Original Article

A Comparative Study to Assess the Knowledge and Attitude on Organ Donation among Adults Visiting Opd's of a Hospital and a Mall in Navi Mumbai

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Abstract

Background: Organ transplantation provides the only opportunity for patient with end-stage organ disease to have an enhanced quality of life and an extended survival. Multiple organ dysfunction syndrome is the failure of two or more organ systems in an acutely ill patient such that homeostasis cannot be maintained without intervention. There is currently a shortage of transplantable organs, mainly because the relatives of potential organ donors dying in the hospital are not routinely offered the choice of donating their loved one's organs.

Methodology: The research design for the study was descriptive research design and sample for the study was 400, which was selected using non-probability convenient sampling technique. The tool for the data collection was validated by the experts and the reliability was established using Cronbach's Alpha method. A pilot study was conducted to determine the feasibility of the study following which the main study was done. Likert scale was used to assess the attitude. Data analysis was done using descriptive statistics and inferential statistics.

Results: There is a significant association between the knowledge of adults from the mall with selected demographic variables such as income and religion as evidenced by the $P < 0.05$ level. It was also found that there was an association of the knowledge of adults from the hospital with selected demographic variables such as gender, heard about organ donation, and source of information with statistical evidence of $P < 0.05$ level. Apart from the knowledge the investigator also found that there was a significant association of the attitude of adults from the mall with selected demographic variables such as age, gender, religion, residence, and source of information evidenced by $P < 0.05$ level, and there was an association between the attitude of the adults from hospital with selected demographic variables such as gender, residence which was evidenced statistically by a $P < 0.05$ level.

Conclusion: Based on the results of the study, the investigator concluded that just under half of the samples who attended the hospital and the mall had average knowledge. On the other hand, the study also revealed that a large portion of the adults who attended the outpatient department's and the mall had a favorable attitude toward organ donation.

Keywords: Adults, attitude, knowledge, mall, organ donation, outpatient departments

Introduction

"Without the organ donor, there is no story, no hope and no transplant. But when there is an organ donor, life springs from death, sorrow turns into hope and a terrible loss becomes gift."[1] Organ donation is a gift an individual can give to help someone who suffers from damage and gross malfunction of their organ. Organ transplantation has greatly improved the look of patients suffering from end-stage organ failure.[2] Organ transplantation provides the only opportunity for patients with end-stage organ disease to have an enhanced quality of life and extended survival. The critical care nurse is an essential member of the team in the donation process; linking the hospital to the organ procurement organization, physicians,

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and families of potential donors.[3] In spite of the sophisticated technologies and therapies, the death rate has increased because of the shortage of transplantable organs.[4] Zonal Transplant Co-ordination Centre (ZTCC) is a non-profit, a government organization which was started to promote organ donation in Mumbai.[5] The trend of cadaver donations has always been uneven in the city. In 2012, there were 27 donations, while in 2013, there were 24; in 2014 Mumbai city saw 41 donations which benefited 107 people. In 2015, there were 44 donations that helped 114 people.[6] In 2016, till March, there have been 54 cadaver donations.[7]

According to ZTCC, on January 5, 2017, Mumbai witnessed its first cadaver donation of a 72-year-old brain dead patient. Last year (2016), the organ donation was the highest in 4 years with 58 cadaver donations: 91 kidneys, 58 liver, 34 hearts, and 1 lung were transplanted to several ill patients. The state even saw 132 organ donations out of which Nagpur and Aurangabad have together made 15 donations in 2016. Pune topped the list with 59 cadaver donation followed by Mumbai.[7]

Organ donation is legal by Indian law. The Indian government enacted the Transplantation of Human Organ Act (THOA), 1994, which allows organ donation and legalized the concept of "brain death." In India, a panel of 4 doctors have to declare one brain dead before the organs can be harvested – this is done after a series of exhaustive tests such as cornea reflex test, cold caloric test, gag reflex test, and apnea test – which are repeated twice in a time frame of 6 hours. The THOA also aims at regularization of removal, storage, and transplantation of human organs for therapeutic purpose and for prevention of commercial dealings in human organs. This act allows transplantation of human organs and tissues from living donors and cadavers.[8]

According to a new data published by the National Transplant Organization (NTO), Spain has been the world leader in organ donation for the last 25 years and in 2016, it broke its own record for the number of transplants carried out. A total of 4818 organ transplants were carried out in Spain during 2016, beating the record of 4769 from the year before. 2994 were kidneys, 1159 livers, 281 hearts, 307 lungs, 73 pancreas, and 4 intestines were retrieved during this year 2016.[9]

Lack of awareness and a negative attitude toward organ donation are the main reasons for the reduced number of donors in India. Hence, the study was put forward in an attempt to assess the knowledge and attitude of the adults regarding organ donation which could motivate and encourage them to donate their organs.

