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Conocimiento sobre la donación de órganos de los estudiantes universitarios de la Universidad Católica de Cuenca: un estudio transversal

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Abstract

Organ donation is the process of surgically removing an organ or tissue from one person (the organ donor) and placing it into another person (the recipient). Transplantation is necessary because the recipient's organ has failed or has been damaged by disease or injury, a benevolent human act, has become a medical tool that has helped many people who would have died by diseases. However, this medical action involves concepts that the human being has always been intrigued by life and death, concepts that generate the debate on the acceptance and the refusal to donate organs of a deceased family member.

Objective: The objective of this work was to determine the co-education level on organ donation among university students.

Methods: We performed a cross-sectional study of 80 undergraduate students from Nursing and Accounting courses of the Catholic University of Cuenca, Ecuador to determine their knowledge around the topic of organ do-

nation. Tests were carried out individually in 40-minute sessions according to the methods of Carrión-Vidal et al. Before the study, signed informed consent, guaranteeing their confidentiality and anonymity, was obtained from the participants.

Results: The results indicate: 91% of nursing students and 84% of accounting students know the definition of organ donation; in relation to the organic law of organ donation, 65% of the nursing students knew about it, as well as 22% of the accounting students.

Conclusions: In relation to the information referring when a person can donate an organ, 69.8% of the participants passed this part of the test, contrasting with a previous study carried out by the Faculty of Medicine, Universidad de Cuenca in which they found that 92.2% of the participants answered correctly.

Keywords: knowledge, donation, organs, nursing, accounting

La donación de órganos es el proceso de extraer quirúrgicamente un órgano o tejido de una persona (el donante de órganos) y colocarlo en otra persona (el receptor). El trasplante es necesario porque el órgano del receptor ha fallado o ha sido dañado por una enfermedad o lesión, un acto humano benévolo, se ha convertido en una herramienta médica que ha ayudado a muchas personas que habrían muerto por enfermedades. Sin embargo, esta acción médica involucra conceptos que al ser humano siempre le han intrigado: la vida y la muerte, conceptos que generan el debate sobre la aceptación y el rechazo a la donación de órganos de un familiar fallecido.

Objetivo: El objetivo de este trabajo fue determinar el nivel de coeducación sobre la donación de órganos entre los estudiantes universitarios.

Métodos: Se realizó un estudio transversal a 80 estudiantes de pregrado de las carreras de Enfermería y Contabilidad de la Universidad Católica de Cuenca, Ecuador, para determinar sus conocimientos en torno al tema de la donación de órganos. Las pruebas se realizaron de forma individual en sesiones de 40 minutos según los métodos de Carrión-Vidal y col. Previo al estudio, se obtuvo de los participantes un consentimiento informado firmado, garantizando su confidencialidad y anonimato.

Resultados: Los resultados indican: El 91% de los estudiantes de enfermería y el 84% de los de contabilidad conocen la definición de donación de órganos; en relación a la ley orgánica de donación de órganos, el 65% de los estudiantes de enfermería la conocían, así como el 22% de los de contabilidad.

Conclusiones: En relación a la información referente a cuándo una persona puede donar un órgano, el 69,8% de los participantes superó esta parte de la prueba, contrastando con un estudio anterior realizado por la Facultad de Medicina de la Universidad de Cuenca en el que encontraron que el 92,2% de los participantes respondió correctamente.

Palabras clave: conocimientos, donación, órganos, enfermería, contabilidad

Organ donation is the process of surgically removing an organ or tissue from one person (the organ donor) and placing it into another person (the recipient). Transplantation is necessary because the recipient's organ has failed or has been damaged by disease or injury, is currently a therapeutic option for chronic diseases that endanger the lives of thousands of people around the world¹⁻¹⁶. This process is of great importance in those people who have or are suffering a total dysfunction of an organ and can also improve the quality of life.

Nowadays, donation has become a medical tool that has helped many people who would have died from diseases. However, this medical action involves concepts that the human being has always been intrigued by life and death, concepts that generate the debate on the acceptance and the refusal to donate organs of a deceased family member^{2,8,10,14}. There was only an average of 3 donors per million inhabitants in a study conducted in Peru, placing Latin America in the last position in organ donation. The author also mentions that by that year 350 transplants were performed, almost one per day^{3,17}. According to a study carried out in Colombia by the School of Medicine of Universidad Nacional, even though there is a good attitude to donation, Colombians do not know the key aspects of donation and transplantation^{4,19}. In a research performed in Chile by the Faculty of Social Sciences of the School of Sociology, 78% of respondents were in favor of organ donation, and even though they are not donors 58% indicate they would like to be and 20% are registered donors, and they have stated that if one dies it is logical that their organs can help someone else who needs it and have also mentioned they would donate for solidarity reasons⁵. In a research carried out by Sebastián Ruiz et al., in students at the School of Medicine the results indicated that very few students received information about organ donation when they entered the university, despite it, most of the students have a positive attitude and would be willing to donate⁶. Thus, the aim of the research was to map up the knowledge of Ecuadorian students about organ donation.

