ transplantation has been known as treatment way for patients who suffer from organ failure.1 Thousands of patients are waiting for getting organ while many of them die during their expectations. However, many of patients who suffer from organ failure do not have the same chance for transplantation. In all countries organ donation and transplanting activities are dependent legislation attitude of general public and health care professionals as level of organization and co-ordination of transplantation unit. Attitude towards organization in general public can be influenced by factors such as level of related knowledge, of education, religion ethnicity, gender and traditional values have also been identified as predictors of donation practices.

There are important barriers that lead to organ shortage for example need of kidney in middle east is 120-130 million per year while provided organs of the patients with brain death in this area is 4 to 10 million per year. So increase of organ number that can be harvested and transplanted is one of the important strategic programmes in most of the

societies This issue needs wide interventions in different levels such as organ procurement organization, society, nursing and medical staff education about content of brain death anyway in some societies like India we are encounters with low satisfaction level of families and for organ donation, transplantable organs of a patient with brain death include heart, lungs, liver, kidneys, pancreas, small intestine, common heart valve, skin, bone and trachea. Brain death is totally accepted as content that shows death. Brain death had been known about 40 years ago and had been considered as an ideal condition for organ donation. An organ transplant is a moving of a whole or partial organ from one body to another (or from donor site on patient's own body) for the purpose of replacing the recipient's damaged or falling organ with a working one from donor's site organ donor can be living or deceased.2 Each day an average of 75 people receive organ transplants, however, an average of 20 people died each day waiting for transplants that can't take place because of the shortage of donated organs. The aim of this study is to improve the knowledge and attitude of students regarding organ donation so that they can motivate society and help in donation of organs.

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## 2. Literature Survey

Edmonton, et. al, (2003) conducted a study in USA regarding recent practices and views on donation regarding children as living organ. Study revealed that fewer children in USA have become living donors in the past decade. Preadolescent children in particular should probably be considered as postal donors in extra ordinary circumstances.<sup>5</sup>

El-Shoubaki, A. Bener, et al. (October 2003-May 2004) cross sectional study was conducted on to assess the public knowledge and attitude toward organ donation and transplantation in the Hamad general hospital, Doha and the setting was primary health care community based study in Qatar. The sample of 1600 Qataris and non Qataris including males and females of at least 17 years of age from October 2003-may 2004. In this study a 1305 (81.5%) subjects participated. The result was out of 1305 samples, 637 (48.8%) males and 668 females (51.2 %) living in urban and semi urban areas completed questionnaires. Of these, 762 (58.4%) were Qataris. This was a significant difference between Qataris and non Qataris with respect to their age, educational level, monthly income and occupation. In this study, 31.6 of Qataris and 29.8% of non-Qataris had no idea about the organ donation, 37.8% of Qataris and 32.8% of non-Qataris were willing to donate their organ.

Ibrahim Tokala, et. al; (2006) A cross sectional survey to assess the knowledge and attitude of high school students related to organ donation and transplantation. 200 students from one urban high school Turkey were surveyed with questionnaires. After completing the first interview, the students underwent a training program on organ donation and transplantation. Same questionnaires asked for second interview section. Changes analyzed before and after the educational program in order to assess the program's effectiveness. Concerning brain death 66.1% of the respondents identified the correct definition of this concept before training and 92% did so after training. This educational program greatly enhanced the student's level of knowledge related to organ donation and transplantation and significantly expanded awareness.

Dr. Sunil Shroff, et. al (2007) conducted a study in Chennai to assess the awareness and attitudes of health care professionals towards organ donation 691 medical students participated in the study. There were 595 under graduates, 65 in terms and 131 were post graduate students. 75% of the participants were able to understand the concept of brain death. The study revealed that there was an understanding of the concept of brain death and organ donation even among medical students. It was also observed that they were interested in knowing more about the subject of organ donation.<sup>6</sup>

S. Sobnach et al. (2010) cross sectional study. The study was conducted in South Africa to assess the knowledge of medical student's about organ transplantation. The validated questionnaire was distributed to all medical students. The sample size was 346, 217 (635) were preclinical students. Their mean age was 21 year (range 18-33) and 62% were women, 29 (8%) students were registered as organ donors,

one third of all study participants received formal transplantation teaching; a greater proportion of clinical students received teaching compared with the preclinical group (52% vs.22%) Knowledge was frequently reported for kidney (88%), liver (81%), bone marrow (78%) and heart (76%). Ninety six percent and 62% of respondents were aware of kidney and liver living donor transplant respectively