Objectives of the study

- To find the knowledge and attitude regarding organ donation among selected adults attending outpatient departments (OPD's) and visiting a mall.
- To compare the knowledge of selected adults attending OPD's and visiting a mall.
- To compare the attitude of selected adults attending OPD's and visiting a mall.
- To determine the association of knowledge of selected adults with selected demographic variables.
- To determine the association of knowledge attitude of selected adults with selected demographic variables.

Methodology

A comparative study to assess the knowledge and attitude regarding organ donation among selected adults attending OPD's of the selected hospital and visiting a mall in Navi Mumbai. It includes research design, study setting, population, variable, sample and sample size, sampling technique, development and description of tool, validity, and reliability, pilot study, data collection method, and statistical method to analyze the data.

Research approach

It involves the description of the plan to investigate the phenomenon under study in a structured (quantitative), unstructured (qualitative), or a combination of the two methods (quantitative-qualitative-integrated approach).[10]

In this study, a quantitative research approach was used**.**

Research design

Research designs are plans and the procedure for research that span the decisions from broad assumptions to detailed methods of data collections and analysis. In order to meet the aims and objectives of a study, the researcher must select the most appropriate design. The selection of a research design largely depends on the nature of the research problem, the resource available, and accessibility of subjects and research ethics.[10] The research design used in this study is descriptive research design - survey method.

Variables of the study

Variable, as the name implies, is something that varies. Variables are the central building blocks of quantitative studies.[10] The independent variables of the study are knowledge and attitude of the adults. The dependent variables of the study are age, gender, Education, Occupation, Income, Religion, Residence and Habits

The setting of the study

The research setting refers to the place where the data were collected.

The study was conducted in D.Y. Patil Hospital, Nerul, Navi Mumbai. The hospital is a 1230-bedded multispecialty hospital with various specialties and emergency services. In a day, 300–400 people visit the OPD.

The second study setting was Raguleela Mall in Vashi, Navi Mumbai around 500–600 people visit the mall every day.

Population

Population is the set of people or entities to which the result of a research is to be generalized.[10] In this study, Population was adults attending selected OPD's and those visiting a mall. In this study, it included the selected adults who attended the

OPD'S of D. Y. Patil Hospital, Nerul, Navi Mumbai and visited Raguleela Mall, Vashi, who met the designed set of criteria.

Accessible population

Accessible population is defined as designated criteria and is also accessible as subjects for a study.[10] In this study, accessible populations are the selected adults who attended the OPD's of D.Y. Patil Hospital, Nerul and who visited Raguleela Mall, Vashi.

Sample

Sample may be defined as a representative unit of a target population, which is to be worked upon by researchers during their study.[10] The samples for the study were 200 adults who attended the OPD's of the selected hospital and 200 adults who visited the mall.

Sample size

The sample size for the study was 400, of which 200 subjects were the adults who attended the OPD's of the selected hospital and 200 adults who visited the mall.

Sampling technique

Sampling is the process of selecting a representative segment of the population under study.[11] In this study, the researcher chose a non-probability convenience sampling method. This was for easy accessibility and proximity of the researcher.

Inclusion criteria

Adults who are:

- Willing to participate in the study.
- Present at the time of data collection.
- Able to comprehend Hindi or English.
- Aged between 18 years and 80 years.

Exclusion criteria

Adults who are:

- Admitted in the hospital
- Working in the mall.

Development of the tool

Based on the objectives of the study and demographic variables, structured multiple choice questionnaires was prepared to evaluate the knowledge and attitude of adults regarding organ donation. After extensive and systemic review of the literature, the investigator developed a modified attitude scale which contained positive statements on organ donation. A 5-point Likert scale was used to assess the attitude.

The sources of tool construction were review of literature from textbooks, journals and online source reports, other publications, thesis, and discussion with the experts, i.e., experts from medical-surgical nursing specialty, surgeon, plastic surgeon, associate professor, and statisticians, who enlightened and refined the investigator in preparing the tool.

Description of the tool

Section I: Demographic variables

It included 10 variables to assess the demographic variables such as age, sex, education, occupation, income, religion, and residence, Habits, heard about organ donation. Do you know anyone who donated an organ or anyone who has an organ donor card?