Participants and study setting

The study was conducted between January and February of 2019 at the Catholic University of Cuenca, Azogues-Ecuador. Taking a heterogeneity of 50%, with a margin of error of 5% and a level of confidence of 95%, the sample was 80 undergraduate students from Nursing and Accounting courses. The tests were carried out individually in 40-minute sessions. Before the study, signed and informed consent was provided to the participants guaranteeing their confidentiality and anonymity. Eligibility criteria: undergraduate students from the fifth and seventh semesters of Accounting and Nursing courses, Catholic University of Cuenca, Ecuador who wished to participate in the study, and who were not taking classes at the time of the intervention.

The students were identified and invited to the intervention from the university "Catholic University of Cuenca" database (undergraduate students from Accounting and Nursing courses). Participation in the study was voluntary.

Data Sources / Measures

The surveys (Extended data) were designed according to Carrión-Vidal et al. method¹⁰ validated by the School of Medical Sciences, University of Cuenca^{11,12,18}. The form consists of 16 questions grouped into two parts. The first part corresponds to the sociodemographic data and the second refers to the knowledge toward organ donation (Extended data). Bias: All efforts were made to avoid bias.

Data analysis

Univariate analysis was performed using absolute and relative frequencies. Analyses were performed with the Stata.

In Table 1, it was observed that 53.8% belonged to the nursing career, 76.3% were of the female gender and 81.3% were single.

		Frequency	Percentage
University Career	Accounting	37	46.3
	Nursing	43	53.8
Gender	Male	19	23.8
	Female	61	76.3
Marital status	Single	65	81.3
	Married	9	11.3
	Divorced	3	3.8
	Free Union	3	3.8
	Total	80	100

As for knowledge about organ donation according to university career (Table 2), the first question of the survey said the following: Do you know what organ donation is? The students of the accounting degree (78.4%) and nursing degree (90.7%) answered that it is the removal

of an organ for therapeutic purposes. In the second question: Do you know when a person can donate an organ? Both accounting (67.6%) and nursing (69.8%) students answered that it is when the person is alive or dead. And, in the last question: Who can donate organs? they answered that they can donate people who are compatible and healthy (accounting=94.6% and Nursing=62.8%).

Table 2. Knowledge according to university career

Question	Career		Frequency	Percentage
You know what organ donation is	Accounting	Removal of an organ for therapeutic purposes.	29	78.4
		Involuntary act.	4	10.8
		Removal of an organ only for research purposes.	4	10.8
	Nursing	Removal of an organ for therapeutic purposes.	39	90.7
		Involuntary act.	4	9.3
	Do you know when a person can donate an organ?	Accounting	When dead	10
Only in life			2	5.4
When the person is alive or dead.			25	67.6
Nursing		When the person is dead	11	25.6
		Only in life	2	4.7
		When the person is alive or dead.	30	69.8
Who can donate organs?	Accounting	People who are compatible and healthy.	35	94.6
		Children and older adults.	2	5.4
	Nursing	People who are compatible and healthy.	27	62.8
		Children and the elderly.	16	37.2

In terms of student's attitudes (Table 3), it was evident that the first question: Do you think that donating an organ is a voluntary act? They answered that it is a voluntary act (accounting=97.3% and Nursing=97.7%). In the next

question: Do you think that a patient who has received an organ will improve his or her quality of life? They answered that it could improve their quality of life and state of health (accounting=100% and Sick=97.7%). And, on the last question: Would you donate your organs? They answered that they would donate their organs (Accounting = 73% and Nursing = 58.1%).

Table 3. Attitudes according to the university career

Question	Career		Frequency	Percentage
Do you think that donating an organ is a voluntary act?	Accounting	Yes	36	97.3
		No	1	2.7
	Nursing	Yes	42	97.7
		No	1	2.3
Do you think that a patient who has received an organ will improve his or her quality of life?	Accounting	Yes	37	100
	Nursing	Yes	42	97.7
		No	1	2.3
	Would you donate your organs?	Accounting	Yes	27
No			10	27.0
Nursing		Yes	25	58.1
		No	18	41.9