Nahida khan, et. al. (2011) the cross sectional study was conducted on to assess the knowledge and attitude of the people related to organ donation and transplantation in the Madina teaching hospital Faisalabad by interviewing the people visiting the hospital as attendants. The sample size of 200 was collected through convenience sampling and the used predesigned close questionnaire was used to collect data through face to face interaction with the people at hospital. Result of this study showed that the attitude towards organ donation was significantly associated with age, education and socio-economic status. Majority (67.4%) of respondents thought that their religion allows organ donation and it should promoted 90% thought that organ donation was considered to be ethically correct.

Jalal azmandian et. al. (2013) Iran, Semi experimental research. The aim of this study was to assess the effect of education on knowledge and attitude of nurse about organ donation. The group of study was 120 nurses of ICU and emergency wards of Kerman hospital who participate in educational program of brain death. Data were collected by a self designed questionnaire (before and after education). Results showed that before education at least knowledge was about three organs of lungs, pancreases and marrow that it was 73.3%, 57.5% and 54.2% respectively, while after education it had been increased 95%, 91.7% and 80% respectively. The total average of nurse's attitude toward process of brain death and organ donation before training course was 65.7 which had been significantly increased to 76.9 two weeks after education.

Gutl Asiye, (2007) cross sectional survey study was conducted in turkey to assess the knowledge and attitudes of high school students related to organ donation and transplantation. 200 students from one urban high school were surveyed. Concerning brain death, 66.1% of the respondents identified the correct definition of this concept before training, and 92% did to after training ( $p < 0.001$ ).

### Problem Definition

A pre experimental study to assess the effectiveness of structure teaching programme regarding organ donation on knowledge and attitude among 1st year B. Sc Nursing students at selected nursing college in Jammu.

## 3. Methodology

The research approach used for this study was quantitative approach. A pre experimental design was adopted with one group pre-test & post-test design. The study was conducted at selected nursing college in Jammu i. e., Bee Enn College of Nursing. In this study, purposive sampling method was used, to select the samples. 60 students of 1st year B. Sc nursing who had recently passed their higher secondary

examination and got admitted in B. Sc Nursing with minimum of 50% marks was taken as samples in this study. In this study students with higher secondary qualification with minimum 50% of mark and who were present on the time of pre-test of the study were included. Students other than senior secondary qualification who were studying in 1<sup>st</sup> year B. Sc nursing and who were not present on the time of pre-test of the study were excluded.

Data collection was done by using structured teaching questionnaires. The questionnaires were prepared to assess the level of knowledge and attitude of 1st year B. Sc nursing students regarding organ donation. The tool consists of three parts.

#### Part-A

Demographic variables such as age, sex, college, religion, education, residential place and prior information were included.

#### Part-B

It consists of knowledge based structured questionnaires with 30 questions regarding organ donation.

#### Part-C

Three point Likert scale was used to assess the level of attitude. This instrument consists of 15 questions among which 8 questions were positively scored and 7 questions were negatively scored, higher the score higher the attitude.

#### Scoring Procedure

The questions were of multiple choice formats. Each questions had four responses, with one correct response. A score of 1 was given for the correct answer and score zero for the wrong and incomplete responses, thus maximum knowledge score was 30. For the purpose of the study, the knowledge score was classified as follows

0-50%-Inadequate knowledge

51-75%-Moderate adequate knowledge

76-100%-Adequate knowledge

The items were measured on a three point Likert scale. It includes statements on attitude among 1st year B. Sc nursing students regarding organ donation. There were totally 15 statements. A score of 2 was given for agree, score of 1 was given for disagree and score of 0 was given for uncertain. The maximum score of measuring attitude of 1st year B. Sc Nursing students was 30.