Section II: Semi-structured multiple choice questionnaire

This section had 20 semi-structured multiple choice questionnaire to assess the knowledge related to organ donation. Participants were requested to put a tick over the correct answer. Each correct answer was awarded 1 mark. Therefore, the total score given was 20. Each question had 5 choices, out of which only one option was the correct. One answer is don't know and the remaining 3 were wrong.

Grading of knowledge score

In this questionnaire, each correct answer was awarded 1 mark making a total of 20.

Section III: Attitude questions

This section comprised of 20 positive attitude questions about organ donation. A 5-point Likert scale was used to assess the attitude.

Validation of tool

According to Polit and Hungler, "validity refers to the degree to which an instrument measures what it is supposed to measure."[10] To obtain the content validity of the tool, the prepared tool was submitted to 15 experts in the field. Experts were chosen on the basis of their teaching and clinical experience and interest in the problem area.

The experts included were:

- MSc Nurses in medical-surgical specialty - 10
- PhD in Nursing - 1
- Plastic Surgeon - 1
- Surgeon - 1
- Medicine Professor - 1
- Statistician - 1.

Necessary corrections were made after reviewing the suggestions given by the experts.

Reliability of the tool

The reliability of an instrument is the degree of consistency with which it measures the attribute it is supposed to be measuring.

Reliability of the semi-structured multiple choice questionnaires was done on 10 patients using Cronbach's alpha method. The reliability coefficient of correlation for structured knowledge and attitude questionnaire was r = 0.886. The higher the correlation coefficient, the more reliable is the instrument. The tool prepared was found to be a reliable one.

Pilot study

A pilot study, pilot project, or pilot experiment is a small scale preliminary study conducted in order to evaluate feasibility, time, cost, adverse events, and improve upon the study design prior to performance of a full-scale research project.

The investigator conducted the pilot study from 12th November 2016 to 20th November 2016 at D.Y. Patil Hospital, Nerul, Navi

Mumbai, and Raguleela Mall Vashi, Navi Mumbai. Permission from the concerned authorities of the hospital as well as mall was obtained before conducting the study. The purpose and the usefulness of the study were explained to the concerned authorities before taking permission. The investigator carried out the pilot study with 10% of the total sample. A non -probable convenient sampling technique was used for the selection of the sample. The pilot study was conducted on 20 selected adults attending OPD's and 20 adults visiting Raguleela mall. The investigator did not face any difficulty in conducting the pilot study, and hence no changes were made.

Procedure for data collection

The main study data was gathered from 18th November 2016 to 2nd December 2016. Permission from the D.Y. Patil Hospital and Raguleela Mall authority was taken before conducting the study. The investigator introduced herself and explained the purpose of the study and consent was obtained. The semi-structured multiple-choice questionnaires were distributed to the samples and collected back after it was filled. The semi-structured multiple-choice questionnaires were completed in the presence of the investigator to avoid contamination and bias in the collection of data. Everyday approximately 10–25 samples were taken.

Plan for data analysis

It was planned to analyze the data using descriptive and inferential statistics.

Descriptive statistics were used to find out:

Frequency and percentage distribution of demographic variables of selected adults, Mean, mode and standard deviation for assessing the level of knowledge and attitude of adults on organ donation. Chi-square value was used to find out the association of knowledge and attitude with selected demographic variables of adults.

Ethical consideration

The following ethical factors were covered while conducting the study.

- The Ethical clearance was obtained from the ethical clearance committee of D.Y. Patil College of Nursing, Nerul.
- Formal permission was obtained from the Medical officer of D.Y. Patil Hospital, Nerul, Navi Mumbai and the manager of the Raguleela Mall.

Results

Analysis is the most important phase of the research process, which involve the computation of the certain measures along with searching for patterns of the relationship that exists among the data group. Analysis and interpretation of data include compilation, editing, coding, classification, and presentation of the data.[10] Sample of 400 adults from hospital and malls in Navi Mumbai. The gathered data were organized tabulated, analyzed with SPSS version, and interpreted using descriptive and inferential statistics on the basis of the following objectives of the study.

Analysis of the study is organized in the following sections

- Section 1: Description of adults based on the demographic variables of adults attending OPD's and visiting a mall.
- Section 2: Evaluation of knowledge and attitude of adults attending OPD's and visiting a mall.
- Section 3: Comparison of knowledge and attitude of selected adults attending OPD's and visiting a mall.
- Section 4: Association of the knowledge and attitude with selected demographic variables.

