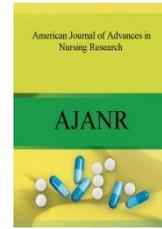




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### A STUDY ON ASSESS THE LEVEL OF AWARENESS OF PEOPLE ON HEART AND LUNG TRANSPLANTATION IN SELECTED URBAN AREAS OF MANGALORE

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#### ABSTRACT

Heart-lung transplantation is the simultaneous surgical replacement of the heart and lungs in patients with end-stage cardiac and pulmonary disease. This procedure remains a viable therapeutic alternative for patients in specific disease states. In 2004, there were only 39 heart–lung transplants performed in the entire United States and only 75 worldwide. Objectives of the study was to determine the awareness level of people about heart and lung transplantation and to determine the factors affecting awareness level of heart and lung transplantation. Cross sectional research design was used to assess the awareness of people on heart and lung transplantation. The study was conducted in areas of A.J Urban Health Centre, Mangalore. The awareness of people on heart and lung transplantation was assessed by using structured knowledge questionnaire. Descriptive and inferential statistics were used to analyze the data. The data revealed that majority (57.3%) of the people had poor level of awareness and rest had average (36%) and good (6.67%) level of awareness and the mean percentage (46.66%) of level of awareness scores was highest in the area of meaning and least percentage (27.57%) in the area of treatment. The findings also showed that there was no significant association between the level of awareness of people on heart and lung transplantation with selected factor that is gender, age, education status, marital status, type of family, occupation, monthly income, religion, attitude towards the possibility of your own organs being used for donation and source of information at 0.05 level of significance.

#### INTRODUCTION

The heart–lung transplant is a procedure carried out to replace both heart and lungs in a single operation. Due to a shortage of suitable donors, it is a rare procedure; only about a hundred such transplants are performed each year in the USA. Most candidates for heart–lung transplants have life-threatening damage to both their

heart and lungs. In the US, most prospective candidates have between twelve and twenty-four months to live. At any one time, there are about 250 people registered for heart–lung transplantation at the United Network for Organ Sharing (UNOS) in the USA, of which around forty will die before a suitable donor is found [1].

Dr. Denton Cooley and associates were the first attempt done for heart-lung transplantation in 1968. Heart transplantation, is a surgical transplant procedure performed on patients with end-stage heart failure or severe coronary artery disease. Norman Shumway is the

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Research Article



father of heart transplantation although the world's first adult human heart transplant was performed by a South African cardiac surgeon, Christiaan Barnard utilizing the techniques developed and perfected by Norman Shumway and Richard Lower. Richard Lower Hardy performed the first human lung transplantation in 1963. The donation was essentially after cardiac death [2].

Heart-lung transplantation medically necessary for persons with severe refractory heart failure and end-stage lung disease or irreversible pulmonary hypertension [3]. The success rate of heart-lung transplants has improved a lot in recent years. More than 2500 heart-lung transplantations were reported to the International Society of Heart and Lung Transplantation between January 1982 and June 2007; between 2003 and 2008, approximately 50-100 such transplantations were reported annually. Incidence is approximately equal in males and females. The 1-year survival rate after a heart-lung transplant is 65%; the 5-year survival rate is 40% [4]. The British National Health Service states that the survival rate is now around 85%, one year after the transplant was performed. In 2004, there were only 39 heart-lung transplants performed in the entire United States and only 75 worldwide [5].

Organ transplantation is a major life saving procedure that requires a good knowledge of the processes and excellent cooperation throughout the entire hospital. Currently, on average 18 people die every day while awaiting for heart and lung transplant and every 10 minutes another person is added to the waiting list. There is a wide gap in terms of heart and lung donation on the basis of education and socioeconomic status among the population. People who can donate seem to be reluctant to donate their heart and lung to those in need (recipient) due to the lack of knowledge and fear of organ being misused. Further people who can donate heart and lung assume that organ donation generally comes from addicts and poor people. Adequate knowledge may change the attitude of people towards organ donation. Multi-sectoral approach (e.g. electronic and print media, religious scholars, doctors and teachers) should be used to promote awareness of heart and lung donation [6].

### Objective of the study

1. To determine the awareness level of people about heart and lung transplantation.
2. To determine the factors affecting awareness level of heart and lung transplantation.

### Assumptions

People have some awareness and its importance on heart and lung transplantation because cardio-thoracic problems are one of the leading cause of death in the world wide.

## MATERIALS AND METHODS

In the present study 'cross sectional research design' was used and using simple random sampling 75 people from selected urban areas were selected to assess the awareness of people on heart and lung transplantation. The population consists of people living in urban areas of A.J Urban Health Centre between the age group of 25-60 years. The accessible populations are those available at the time of conducting study. Ethical clearance obtained from A.J. Ethical committee. Prior to data collection permission was obtained from the concerned authorities for conducting the study. Written consent was obtained from the subject. Subject was selected according to the criteria. Based on the objectives, baseline proforma and, a structured knowledge questionnaire was used to assess the awareness of the people on heart and lung transplantation. The statistical package of SPSS version was used for statistical analyses. The data obtained was planned to be analysed by both descriptive and inferential statistics on the basis of the objectives of the study.