Attitude	Agree	Disagree	Uncertain
Positive statement	2	1	0
Negative statement	1	2	0

Attitude score was interpreted as follows,

81-100%-Positive attitude

61-80%-Neutral attitude

0-60%-Negative attitude

#### Data Collection Procedure

Data was collected among 1st year B. Sc nursing students for a period of two weeks. Purpose of the study was explained to the 1st year B. sc nursing students of the college. A convenient time and date was fixed for data

collection and planned teaching program. The students were gathered in one classroom and the teaching program was administered after the needed explanation, the time limit was one hour. The post-test was administered to the same group with same structured questionnaires with a gap of one week.

#### 4. Analysis

The data was analyzed in terms of the objectives of the study using descriptive and inferential statistics. The plan of data analysis were follows

- 1) Organize the data in a master data sheet.
- 2) Frequency and percentage distribution were used to analyze the demographic data for 1st year B. Sc nursing students.
- 3) Frequency and percentage distribution were used to assess the level of knowledge and attitude of organ donation among 1st year BSc nursing students.
- 4) Mean, mean percentage, standard deviation and inferential measures 't' were used to assess and compare the pre-test and post-test knowledge and attitude.

#### 5. Result

The present study reveals that in pre-test knowledge 0 (0%), 29 (48.3%) had moderately adequate knowledge. And the pre-test attitude for all 35 (58.3%) had negative attitude and 25 (41.7%) had neutral attitude. The pre-test knowledge (Mean =10.6, SD =2.90). The pre-test attitude (Mean=10.2, SD=6.56).

In post-test knowledge revealed 51 (85%) had adequate knowledge and 9 (15%) had moderately knowledge, the post-test attitude revealed 60 (100%) had positive attitude and 0 (0%) had neutral attitude. The post-test knowledge (Mean =26.5, SD=4.56). The post-test attitude (Mean=23.1, SD=4.02). The obtained knowledge pre-test mean score was 10.6 with a standard deviation of 2.90; post-test mean score was 26.5 with a standard deviation of 4.56 and the mean difference of pre and post-test was 15.9 and obtained attitude pre-test mean score was 10.2 with standard deviation of 6.56; post-test mean score was 23.1 with a standard deviation of 4.02 and the mean difference of pre and post-test was 12.9. It is inferred that there was significant difference between pre-test, post-test level of knowledge and attitude of organ donation among 1st year B. Sc nursing students.

The obtained post-test knowledge mean score was 26.5 with a standard deviation of 2.90 and obtained attitude mean score was 23.1 with standard deviation of 4.02. The 'r' value was 0.58 which was positive, was significant at 0.05 significant levels. It is inferred that there is a significant relationship between post-test knowledge and attitude on organ donation among 1st year B. Sc nursing students.

Regarding the association between selected demographic variables with post-test level of knowledge and attitude among 1st year B. Sc Nursing students, the result revealed that there was no significant association between level of knowledge and attitude with all selected demographic variables (Knowledge; regarding age, the  $\chi^2$  was 10.206 ( $p < 0.05$ ), regarding sex, the  $\chi^2$  was 7.35 ( $p < 0.05$ ) regarding

college, the  $\chi^2$  was 0 ( $p < 0.05$ ), regarding religion, the  $\chi^2$  was 480.4 ( $p < 0.05$ ), regarding prior information, the  $\chi^2$  was 0 ( $p < 0.05$ ), regarding place of residence, the  $\chi^2$  was 1.255 ( $p < 0.05$ ) [Attitude; Regarding age, the  $\chi^2$  was 0 ( $p < 0.05$ ), regarding sex, the  $\chi^2$  was 0 ( $p < 0.05$ ), regarding college, the  $\chi^2$  was 0 ( $p < 0.05$ ) regarding religion the  $\chi^2$  was 0 ( $p < 0.05$ ), regarding prior information the  $\chi^2$  was 0 ( $p < 0.05$ ), regarding place of residence the  $\chi^2$  was 0 ( $p < 0.05$ ).

### 6. Conclusion

The main conclusion of this present study is that education plays fundamental role in bringing changes in knowledge and attitude of the organ donation. The investigator hopes that the structured teaching program could increase their knowledge and attitude among nursing students.

### 7. Future Scope

- This study can be done on larger population and multiple centres can be included as this is single centre study.
- Randomization can be done.
- Generalization can be there other than B. Sc. (N) students.

