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Students' knowledge and attitude concerning organ donation at Iraqi nursing colleges

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Abstract:

BACKGROUND: Organ transplantation is an effective therapy for end-stage organ failure. However, there is a large gap between the need for and the supply of donor organs.

OBJECTIVES: This study aimed to assess nursing students' knowledge and attitudes about organ donation.

MATERIALS AND METHODS: This is a descriptive cross-sectional design study. The study was conducted at four faculties of nursing, which were Baghdad, Misan, Tikrit, and Kirkuk in Iraq. The three tools included are as follows: I: Socio-Demographic Questionnaire; II: Organ-Tissue Donation and Transplantation Knowledge Scale (ODTKS); and III: Organ Donation Attitude Scale (ODAS).

RESULTS: More than two-thirds (71%) of the studied students have an accepted level of knowledge, while 70% of the studied students had a positive attitude toward organ donation and transplantation. There were statistically significant differences (P -value <0.05) between socio-demographic characteristics and knowledge level regarding gender, marital status, and academic year. Also, there were significant differences between socio-demographic characteristics and students' attitude levels regarding gender and academic year.

CONCLUSION: More than two-thirds of students had a good and fair level of knowledge and a positive attitude toward organ donation and transplantation. Providing lectures within the curriculum is needed for students to raise their knowledge and attitude about organ transplantation and donation.

Keywords:

Grafting, health personnel attitudes, knowledge, nursing students', organ transplantation

Introduction

Currently, organ donation is an extremely important issue in public health. Organ donation is a complicated and multifactorial problem that involves medical, legal, ethical, and organizational.^[1] It is described as an act of providing one or more organs to another individual, without compensation.^[2] Living organ transplantation concerns the medical procedure that uses a living donor's organ to replace the recipient's failed organ.^[3] Living organ transplant is valuable to patients with end-stage organ failure, which could extend their lifespan and improve the quality

of their lives. In 2021, the United States performed 6541 living organ transplants.^[4] The survival and life quality of patients undergoing organ transplantation have improved in recent years, due to medical and technical developments.^[5] Vital organs such as the heart, pancreas, liver, kidneys, and lungs may be transplanted to those whose organs fail, and it enables many recipients to return to a normal pattern of life.^[6] Organ transplantation has a tremendous positive effect on the recipient's general health, reduces the socioeconomic burden, and has become a crucial measure to improve both quality and duration of life.^[7,8] Healthcare workers play an important part in the successful organ donation process.^[9] In turn,

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medical students are the new generation of clinicians who, in the future, will act as a link between donors and recipients. Consequently, obtaining knowledge on the attitudes of medical students concerning organ donation is considered a particularly important issue that has been investigated in the literature.^[10] Organ donation is mainly influenced by three factors: knowledge, attitude, and behavior.^[11] Nurses are key actors in the organ donation process, and their opinion may affect people's decisions on organ donation. Furthermore, nurses can help in the educational programs required to promote public organ donation knowledge and attitude.^[12,13] This study aimed to assess students' knowledge and attitude toward organ donation and transplantation at selected faculties of Iraqi nursing colleges.

Materials and Methods

Design and setting

A cross-sectional study was conducted to measure the level of knowledge and attitude toward organ donation among 100 students from the third to fourth years of the undergraduate nursing program from different nursing faculties, which includes Baghdad, Misan, Tikrit, and Kirkuk. The study was conducted from December 1, 2020, to April 15, 2021.

Study participants and sampling

A stratified random sample technique was used to select four faculties of conducted study from all faculties in Iraq. The sampling was applied by dividing the university faculties into one stratum for obtaining a homogenous and sharply defined stratum, and then, using a simple randomization technique, the faculties of nursing faculties the investigator chose randomly third- and fourth-year students because they had more years of learning and are more knowledgeable about the aims of this study. The sample size was calculated using the Lawley formula,^[14] which was computed as $N = P \times 20/100$, where N = sample size and P = population.