From the Tables 1-4, it is interpreted with regard to age of the adults in hospital, 113 (56.5%) were in the age group of 18–32 years, 48 (24%) were in the age group of 33–47 years, 31 (15.5%) were between 48 and 62 years, and 8 (4%) were in between 63 and 78 years. Whereas in mall, 76 (38%) were in the age group of 18–32 years, 51 (25.5%) were in 33–47 years, 63 (31.5%) were in 48–62 years, and 10 (5%) were in 63–78 years. With regard to gender in hospital, 123 (61.5%) were male and 77 (38.5%) were female whereas in mall, 95 (47.5%) were male and 105 (52.5%) were female.

With relation to qualification in hospital 15 (7.5%) were professionals, 87 (43.5%) of them were graduates, 33 (16.5%) were intermediates, 34 (17%) were high schooled, 15 (7.5%) were middle schooled, 14 (7%) were primary schooled, and 2 (1%) were illiterate, whereas in mall, 31 (15.5%) were professionals, 100 (50%) were graduates, 32 (16%) intermediates, 24 (12%) were high schooled, 8 (4%) were middles schooled, 5 (2.5) were primary schooled, and 0 were illiterate.

Table 5 shows that in hospital, 65 (32.5%) were professionals, 16 (8%) were semi-professionals, 10 (5%) were clerical/shop owners, 31 (15.5%) were skilled workers, 10 (5%) were semi-skilled workers, 8 (4%) were unskilled workers, and 60 (30%) were unemployed. On the other hand, in mall, 89 (44.5%)

Table 1: The knowledge score was interpreted as follows

Knowledge level	Score
Poor knowledge	0–8
Average knowledge	9–13
Good knowledge	14–21

Table 2: Grading of attitude score: The attitude was graded as follows

Attitude grade	Score
Strongly agree	5
Agree	4
Don't know	3
Disagree	2
Strongly disagree	1

Table 3: The attitude score was interpreted as follows

Attitude level	Score
Favorable	Above 75%
Neutral	50–75%
Unfavorable	<50%

Table 4: Frequency and percentage distribution of selected demographic variables of adults attending OPD's and mall such as age, gender, and qualification

Demographic variables	Hospital *n*=200	Mall *n*=200
	Frequency (%)	Frequency (%)
Age		
18–32	113 (56.5)	76 (38)
33–47	48 (24)	51 (25.5)
48–62	31 (15.5)	63 (31.5)
63–78	8 (4)	10 (5)
Gender		
Male	123 (61.5)	95 (47.5)
Female	7738.5)	105 (52.5)
Qualification		
Profession	15 (7.5)	31 (15.5)
Graduate	87 (43.5)	100 (50)
Intermediate	33 (16.5)	32 (16)
High school	34 (17)	24 (12)
Middle school	15 (7.5)	8 (4)
Primary school	14 (7)	5 (2.5)
Illiterate	2 (1)	0 (0)

OPD's: Outpatient departments

Table 5: Frequency and percentage distribution of selected demographic variables of adults attending OPD's and mall

Demographic variables	Hospital *n*=200	Mall *n*=200
	Frequency (%)	Frequency (%)
Occcupation		
Profession	65 (32.5)	89 (44.5)
Semi-profession	16 (8)	18 (9)
Clerical/shop owner	10 (5)	10 (5)
Skilled worker	31 (15.5)	11 (5.5)
Semi-skilled worker	10 (5)	7 (3.5)
Unskilled worker	8 (4)	4 (2)
Unemployed	60 (30)	61 (30.5)
Income (per month)		
≥38600	51 (25.5)	76 (38.00)
19291–38599	24 (12)	30 (15.00)
14463–19290	19 (9.5)	16 (8.00)
9634–14462	17 (8.5)	3 (1.50)
5773–9633	14 (7)	9 (4.50)
1933–5772	9 (4.5)	5 (2.50)
<1932	66 (33)	61 (30.50)

OPD's: Outpatient departments

were professionals, 18 (9%) were semi-professionals, None of the participants were both alcoholics and smokers, 10 (5%) clerical/shop owner, 11 (5.5%) were skilled workers, 7 (3.5%) were semi-skilled workers, 4 (2%) were unskilled workers, and 61 (30.5%) were unemployed.