## RESULTS

### Section A: Description of Demographic Characteristics of sample.

The data presented in the Table 1 shows that the highest percentage (33.3%) of people were in the age group of 35-44 years and the least percentage (18.7%) belonged to age group of 55-60 years. Majority of (61.3%) of the sample were females. Highest percentage (44%) of the sample had degree and least percentage (5.3%) had primary education. Majority of (58.7%) people were married and (57.3%) belonged to nuclear family. Highest percentages of the people (38.7%) were Christians and 41% people had no information about heart and lung transplantation. The highest percentage (30.7%) of people thought about the possibility of their own organs being used for donation.

### Section B –Description of the awareness level of people on heart and lung transplantation.

Data presented in Table 2 show that majority (57.3%) of the people have poor level of awareness, (36%) of the people have average level of awareness and only (6.67%) of the people have good awareness.

The data presented in the Table 3 shows the range of level of awareness score, mean, median, SD and mean percentage of the scores that is, 6-19, 10.67, 8, 3.316, and 41.03% respectively, i.e., the level of awareness is poor among the people on heart and lung transplantation.

### Area-Wise Analysis of the level of awareness Score

Data in Table 4 show that the mean percentage (46.66%) of level of awareness scores was highest in the area of meaning and least percentage (27.57%) in the area of treatment.



### Section C: Description of the factors affecting the level of awareness of people on heart and lung transplantation

The findings in table 5 shows that the computed ANOVA and 't' value between the level of awareness of people on heart and lung transplantation and selected factors is more than 0.05, so the null hypotheses is accepted. By using ANOVA found that there is no significant association between level of awareness of

people on heart and lung transplantation with selected factors, i.e. age, education status, marital status, type of family, occupation, monthly income, religion, attitude towards the possibility of own organs being used for donation and source of information and by using unpaired 't' test also found that there is no significant association with gender. Hence the null hypotheses are accepted for these selected factors and research hypotheses are rejected at 0.05 level of significance.

**Table 1. Frequency and Percentage Distribution of Sample According to Demographic Variables**

N=75			
Sl.No	Demographic variable	Frequency(f)	Percentage (%)
<b>1.</b>	<b>Age (in years)</b>		
	a. 25 – 34	18	24.0
	b. 35 – 44	25	33.3
	c. 45 – 54	18	24.0
	d. 55 – 60	14	18.7
<b>2.</b>	<b>Gender</b>		
	a. Male	29	38.7
	b. Female	46	61.3
<b>3.</b>	<b>Educational status</b>		
	a. Primary education	4	5.3
	b. High school education	12	16.0
	c. Pre- university education	26	34.7
	d. Degree and above	33	44.0
<b>4.</b>	<b>Marital status</b>		
	a. Married	44	58.7
	b. Unmarried	12	16.0
	c. Widowed	16	21.3
	d. Divorced /separated	3	4.0
<b>5.</b>	<b>Type of family</b>		
	a. Nuclear	43	57.3
	b. Joint	22	29.3
	C. Extended	10	13.4
<b>6.</b>	<b>Occupation</b>		
	a. Agriculture	10	13.3
	b. Business	12	16.0
	c. Professional	20	26.7
	d. Others	33	44.0
<b>7.</b>	<b>Monthly income</b>		
	a. <5000	8	10.7
	b. 5001 - 10,000	39	52.0
	c. 10001 – 15000	25	33.3
	d. >15000	3	4.0
<b>8.</b>	<b>Religion</b>		
	a. Hindu	24	32.0
	b. Muslim	9	12.0
	c. Christian	29	38.7
	d. Others	13	17.3
<b>9.</b>	<b>Attitude towards the possibility of your own organs being used for donation</b>		
	a. Never	22	29.3
	b. Will think	23	30.7



	c. Donate under special circumstances	18	24.0
	d. Definitely want to donate	12	16.0
<b>10.</b>	<b>Source of information</b>		
	a. Family and friends	7	9.3
	b. Mass media	26	34.7
	c. Health professional	11	14.7
	d. No information	31	41.3

**Table 2. Frequency and percentage distribution of people according to their scores** N=75

Knowledge level	Range	Frequency(f)	Percentage (%)
Poor	0 – 8	43	57.3
Average	9 – 17	27	36
Good	18 -26	5	6.67

**Table 3. Range, Maximum score, Mean, Median, Standard deviation and Mean Percentage of the awareness level of people on heart and lung transplantation.** N=75

Range	Max score	Mean	Median	S.D.	Mean %	Level of awareness
6 – 19	26	10.67	8	3.316	41.03%	Poor