Data collection and instrument tools

In this study, three interview questionnaires used were as follows: I: Socio-Demographic Questionnaire includes gender, age, residences, marital status, faculty of nursing, and academic year. II: Organ-Tissue Donation and Transplantation Knowledge Scale (ODTKS) adapted by Ozturk *et al.*^[15] is translated into Arabic language by the investigator, and it consists of 17 items. On this scale, one point is given for a correct answer with a total score of 17 grades. The scoring system was classified into three categories as follows: good knowledge if the score is $\geq 75\%$ (13–17 scores), fair knowledge if the score is $50 \leq 75\%$ (7–12 scores), and Poor knowledge if score $< 50\%$ (< 6 scores). III: Organ Donation Attitude Scale (ODAS) adapted by

Sayin^[16] assesses attitude regarding humanity, moral conviction, and fear of medical neglect and bodily mutilation. The scale was modified by the investigator, the investigator omitted the unnecessary items, and the scale was translated into Arabic language by the investigator. Each item was evaluated on the three-point Likert scale (i.e., 1 = strongly disagree, 2 = agree, and 3 = strongly agree). This gives possible minimum and maximum total scores of 10 and 30 for attitude. The total score of the Attitudes Rating Scale was 30 grades; the scores of the items were summed up and converted into a percentage score. The scoring system was classified into two categories as follows: positive attitude if the score is $\geq 70\%$ (≥ 23 scores) and negative attitude if the score is $< 70\%$ (< 22 scores).

Data analysis

The data were analyzed using Statistical Package for Social Science (SPSS) version 24. Descriptive statistics were used in this study (e.g., mean, standard deviation, frequency, and percentage). For quantitative data correlation, the Chi-square test was employed to determine the degree and direction of the relationship between knowledge and attitude. The P -value was considered significant if it was equal to or less than 0.05.

Ethical considerations

This study was approved by the Research Ethics Committee, College of Nursing, University of Baghdad, Iraq, with an ethical approval number 25/11/2020-16105. Preceding the study, a detailed procedure of the study was explained, and each student signed a voluntary consent form.

Results

Table 1 shows that the mean age of the studied students was 22.44 ± 1.409 years. Moreover, 56% of the participants were aged 22 to 23 and 53% of them were female. Additionally, 86% lived in rural areas and 75% were single. 52% of the students were in the fourth study year.

Figure 1 shows that 71% of the studied students had fair knowledge, while 12% of the students had good knowledge. Additionally, 17% of the studied students had poor knowledge in all knowledge items.

Figure 2 shows that 70% of the studied students had a positive attitude and 30% of studied students had a negative attitude.

Table 2 shows statistically significant differences between socio-demographic characteristics and level of knowledge regarding gender, faculty, academic year, and marital status at a P -value < 0.05 .

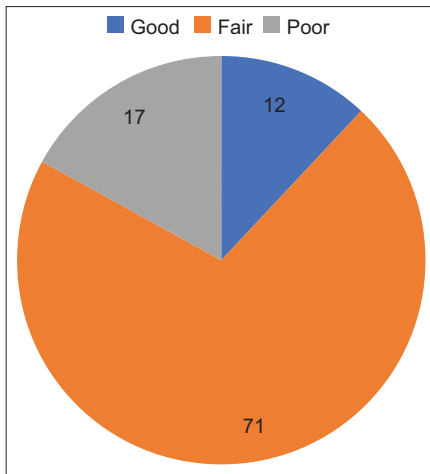


Figure 1: Distribution of the studied students' total knowledge level, regarding organ donation and transplantation (N=100)