With regard to income (per month) in the hospital, 51 (25.5%) had income of Rs. 38600, 24 (12%) had income of Rs. 19291-38599, 19 (9.5%) had income of Rs. 14463-19290, 17 (8.5%) had income of Rs. 9634–14462, 14 (7%) had income of Rs. 5773–9633, 9 (4.5%) had income of Rs. 1933–5772, 66 (33%) of them had <Rs. 1932. However in mall, 76 (38%) of them had [3]Rs. 38600, 30 (15%) of them had Rs. 19291–38599, 16 (8%) of them had income of Rs. 14463–19290, 3 (1.50%) of them had Rs. 9634–14462, 9 (4.50%) of them had income of Rs. 5773–9633, 5 (2.50%) of them had income of Rs. 1933–5772, and 61 (30.50%) of them had income of Rs. <1932.

Figure 1 illustrates the religions of selected 200 adults from mall and 200 adults from hospital. It was seen that in the hospital majority of the samples were Hindu's 107 (53.5%), 75 (37.5%) were Muslims, 11 (5.5%) were Christians, and 7 (3.5%) were others. Whereas in the mall, 83 (41.50%) were Hindu, 104 (52%) were Christians, 9 (4.50%) were Muslims, and 9 (4.50 %) were others.

Figure 2 shows the place of residence of 200 adults from hospital and 200 adults from the mall. In hospital, 51 (25.5%) of them were from the rural area and 149 (74.5%) were from the urban area. Whereas in mall, 20 (10%) were from rural area and 180 (90%) of them were from urban area.

The Table 6 shows, in relation to habits of adults from the hospital of which 22 (11%) were alcoholic, no one was with the habit of alcoholics and smokers, (0.5%) had all three habits like drinking alcohol, smoking and tobacco chewing, 7 (3.5%) were having habits of smoking; 13 (6.5%) were tobacco chewers; and 157 (78.5%) had none of the above-mentioned habits. Whereas in mall, 5 (3%) were alcoholic; 1 (0.50%) were alcoholic and smokers; 2 (1%) were alcoholic, smokers, and tobacco chewers; 10 (5%) were smokers; and 7 (3.50%) did not have any of the above-mentioned habits.

Figure 3 shows with regard to awareness about organ donation of 200 adults from hospital and 200 adults from the mall. In hospital, 196 (98%) were aware of organ donation, but 4 (2%) of them did not have any awareness whereas in mall, 195 (97.5%) had awareness about organ donation and only 5 (2.5%) did not have any awareness on organ donation.

Figure 4 shows with regard to the possession of organ donation cards among 200 adults from hospital and 200 adults from the mall. In hospital, 196 (98%) possessed an organ donation card, but 4 (2%) of them did not have whereas in the mall, 195 (97.5) had organ donation card and 5 (2.5%) of them did not have an organ donation card.

Section 2: Assessment of knowledge and attitude of adults attending OPD's and visiting a mall

Table 7 shows from hospital 10 (5%) of adults had excellent knowledge, 61 (30.5%) had average knowledge, and 129(64.5%) had poor knowledge. In mall, only 8 (4%) had excellent knowledge, 104 (52.0%) had average knowledge, and 88 (44.0%) had poor knowledge.

Table 8 shows from hospital 173 (86.5%) of adults had a favorable attitude toward organ donation, 26 (13.5%) had neutral attitude and only an insignificant minority 1(0.5%) had an unfavorable attitude toward organ donation.

In mall, 170 (85%) of the adults surveyed in the mall displayed a favourable attitude towards organ donation, 28 (14%) had neutral attitude and only 2 (1%) had an unfavorable attitude.

Section 3: Comparison of knowledge and attitude of selected adults attending OPD's and visiting a mall

Table 9 shows the comparison of knowledge and attitude of selected adults attending OPD's and visiting a mall. In the Hospital,

