KNOWLEDGE AND ATTITUDE OF ORGAN DONATION AMONG GENERAL POPULATION OF KATHMANDU VALLEY

Nebina Piya,[1] Rashmi Gachhadar,[2] Abhilasha Chaudhary[3]

[1]Department of Nursing, Nepal Medical College, Attarkhel, Gokarneshwor-8, [2]Department of Nursing, Maharajgunj Nursing Campus, Tribhuvan University, Kathmandu, [3]Hamro School of Nursing, Biratnagar, Nepal

ABSTRACT

For selected end stage organ diseases, organ transplantation can be beneficial. Organ donation is a crucial procedure but the donors are not readily available. Different organs and tissues like kidney, liver, heart, blood, bone marrow, pancreas, intestines, etc. can be donated which can prolong the survival of patients in need and also improve their quality of life. The aim of the study was to assess the knowledge and attitude of organ donation among general population. A cross sectional analytical study was conducted with non – probability convenient sampling technique among 194 adults of three districts of Kathmandu Valley. Data collection was done online through google form shared via social media and emails. Data analysis was done using SPSS-16. Descriptive statistics like frequency, percentage, mean, standard deviation and inferential statistics like simple binary logistic regression and correlation were used for data analysis. More than one half (60.8%) of the respondents were of age ≤30 years. Majority (80.02%) belonged to middle class family according to Kuppuswamy socio-economic status tool. Majority (81.4%) of the respondents had poor knowledge whereas most (93.3%) had neutral attitude regarding organ donation. There was a significant negative correlation between knowledge and attitude regarding organ donation (p= <0.0001) at the significance level 0.05. This study has identified a need for awareness campaigns among general population regarding organ donation.

KEYWORDS

Attitude, general population, knowledge, organ donation

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CORRESPONDING AUTHOR

Ms. Nebina Piya
Lecturer,
Department of Nursing,
Nepal Medical College Teaching Hospital,
Attarkhel, Gokarneshwor-8, Kathmandu, Nepal
Email: piyanebina@gmail.com
Orcid No: https://orcid.org/0009-0007-9742-5900
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INTRODUCTION

Organ donation is defined as the act of donating one or more organs like the heart, intestines, kidneys, liver, lungs, pancreas, etc., without compensation, for transplantation into other person.[1] Transplantation of human organs has been considered the standard treatment for patients with end stage organ diseases and can save lives of many.[2-4] According to global observatory on organ donation and transplantation, in 2019, 1,53,863 solid organ transplants were reported including 1,00,097 kidney transplants, 35,784 liver transplants, 8,722 heart transplants, 6,800 lung transplants and 2,323 pancreatic transplants and 137 small bowel transplants.[5]

Advances in the field of organ transplantation in the past few decades has changed many hopes into realities and have led to saving and dramatically improving hundreds of thousands of lives. However, there is increasing discrepancy between the number of patients on the waiting list for organ transplantation and the available number of deceased donor organs.[4,6,7] Worldwide, more than 20.0% of patients on waiting lists (mainly for liver and heart) die every year because of the shortage of donor organs.[8]

Every day in America, 21 people die waiting for an organ whereas more than 120,048 men, women, and children await life-saving organ transplants.[9,10] According to a survey in India every year about 500,000 people die because of non-availability of organs, 200,000 people die due to liver disease, and 50,000 people die because of heart disease. Moreover, 150,000 people await a kidney transplant but only 5,000 get among them.[10,11] Approximately, 3 million people in sub-Saharan Africa diagnosed with end-stage kidney disease die each year due to renal failure.[10,12]

The incidence of organ failure is also increasing in Nepal. Yearly about 3000 and 1000 people loss the function of their kidneys and livers respectively. Similarly, the estimated diabetic population who might be benefited from pancreas transplantation in Nepal is 30 percentages of 10 lakhs diabetics. In Nepal, first successful kidney transplantation was conducted in 2008 at the Tribhuvan University Teaching Hospital.[6,13] The Human Organ Transplant Centre in Nepal performed 132 kidney transplants within 1 year period of fiscal year 2016-17.[14]