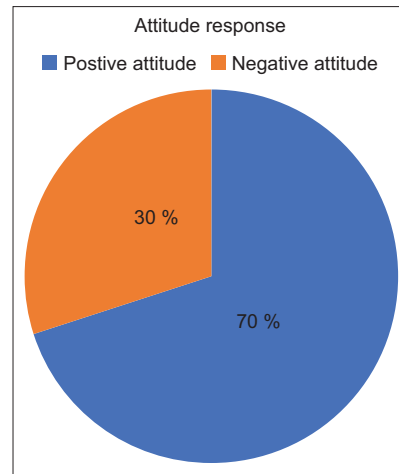


Figure 2: Distribution of the studied students' total attitudes level, regarding organ donation and transplantation (N=100)

Table 3 shows statistically significant differences between socio-demographic characteristics and attitude levels regarding gender, faculty, and academic year at a P-value <0.05.

Discussion

Regarding students' socio-demographic characteristics, the present study findings indicated that more than half of the respondents were female and the remainder were male. The majority of them were in the age group between 22 and 23 years, followed by 20–21 years, and the mean age of students was 22.44 ± 1.409 . Study participants' distribution in the same number for each college within 25% each. The sample consisted of a high percentage from the third class and less than half from the fourth class. Three-quarters of the study sample were single, and the remainder were married. The majority of them lived in urban areas, while the rest of the few percent lived in rural areas. This is in line with [17], who stated that the majority participated in the survey with a response rate of 89.7%. The median age of the participants was 19.6 years (ranging from 16 to 29 years). Among respondents, 44% were males and 56% were females, and more than one-third (40%) were from rural residence, while 60% of participants were from urban residence. The findings are in accordance with the results obtained from [18,19], who reported that the majority of subjects (93.3%) had an age range between 18 and 20 years followed by 3.33% who had 21–23 and 24–26 years of age. 91.6% were females, and the rest (8.33%) were males. According to their place of residence, 55% belong to rural areas and 45% belong to urban areas.

The current study showed that more than three-quarters of the students had fair and good knowledge. Additionally, less than one-quarters of students had poor knowledge

Table 1: Distribution of the studied students according to their socio-demographic characteristics (n=100 students)

Variables	Groups	Frequency	Percent
Gender	Male	47	47.0
	Female	53	53.0
M±SD=22.44 (1.409)			
Age (groups)	20–21	29	29.0
	22–23	56	56.0
	24 and above	15	15.0
Faculty	Baghdad	25	25.0
	Misan	25	25.0
	Kirkuk	25	25.0
	Tikrit	25	25.0
Academic year	Third stage	48	48.0
	Fourth stage	52	52.0
Marital status	Single	75	75.0
	Married	25	25.0
Residence	Urban	86	86.0
	Rural	14	14.0

M±SD=mean±standard deviation

regarding organ donation and transplantation. These findings agreed with many studies, which found that three-quarters of students agreed that the final decision belongs to the doctor if a deceased patient has not consented to an organ donor card. The interpretation of this result from the researcher's point of view is that the students in the fourth year had more years of learning, so they had knowledge about the donation. These findings are in accordance with many previous studies obtained from [20-27], who reported that the studies demonstrated the final-stage nursing students had more knowledge from other stages.

The current study findings show that more than two-thirds of students had a positive attitude and one-third of students had a negative attitude. This finding supported by another study's findings showed

Table 2: Relationship between socio-demographic characteristics of the studied students and their knowledge level (n=100)

Variables	Groups	Good (n=12)		Fair (n=71)		Poor (n=17)		P
		n	%	n	%	n	%	
Gender	Male	4	4%	35	35%	8	8%	0.000**
	Female	8	8%	36	36%	9	9%	
Age (groups) years	20–21	2	2%	18	18%	9	9%	0.154
	22–23	8	8%	42	42%	6	6%	
	24 and above	2	2%	11	11%	2	2%	
Faculty	Baghdad	4	4%	17	17%	4	4%	0.04*
	Misan	0	0	16	16%	9	9%	
	Kirkuk	3	3%	19	19%	3	3%	
	Tikrit	5	5%	19	19%	1	1%	
Academic year	Third stage	4	4%	33	33%	11	11%	0.000**
	Fourth stage	8	8%	38	38%	6	6%	
Marital status	Single	8	8%	51	51%	16	16%	0.037*
	Married	4	4%	20	20%	1	1%	
Residence	Urban	10	10%	61	61%	15	15%	0.707
	Rural	2	2%	10	10%	2	2%	

n = number, % = percentage *Significant at $P < 0.05$; **highly significant at $P < 0.01$