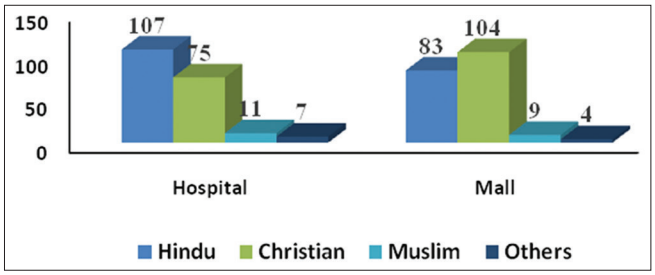

Figure 1: Distribution of sample according to religion

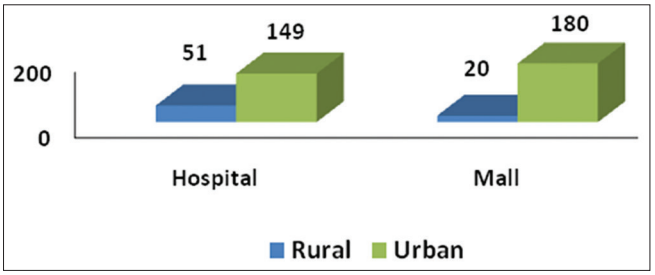

Figure 2: Distribution of sample according to the place of residence

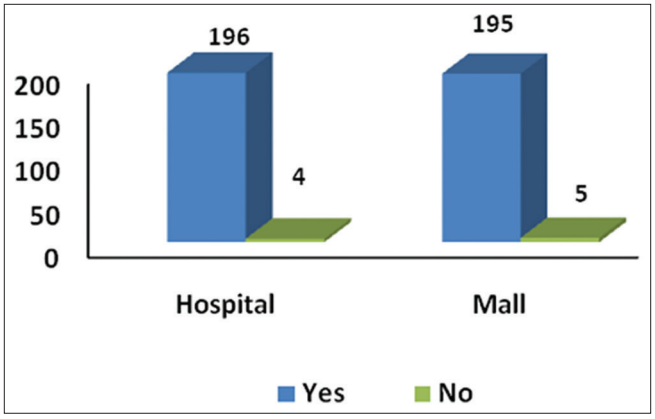

Figure 3: Distribution of sample according to aware about organ donation

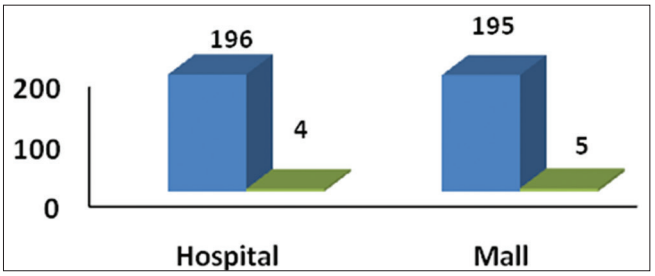

Figure 4: Distribution of sample according to possession of organ donation card

129 (64.5%) had poor knowledge, 61 (30.5%) had average knowledge, and only 10 (5%) had excellent knowledge. In the mall, 88 (44.0%) had poor knowledge, 104 (52.0%) had average knowledge, and 8 (4.0%) had excellent knowledge [Figure 5].

Table 10 shows the comparison of knowledge and attitude of selected adults attending OPD's and visiting a mall. In the hospital, 170 (85%) had a favorable attitude, 28 (14%) had a neutral attitude, and only 2 (1%) had unfavorable attitude. In the mall, 173 (86.5%) had favorable attitude, 26 (13.5%) had a neutral attitude, and 1 (0.5%) had an unfavorable attitude [Figure 6].

Table 6: Frequency and percentage distribution of selected demographic variables of adults attending OPD's and mall such as habits and source of information

Demographic variables	Hospital $n=200$	Mall $n=200$
	Frequency (%)	Frequency (%)
Habits		
Alcohol	22 (11)	5 (3)
Alcohol and smoking	0 (0)	1 (0.50)
Alcohol, smoking, and tobacco chewing	1 (0.5)	2 (1.00)
Smoking	7 (3.5)	10 (5.00)
Tobacco chewing	13 (6.5)	7 (3.50)
None	157 (78.5)	175 (87.50)
Source of information		
Health worker	38 (19)	10 (5)
Social media	46 (23)	51 (25.5)
TV	53 (26.5)	50 (25)
Radio	16 (8)	29 (14.5)
Newspaper	24 (12)	35 (17.5)
Friends	16 (8)	20 (10)
Others	7 (3.5)	5 (2.5)

OPDs: Outpatient departments

Table 7: Knowledge of adults attending the OPD's in the hospital and those who visited the mall

Knowledge	Hospital $n=200$	Mall $n=200$
	Frequency (%)	Frequency (%)
Poor	129 (64.5)	88 (44.0)
Average	61 (30.5)	104 (52.0)
Excellent	10 (5.0)	8 (4.0)

OPDs: Outpatient departments

Table 8: Attitude regarding organ donation among adults attending the OPD's in the Hospital and those who visited the mall

Attitude	Hospital $n=200$	Mall $n=200$
	Frequency (%)	Frequency (%)
Favorable	173 (86.5)	170 (85)
Neutral	26 (13.5)	28 (14)
Unfavorable	1 (0.5)	2 (1)

OPDs: Outpatient departments

Section 4: Association of the knowledge with selected demographic variables of hospital

From Table 11, it is evident that the association of knowledge of adult's from the mall is significant with the sociodemographic characteristics such as income and religion of the people.