In a study conducted in Pakistan, only 60.0% of the research participants had adequate knowledge and 62.0% were willing to donate an organ.[15] Similarly, in a study conducted in India, 52.8% of the participants had adequate knowledge and 67.0% had a positive attitude towards organ donation.[16] Likewise, a study conducted in Chitwan, Nepal showed that majority (82.0%) of respondents had medium level of knowledge and 94.0% of them had positive attitude regarding organ transplantation.[6] A study conducted in Pokhara found that 57.1 % had moderate knowledge on organ donation and more than half (69.5%) had neutral attitude on organ donation. Knowledge on organ donation was poor.[13]

End stage organ failure can happen to a number of vital solid organs like kidney, heart, liver, pancreas, etc. In Nepal, there are estimated 3,000 and 1,000 cases of renal and liver failures every year, respectively. No figures are available for other organs' failure. Organ transplantation, from either cadaveric or living donors, is considered to be very beneficial for those patients with organ failure as this result in better quality of life.[17] There is huge discrepancy between available donors and the patients waiting for organ transplantation so there is great need of increasing organ donation. Although the public is accustomed to blood donation, there is largely a hesitation about organ donation. For the success of the organ donation program, positive attitude of the public toward organ donation is required.[7]

The issue of organ donation is complex and multifactorial involving ethical, legal, medical, organizational, and societal factors.[8,18] Countries around the world have reported that people's attitudes toward organ donation are influenced by factors such as knowledge, education, culture, religious beliefs and fear of loss of earning potential.[8,16,19,20] These many factors may be the reason for the gap between the need and the actual status of donation. Studies have also reported that objection by the family members for donation as one of the hindering factor that stop research participants from donating organs.[7] This highlights the importance of involving family members in decision-making and for that, awareness about organ donation is of utmost importance in context like ours. Through this study, the level of knowledge and attitude of organ donation of general population and associated factors can be identified so that the findings could be utilized in identifying and removing the factors that hinder the decision of organ donation. Also, there is paucity of studies assessing the knowledge and attitude of organ donation among general population in Nepal. Hence, this study aims to assess the knowledge and attitude of organ donation and associated factors among general population.

MATERIALS AND METHODS

A cross sectional analytical study was conducted among 194 adults of three districts of Kathmandu Valley from August 2021 to January 2022. Ethical approval to conduct this study was obtained from Nepal Health Research Council (ERB Protocol Registration No. 400/2021 P). Non probability convenient sampling technique was used. Adults of age group 20-59 years residing temporarily or permanently in Kathmandu Valley with access to internet were included in this study. Health care workers were excluded. Data was collected using semi – structured, online self administered questionnaire in Nepali version. Online semi – structured tool was developed by the researchers themselves based on literature search and consultation with subject experts. Online tool was generated using Google forms and the link of the questionnaire was sent through social media and email to the contacts from the researchers. The research tool was divided into three sections: Section I: Questions related to socio-demographic and economic characteristics, Section II: Questions related to knowledge regarding organ donation and Section III: Questions related to attitude regarding organ donation.

For level of knowledge, the total score was 22 and each correct response was scored 1 and incorrect responses were scored 0. The level of knowledge was classified as good and poor based on cut off score 80%.[21] For level of attitude, there were total 17 statements and each statement was rated as strongly agree (5), agree (4), neither agree nor disagree (3), disagree (2) and strongly disagree (1). The level of attitude was categorized as positive (>66.66%), neutral (33.33-66.66%) and negative (<33.33%).[6] Informed consent was attached with the online questionnaire. After obtaining consent from the respondents, they were directed to the part consisting of socio demographic information, then questions related to knowledge and attitude regarding organ donation. It took around 10 -15 minutes to fill up the online forms. Confidentiality and anonymity of the data was maintained. Data was analysed using the SPSS-16. Descriptive statistics like frequency, percentage, mean, standard deviation and inferential statistics like simple binary logistic regression and correlation were used in this study.