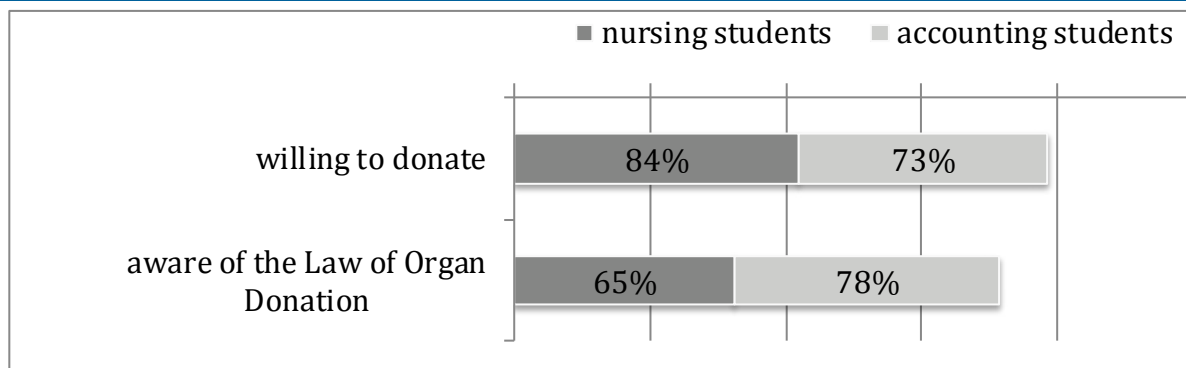
Regarding the practices of university students (Table 4), it was evident that in the first question: If you were not a donor, what would be the reason? the great majority of students in the accounting career responded for religious reasons (89.2%) and students in the nursing career responded for the beliefs and influence of family members (46.5%). In the following question: For which of these reasons would you donate your organs? Both nursing and accounting students responded that they would donate out of solidarity. In the last question, they asked: Which of the following organs would you be willing to donate? The vast majority answered that they would donate all the organs that are in optimal condition (Accounting = 54.1% and Nursing = 67.4%).

Table 4. Practices according to the University career

Question	Career		Frequency	Percentage
If you wouldn't be a donor, what would be the reason?	Accounting	Because they don't pay money	4	10.8
		For religious reasons	33	89.2
	Nursing	For rejection of the idea of mutilation of the body	7	16.3
		Because your partner doesn't agree	1	2.3
		For fear that they'll take my organs before I'm really dead	14	32.6
		For religious reasons	1	2.3
		Beliefs and family influence	20	46.5
For which of these reasons would you donate your organs?	Accounting	For solidarity	33	89.2
		By reciprocity.	4	10.8
	Nursing	For considering it a moral obligation	2	4.7
		For solidarity	35	81.4
		For religious reasons	1	2.3
By reciprocity.	5	11.6		
Which of the following organs would you be willing to donate?	Accounting	The lungs	2	5.4
		The heart	5	13.5
		The liver	2	5.4
		The kidneys	8	21.6
		All organs	20	54.1
	Nursing	The lungs	1	2.3
		The heart	4	9.3
		The liver	2	4.7
		The kidneys	7	16.3
		All organs	29	67.4

84% of the nursing students are willing to donate their organs and 16% are not, as 73% of the accounting students are willing to donate and 27% are not (Figure 1). 65% of the nursing students know the Law of Organ Donation while 35% do not know about it. On the contrary, 78% of the accounting students do not know about this law and 22% know about it.

Figure 1. Key results of the survey in percentage



It was determined that the maximum age of the students of the nursing and accounting career is 33 years and the minimum age is 19 years; female and single people are prevalent, with knowledge on the definition of organ donation since 91% and 84% mentioned that it is the extraction of an organ for therapeutic purposes, 69.8% and 67.6% said that a person can donate an organ when the person is alive or dead, and 63% and 95% said that those who can donate are the ones who have compatibility and are healthy. 98% and 97% of the students from both careers said that donating an organ is a voluntary act, and 98% and 100% think that patients receiving an organ would improve their quality of life. Nursing students would not donate their organs. In the case of accounting students, 63.6% would not donate for religious reasons and 36.4 % because they do not receive money for that. 72% of nursing students think that a person with brain death cannot be recovered from the problem, 12% think it is impossible, and 16% do not know; 54% of accounting students think that a person with brain death cannot be recovered; 27% said it is possible and 19% do not know.

Interpretation and Generalizability

In the study carried out in the students of nursing and accounting, 91% of the students know about the donation of organs, a result that is similar to the one²⁰ carried out at Universidad Politécnica Salesiana in Quito in 2015, showing a slight difference with 90% of people who know what organ donation is, evidencing that the concept is well-identified among the two study populations. In another study¹¹ conducted by the School of Medicine of Pontificia Universidad Católica del Ecuador, there is a significant difference since only 26.9% know about what organ donation is.

In relation to the information referring when a person can donate an organ, 69.8% of the population studied mentions that the person can donate being dead or alive, contrasting with a study¹⁰ done by the Faculty of Medicine, Universidad de Cuenca by saying that 92.2% know that the person can donate when they are dead or alive. Likewise, 95% say that all people who are compatible and are healthy can donate, being similar in 93% in the study¹⁰

carried out by undergraduate students of the Faculty of Medicine in Guayaquil.

The limitations of the study recognize the sample size (80 undergraduate students), which, although it is sufficient for the analysis performed, is limited to carry out other validity analysis, such as invariance, so it is recommended to expand it in future studies and even consider university students of all the careers of the Universities of Ecuador. It is also recommended to include an education program about organ donation.

On the other hand, it would be interesting to conduct empirical studies on COVID-19 awareness in the face of the health emergency due to the COVID-19 pandemic both in the confinement, distancing and vaccination stage in various populations²¹⁻²³ related to emotional²⁴ and educational²⁵⁻²⁷ aspects.

Conflict of interest

There are no personal, professional, or other conflicts of interest.

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