From the Table 12, it is observed that the association of knowledge in adults from the hospital is significant with respective sociodemographic characteristics such as gender and source of information.

From Table 13, it is understood that the attitude of adults from mall is clearly significant with sociodemographic

characteristics such as age, gender, religion, place of residence, and source of information.

From the Table 14, it can be seen that the attitude of adults from hospital is clearly significant with sociodemographic characteristics such as gender, religion, place of residence, and source of information.

Discussion

The frequency and percentage distribution of adults from hospital and mall regarding organ donation are characterized by demographic variables such as age, gender, education, occupation, income, religion, residence, habits, heard about organ donation, source of information, any person whom you know who has donated an organ, and organ donation card. In the hospital, the majority of the age group belonged to 18–32 years with 56.5% whereas, in malls, the majority of the age group belonged to 18–32 years with a percentage of 76% respectively. Second, in relation to gender of the adults who attended the hospital, the highest percentage was that of males with 61.5%, however, the highest percentage of adults in the malls was that of females with 52.5%. On the other hand, with regard to the qualification of the adults who attended the malls (50%) as well as the OPD's (43.5%) was graduates. Similarly, it was also observed that the majority of adults were professionals who attended the OPD's and which was as high as 32.5%, whereas in the mall, it was 44.5%. Furthermore, with regard to income, it was seen that 33% of adults in the hospital had their income < 1932, whereas 38% of adults from the mall had income that is ≥ 38600.

The finding of this study was supported by a cross-sectional study conducted by K.K. Manojan, Vincy Nelson, Ramiz Raja, Nazeema Beevi, Reji Jose (2014) on knowledge and attitude toward organ donation in rural Kerala. It reveals that 97% of the participants had heard about organ donation. 53% had good knowledge, 48% had a poor attitude toward being a donor, and 50% thought that live donation could cause a severe health problem. Among the participants, they are willing to donate the organs such as eye, followed by kidney and liver.[11]

In the Hospital, 129 (64.5%) had poor knowledge, 61 (30.5%) had the average knowledge, and only 10 (5%) had excellent knowledge.

The findings of this study were supported by Nahida Khan, Zahid Masood, Nadia Tufail, Hina Shoukat, KTA Ashraf, Sumera Ehsan, Sabeeka Zehra, Nosheen Battle, Sadia Akram, and Sehrish Khalid conducted a cross-sectional study to assess the knowledge and attitude of people toward organ donation in 2011 at Pakistan. It revealed that there was statistical significance in the association of knowledge and attitude about organ donation.[12]

There was statistically significant association found between the level of knowledge and demographic variables such as age, gender, educational status, occupation, family income, the source of information regarding organ donation at $P < 0.05$, and the same demographic variable were significant with attitude also.[13]

The finding of this study was supported by a study conducted by Arun Jose on knowledge and attitude regarding common misconceptions involved in organ donation at selected urban community, Bengaluru. There was statistically significant association found between the level of knowledge and demographic variable such as age, gender, educational status, occupation, family income, source of information regarding organ donation at $P < 0.05$ and the same demographic variable were significant with attitude.[13]

Table 9: Knowledge of adults from hospital and mall *n*=400

Knowledge level	Hospital *n*=200	Mall *n*=200
	Frequency (%)	Frequency (%)
Poor	129 (64.5)	88 (44.0)
Average	61 (30.5)	104 (52.0)
Excellent	10 (5.0)	8 (4.0)
Total	200 (100)	200 (100)

Table 10: Comparison of attitude of adult attending hospital and a malls *n*=400

Attitude level	Hospital *n*=200 (%)	Mall *n*=200 (%)
	Frequency (%)	Frequency (%)
Favorable	170 (85)	173 (86.5)
Neutral	28 (14)	26 (13.5)
Unfavorable	2 (1)	1 (0.5)
Total	200 (100)	200 (100)