RESULTS

Table 1 reveals the mean age of the respondents was 29.78±10.01. More than half of the

Table 1: Socio-demographic characteristics of the respondents (n=194)

Characteristics	n	%
Age		
≤30	118	60.8
>30	76	39.2
Mean±SD = 29.78±10.01; Minimum = 19; Maximum = 59		
Gender		
Male	88	45.4
Female	106	54.6
Ethnicity		
Dalit	6	3.1
Janajati (Hill/Terai)	93	47.9
Madhesi	4	2.1
Brahmin/Chhetri	78	40.2
Others	13	6.7
Religion		
Hindu	172	88.7
Buddhist	17	8.8
Others	5	2.5
Marital status		
Unmarried	115	59.3
Married	79	40.7
Type of family		
Nuclear	94	48.5
Joint/Extended	100	51.5
Socio-economic status		
Upper class	9	4.6
Upper middle class	115	59.3
Lower middle class	48	24.8
Upper lower class	22	11.3
Any health personnel in the family (Yes)	72	37.1
Exposure to any organ donor (Yes)	61	31.4

Table 2: Knowledge and attitude of the respondents regarding organ donation (n=194)

Characteristics	n	%
Level of knowledge		
Good	36	18.6
Poor	158	81.4
Level of Attitude		
Positive (>66.66%)	1	0.5
Neutral (33.33%-66.66%)	181	93.3
Negative (<33.33%)	12	6.2

Table 3: Bivariate analysis of the factors associated with knowledge level (n=194)				
Variables	**Knowledge**		**P-value**	**COR (95% CI)***
	Poor	**Good**		
Age			0.969	
≤ 30	96 (49.5%)	22 (11.3%)		0.99 (0.47-2.07)
>30	62 (32.0%)	14 (7.2%)		
Gender			0.176	
Male	68 (35.1%)	20 (10.3%)		1.65 (0.79-3.43)
Female	90 (46.4%)	16 (8.2%)		
Ethnicity			0.373	
Brahmin/Chhetri	65 (33.5%)	13 (6.7%)		1.28 (0.75-2.19)
Janajati	76 (39.2%)	17 (8.8%)		
Others	17 (8.8%)	6 (3.1%)		
Socio-economic status			0.129	
Upper and Upper middle class	97 (50.0%)	27 (13.9%)		0.53 (0.23-1.20)
Lower middle and Upper lower class	61 (31.4%)	9 (4.6%)		
Any Health Personnel in family			0.167	
Yes	55 (28.4%)	17 (8.8%)		0.59 (0.29-1.24)
No	103 (53.1%)	19 (9.8%)		
Knows any donor			0.146	
No	112 (57.7%)	21 (10.8%)		1.74 (0.83-3.67)
Yes	46 (23.7%)	15 (7.7%)		

*COR = Crude Odds ratio, CI = Confidence Interval

Table 4: Bivariate analysis of the factors associated with attitude level (n=194)				
Variables	**Attitude**		**P-value**	**COR (95% CI)***
	Negative	**Neutral and Positive**		
Age				1.31(0.38-4.51)
≤30	8 (4.1%)	110 (56.7%)	0.669	
>30	4 (2.1%)	72 (37.1%)		
Gender				
Male	7 (3.6%)	81 (41.8%)	0.356	0.573(0.18-1.87)
Female	5 (2.6%)	101 (52.1%)		
Ethnicity				
Brahmin/Chhetri	6 (3.1%)	72 (37.1%)	0.475	1.40(0.56-3.54)
Janajati	5 (2.6%)	88 (45.4)		
Others	1 (0.5%)	22 (11.3%)		
Any health personnel in family				
Yes	4 (2.1%)	68 (35.1%)	0.780	0.84(0.24-2.89)
No	8 (4.1%)	114 (58.8%)		
Knows any donor				
No	8 (4.1%)	125 (64.4%)	0.884	0.91(0.26-3.15)
Yes	4 (2.1%)	57 (29.4%)		