**Table 4. Area-wise Range of Score, Mean, Standard Deviation and Mean Percentage of the awareness Scores of the people on heart and lung transplantation.** N=75

Areas	Max score	Range	Mean	SD	Mean%
Meaning	3	0 – 3	1.4	0.632	46.66
Causes	2	0 – 2	0.813	0.604	40.65
Awareness	18	4 – 14	7.027	2.444	39.03
Treatment	3	0 – 3	0.827	0.838	27.56

Maximum score-26

**Table 5. Factors affecting the level of awareness of people on heart and lung transplantation with selected factors by using ANOVA and Unpaired 't' test.** N=75

Variables		N	Mean	S.D	t / F	P
Age(in years)	25 – 34	18	10.111	3.530	0.752	0.525
	35 – 44	25	10.240	3.539		
	45 – 54	18	10.667	3.757		
	55 – 60	14	8.929	1.900		
Gender	Male	29	9.931	3.217	0.278	0.782
	Female	46	10.152	3.445		
Education status	Primary education	4	10.750	3.862	0.114	0.951
	High school education	12	10.167	2.823		
	Pre-university education	26	9.808	2.885		
	Degree and above	33	10.152	3.874		
Marital status	Married	44	9.705	3.275	1.843	0.147
	Unmarried	12	9.250	2.598		
	Widowed	16	11.750	3.768		
	Divorced/separated	3	9.667	2.887		
Type of family	Nuclear	43	9.767	3.511	0.487	0.617
	Joint	22	10.636	2.985		
	Extended	10	10.100	3.479		
Occupation	Agriculture	10	11.100	3.725	1.155	0.333
	Business	12	9.333	2.708		
	Professional	20	10.850	4.043		
	Others	33	9.545	2.906		
Monthly income	< 5000	8	10.625	3701	0.629	0.598



	5001 – 10,000	39	10.231	3.158		
	10001 -15,000	25	9.920	3.696		
	>15,000	3	7.667	0.577		
Religion	Hindu	24	10.458	3.811	0.482	0.696
	Muslim	9	9.111	3.723		
	Christian	29	9.828	2.804		
	Others	13	10.538	3.455		
Attitude towards the possibility of your own organs being used for donation	Never	22	10.273	3.693	0.664	0.577
	Will think	23	10.696	3.649		
	Donate under special circumstances	18	9.333	2.351		
	Definitely want to donate	12	9.583	3.423		
Source of information	Family and friends	7	9.857	3.934	1.202	0.315
	Mass media	26	10.731	3.694		
	Health professional	11	10.909	3.448		
	No information	31	9.258	2.781		

## DISCUSSION

### Section A- Description of Demographic Characteristics of sample

The highest percentage (33.3%) of people was in the age group of 35-44 years and the least percentage (18.7%) belonged to age group of 55-60 years. Majority (61.3%) of the samples were female and 44% had degree. Majority (58.7%) of the people were married and 57.3% belonged to nuclear family. Highest percentage of the people (38.7%) was Christians and 41% had no information about heart and lung transplantation. Highest percentage of the people (30.7%) thinks about the possibility of their own organs being used for donation

These findings can be compared with a study that was conducted to assess the predictors of public attitude toward living organ donation, which also showed that majority of (58.5%) of the people were in the age group of 30-45 years and (39.2%) had tertiary education. The majority of (55.9%) of the people were married [7].

### Section B -Description of the awareness level of people on heart and lung transplantation.

Majority (57.3%) of the people had poor level of awareness. It suggests that the level of knowledge were not good and it can be attributed to low level of organ donation in our country of people on heart and lung transplantation.

These findings of the study were similar to a study that was conducted to assess the relatives' experiences of information and support while heart or lung

transplant candidates were waiting for transplantation which also showed that there was a gap between the

information and support that relatives need and receive, and that more attention should be paid to information and support for this group. By increasing awareness among healthcare professionals and the community, interventions can be developed that benefit relatives [8].

### Section C: Description of the factors affecting the level of awareness of people on heart and lung transplantation.

According to the current study findings, there was no significant association between the level of awareness of people on heart and lung transplantation with selected factor that is gender, age, education status, marital status, type of family, occupation, monthly income, religion, attitude towards the possibility of your own organs being used for donation and source of information at 0.05 level of significance.

These findings of the study were similar to a study that was conducted to assess the predictors of public attitude toward living organ donation also showed that there was no significant association between the attitude of public regarding organ donation with selected demographic variables such as gender, age, religion and marital status at 0.05 level of significance [7].

## CONCLUSION

The findings of the study showed that the people had poor level of awareness. It suggests that the level of knowledge were not good and it can be corrected with the less number of organ donation in our country of people on heart and lung transplantation.

## RECOMMENDATIONS

The study can be replicated in various settings.



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## CONFLICT OF INTEREST

The author declares that there is no conflict of interests regarding the publication of this paper.

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