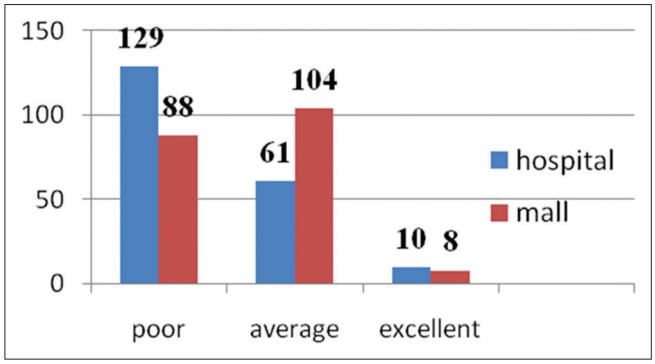

Figure 5: Comparison of knowledge of selected adults from hospital and mall

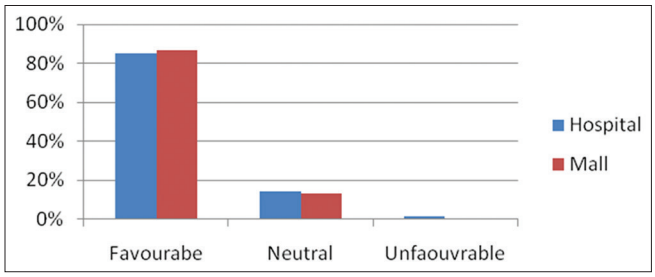

Figure 6: Comparison of attitude of adult attending hospital and a mall

Table 11: Chi-square table for knowledge of mall (n=200)

Demographic variables	Calculated value (χ^2)	Tabulated value	Inference	*P* value	d. f.
Age	2.48	7.814	NS	>0.05	3
Gender	0.50	3.841	NS	>0.05	1
Education	5.33	12.592	NS	>0.05	6
Occupation	5.02	12.592	NS	>0.05	6
Income	22.9	11.07	S	<0.05	5
Religion	9.81	7.814	S	<0.05	3
Residence	3.56	3.841	NS	>0.05	1
Habits	5.31	11.07	NS	>0.05	5
Heard about organ donation	0.95	3.841	NS	>0.05	1
Source of information	3.21	12.592	NS	>0.05	6

Table 12: Chi-square table for knowledge of hospital (n=200)

Demographic variables	Calculated value (χ^{22})	Tabulated value	Inference	*P* value	d.f
Age	0.13	7.814	NS	>0.05	3
Gender	6.91	3.841	S	<0.05	1
Education	1.06	12.592	NS	>0.05	6
Occupation	4.19	12.592	NS	>0.05	6
Income	8.15	12.592	NS	>0.05	6
Religion	4.81	7.814	NS	>0.05	3
Residence	0.65	3.841	NS	>0.05	1
Habits	1.60	11.07	NS	>0.05	5
Heard about organ donation	1.81	3.841	NS	>0.05	1
Sources of information	20.89	12.59	S	<0.05	6

Table 13: Chi-square table for attitude of mall (n=200)

Demographic variables	Calculated value (χ^{22})	Tabulated value	Tabulated value	*P* value	d.f
Age	42.75	7.814	S	<0.5	3.98
Gender	47.10	3.841	S	<0.5	1
Education	5.75	12.592	NS	>0.5	6
Occupation	11.55	12.592	NS	>0.5	6
Income	12.40	12.592	NS	>0.5	6
Religion	27.46	7.814	S	<0.5	3
Residence	6.27	3.841	S	<0.5	1
Habits	5.13	11.07	NS	>0.5	5
Heard about organ donation	0.69	3.841	NS	>0.5	1
Source of information	30.82	12.59	S	<0.5	6

Table 14: Chi-square table for attitude of hospital n=200

Demographic variables	Calculated value (χ^{22})	Tabulated value	Inference	*P* value	d.f
Age	2.48	7.814	Not significant	>0.08	3.98
Gender	40.36	3.841	Significant	<0.08	1
Education	5.43	12.592	Not significant	>0.08	6
Occupation	7.51	12.592	Not significant	>0.08	6
Income	5.62	12.592	Not significant	>0.08	6
Religion	5.59	7.814	Not significant	>0.08	3
Residence	29.56	3.841	Significant	<0.08	1
Habits	9.56	11.07	Not significant	>0.08	5
Heard about organ donation	1.69	3.841	Not Significant	>0.08	1
Source of information	16.70	12.59	Significant	<0.08	6

Conclusion

Based on the findings of the study, the investigator concluded that just under half of the samples who attended the hospital and the mall had average knowledge. On the other hand, the study also revealed that a large portion of the adults who attended the OPD's and mall had favorable attitude toward organ donation.

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