*COR = Crude Odds ratio, CI = Confidence Interval

Table 5: Correlation between knowledge and attitude (n=194)			
		Knowledge	Attitude
Knowledge	Pearson Correlation	1	-0.294**
	Sig. (2-tailed)		<0.0001
Attitude	Pearson Correlation	-0.294**	1
	Sig. (2-tailed)	<0.0001	

** Correlation is significant at the 0.05 level (2-tailed).

respondents (54.6%) were female, nearly half (47.9%) belonged to *Janajati* ethnicity, majority (88.7%) followed Hindu religion, 3/5th of the respondents (59.3%) were unmarried and more than half (51.5%) belonged to joint family. Majority (80.02%) belonged to middle class family according to Kuppuswamy socio-economic status tool. Nearly 1/3rd of the respondents had some kind of exposure to the organ donors.

Table 2 depicts more than 4/5th of the respondents had poor knowledge based on the cut-off score of 80%. Most of the respondents had neutral attitude regarding organ donation, while, only one of the respondent had positive attitude.

Table 3 shows that there was no significant association of the variables with level of knowledge regarding organ donation.

Table 4 shows that there was no significant association of the variables with level of attitude towards organ donation.

Table 5 depicts that there was a significant negative correlation between knowledge and attitude regarding organ donation among the respondents (r= 0.294, p= <0.0001) at the significance level of 0.05.

DISCUSSION

In this study, more than half of the respondents 54.6% were female, nearly half 47.9% belonged to *Janajati* ethnicity, majority 88.7% were Hindu, 59.3% were unmarried and 51.5% belonged to joint family. Majority 80.02% belonged to middle class family according to Kuppuswamy socio-economic status tool.

In this study, only 18.6% respondents had good knowledge about organ donation which is similar to the study conducted in Pakistan and South India where only 25.8% and 28% had adequate knowledge respectively.[2,22] In contrast, in two different studies conducted among nursing students in Biratnagar and Chitwan, Nepal, 69.9% had average knowledge followed by inadequate (23.9%) and only (6.2%) adequate knowledge and 82.0% had the medium level of knowledge regarding the organ transplantation.[23,6] However, 96.9 % and 99.0% of the participants were aware about organ donation in a study conducted in Ethiopia and India, respectively.[10,24]

In this study, only 0.5% of the respondents had positive attitude regarding organ donation, whereas in contrast, the study conducted in Pakistan and South India, 75.2% and 57.6% had positive attitude.[22,2] Likewise, in a study conducted in Nepal, 94% of the respondents had positive attitude.[6]

In our study, most of the respondents i.e. 93.3% had neutral attitude towards organ donation which is similar to the study conducted in Pokhara, where 69.5% of the respondents had neutral attitude.[13]

In this study, there was no significant association between knowledge and attitude regarding organ donation with selected variables whereas in a study conducted in Karachi, Pakistan, there was no significant association between knowledge and selected variables but there was significant association between attitude and gender and occupation.[22]

In this study, it was found that there was negative correlation between knowledge and attitude regarding organ donation. In contrast, in a study conducted in Chitwan, Nepal, there was also significant positive correlation between knowledge and attitude.[6]

Our study revealed that more than 4/5th (81.4%) of the respondents had poor knowledge and most of the respondents (93.3%) had neutral attitude regarding organ donation. There was no significant association of the selected variables with level of knowledge and the level of attitude towards organ donation and there was a significant negative correlation between knowledge and attitude regarding organ donation (r = 0.294, p =<0.0001) at the significance level 0.05.

These findings give a message that there is need for educational interventions to raise awareness about the organ donation among general

population and clarify the misconceptions regarding organ donation. Media like social media, television and newspapers also could be involved in raising awareness related to organ donation. Further studies involving a larger sample size and respondents from different sectors are recommended.

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