This study is limited to 1st year B. Sc nursing students of Bee Enn College of Nursing, Jammu who has recently passed their higher secondary examination and got admitted for B. Sc Nursing 1<sup>st</sup> year with minimum of 50% marks.

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**Table 1:** Distribution of 1st Year B. Sc Nursing Students based on their Demographic Variables (n=60)

Sr. No.	Demographic variables	Number	Percentage
1	Age		
	1) 18-20 years	56	93.3
	2) 21-23 years	2	3.33
	3) 24-26 years	2	3.33

2	Sex		
	1) Male	5	8.33
	2) Female	55	91.6
	College		
3	1) Government	0	0
	2) Private	60	100
4	Religion		
	1) Hindu	46	76.6
	2) Muslim	8	13.3
	3) Sikh	2	3.33
	4) Christian	1	1.6
	5) Buddhism	3	5
	Prior information		
5	1) Yes	20	33.3
	2) No	40	66.6
6	Place of residence		
	1) Rural	33	55
	2) Urban	27	45

**Table 2 (a):** Pre and Post-Test Level Of Knowledge On Organ Donation Among 1st Year B. Sc Nursing Students (n=60)

Group	Mean	SD	MD	't' test value
Pre test	10.6	2.9	6.6	*4.714
Post test	26.5	4.56		

\*Significant at 0.05 level

**Table 2 (b):** Pre and Post-Test Level of Attitude on Organ Donation among 1st Year B. Sc Nursing Students (n=60)

Group	Mean	SD	MD	't' test value
Pre test	10.2	6.56	12.9	*25.23
Post test	23.1	4.02		

\*Significant at 0.05 level

**Table 3** Relationships between Post-Test Level of Knowledge and Level of Attitude on Organ Donation among 1<sup>st</sup> Year B. Sc Nursing Students (n=60)

Group	Mean	SD	'r' test value
Knowledge	26.5	4.56	*0.58
Attitude	23.1	3.01	

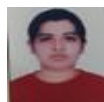
\*Significant at 0.05 level

**Table 4 (a):** Association of Knowledge with Selected Demographic Variables on Organ Donation among 1<sup>st</sup> Year B. Sc Nursing Students

Level of knowledge					
S. No.	Demographic variable	Adequate	Moderately adequate	In-adequate	Chi square
1	<b>Age</b>				*10.206
	1) 18-20 years	53	1	0	
	2) 21-23 years	1	1	0	
	3) 24-26 years	1	1	0	
	<b>Sex</b>				*7.35
2	1) Male	3	2	0	
	2) Female	52	3	0	
3	<b>College</b>				*0
	1) Government	0	0	0	
4	2) Private	55	5	0	
	<b>Religion</b>				*480.44
	1) Hindu	45	1	0	
	2) Muslim	7	1	0	
	3) Sikh	2	0	0	
4) Christian	0	1	0		
5	5) Buddhism	2	1	0	
	<b>Prior information</b>				*0
	1) Yes	20	0	0	

	2) No	40	0	0	
6	<b>Place of residence</b>				
	1) Rural	30	3	0	*1.255
	2) Urban	25	2	0	

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**Table 4 (b):** Association of Attitude with Selected Demographic Variables on Organ Donation among 1<sup>st</sup> Year B. Sc Nursing Students

Level of Attitude					
Sr. No.	Demographic variable	Positive	Neutral	Negative	Chi square
1	<b>Age</b>				
	1) 18-20 years	56	0	0	
	2) 21-23 years	2	0	0	*0
	3) 24-26 years	2	0	0	
2	<b>Sex</b>				
	1) Male	5	0	0	*0
	2) Female	55	0	0	
3	<b>College</b>				
	1) Government	0	0	0	*0
	2) Private	60	0	0	
4	<b>Religion</b>				
	1) Hindu	46	0	0	
	2) Muslim	8	0	0	
	3) Sikh	2	0	0	*0
	4) Christian	1	0	0	
	5) Buddhism	3	0	0	
5	<b>Prior information</b>				
	1) Yes	20	0	0	*0
	2) No	40	0	0	
6	<b>Place of residence</b>				
	1) Rural	33	0	0	*0
	2) Urban	27	0	0	

\* Not significant

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