Table 3: Relationship between socio-demographic characteristics of the studied students and their attitude (n=100)

Variables	Groups	Positive attitude (n=70)		Negative attitude (n=30)		P
		n	%	n	%	
Gender	Male	33	33%	14	14%	0.000**
	Female	37	37%	16	16%	
Age (groups) years	20–21	25	25%	4	4%	0.986
	22–23	36	36%	20	20%	
	24 and above	9	9%	6	6%	
Faculty	Baghdad	25	25%	0	0	0.000**
	Misan	25	25%	0	0	
	Kirkuk	20	20%	5	5%	
	Tikrit	0	0	25	25%	
Academic year	Third stage	37	37%	11	11%	0.000**
	Fourth stage	33	33%	19	19%	
Marital status	Single	56	56%	19	19%	0.966
	Married	14	14%	11	11%	
Residence	Urban	62	62%	24	24%	0.211
	Rural	8	8%	6	6%	

n=number, %=percentage. Significant at $P < 0.05$. **highly significant at $P < 0.01$

that students had varying options and resource regarding organ donation and transplantation, which affect the physical and psychological conditions.^[28] This result was consistent with the findings of Kolagari *et al.*,^[29] who showed that organ donor card holders had significantly better knowledge and attitude toward organ donation in comparison with those who did not. The medical community plays a significant role in the procurement of transplantation organs, and this might be attributed to the shortage of organs required for transplantation. According to numerous studies on the belief and awareness of healthcare providers regarding organ transplantation, they demonstrated a welcoming

opinion toward transplants.^[30,31] Knowledgeable students consider the importance of donating organs, saving the patient's life, and reducing the death rate, and hence, they have positive trends about the importance of organ donation to save their patients' lives.

The results of the current study indicated that there is a significant relationship between gender, faculty, academic year, and marital status with the level of knowledge. In a way that females showed higher knowledge and more positive attitudes toward organ donation than males, this result is consistent with the findings of many studies.^[26,32,33] There was a highly statistically significant relationship between demographic characteristics and the type of attitude. Moreover, the present study revealed that there was a positive relationship between demographic characteristics and their attitude responses. These results agree with many results that showed a narrative review of attitudes toward organ donation of undergraduate nurse students and found statistically significant improvements in the study group regarding organ transplantation and organ donation, and more than two-thirds of students had good and fair knowledge, revealing a positive correlation between demographic characteristics and attitude among students toward organ donation and transplantation.^[32] However, other studies did not confirm any significant relationship between gender, marital status, residence, and attitudes of participants about organ donation.^[34,35] The researcher believes that it is not necessary to have a statistically significant relationship between students' attitudes toward organ donation and transplantation with their demographic variables.

Limitations

The major limitation of the study included a smaller

sample size, and only selected nursing colleges were included in the study sample.

Conclusions

Approximately three-quarters of nursing students from selected faculty had a fair level of knowledge about organ donation and transplantation. When it came to the attitudes of students on organ donation and transplantation, it was discovered that a high percentage of students polled had a favorable outlook. Students need more lessons throughout the semester regarding organ donation and transplants to improve their knowledge and attitudes about organ donation. We recommended engaging nursing students in continuing education program approach that should be transmitted through electronic and mass media, religious scholars, health worker's team, and teachers to improve attitudes and beliefs of organ donation among students.

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Conflicts of interest

There are no conflicts of interest.

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