



## Original Research

# The Faculty of Theology Students' Attitudes, Knowledge Levels and Behaviours on Organ Donation and Xenotransplantation

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### Abstract

**Objectives:** It is known that people's religious beliefs affect the interest in organ donation positively or negatively. This study aimed to evaluate the education level, thinking and behavior styles of the students of the Faculty of Theology, who will be the religious services workers of the future, on organ transplantation, organ donation and xenotransplantation (XTx).

**Methods:** Data were obtained by conducting a survey from quantitative research methods in order to reveal their knowledge, attitudes and thoughts on organ donation and XTx on 282 Theology Faculty students between 2020 June 2021 December.

**Results:** A total of 278 students answered the questions and about half of them stated that they would consider organ donation. About 1/3 of the participants who thought negatively about organ donation, but probably 3/4 of them, did so for religious reasons. Less than 9% of the participants had an information on XTx. In general, questions about XTx revealed that students had extremely inadequate knowledge about it. According to the participants, the society was uninterested and ignorant about XTx. Only 9% of the students stated that they would prefer XTx if they had to.

**Conclusion:** It would be very useful in their hands to inform the public about the acceptance of therapies using animal or transgenic components. However, it is not clear whether the general public accepts therapy with animal organs. Measures to increase the knowledge level of theology faculty students, who will guide the society in the future on organ donation/transplantation and XTx, should be taken in advance.

**Keywords:** Organ donation, transplantation, theology students, xenotransplantation

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Despite relatively stable deceased and increasing living organ donation rates, the number of patients on the waiting lists is increasing due to the increase in transplant indications. Xenotransplantation (XTx) research, including the genetic engineering, has increased in recent years as it can provide an unlimited supply of organs to solve the problem.<sup>[1]</sup>

The most important feature that distinguishes organ transplantation from other branches of medical science is that this subject includes philosophical, social and religious dimensions. Since organ transplantation includes death, donation and ethical rules, religion and philosophy are obligatory. It is known that people's religious beliefs affect the interest in organ donation positively or negatively. It is

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known that religious officials are people who play a key role in guiding future generations about organ donation.<sup>[2]</sup> This study aimed to evaluate the education level, thinking and behavior styles of the students of the Faculty of Theology, who will be the religious services workers of the future, on organ transplantation, organ donation and interspecies organ transplantation also known XTx.

## Methods

This descriptive and cross-sectional questionnaire-based study was carried out at Inonu University Liver Transplantation Institute, where organ transplantation, especially liver transplantation, performs intensively. The research was supported by conducting a questionnaire with 282 students of theology faculties of 15 different universities. Within the scope of the study, number of students were reached by using the convenience sampling method and analyzes were carried out on the obtained data. Within the scope of the study, the survey method, which is one of the quantitative research methods, was used. The survey was anonymous and self-administered. The process was coordinated by two transplant coordinators between February 2020 and December 2021.

The questionnaires were sent to the Faculty of Theology students as online questionnaires and they were answered by giving face-to-face questionnaires. The questionnaire included behavioral questions such as the adequacy and source of information about organ donation and transplantation, the reasons for positive or negative opinions about organ donation, information about XTx, source information

about whether XTx is appropriate in terms of Islamic religion.

## Statistical Analysis

Evaluation of the obtained data was done with SPSS-16 (Statistical Package for Social Sciences) data analysis program.

## Results

The research group consists of 282 students studying at the Faculty of Theology of 15 different universities. A total of 278 students consisted of 141 (50.7%) female and 137 (49.3%) male students answered the questions.

When the participants were asked whether they found their knowledge about organ donation and transplantation sufficient, 278 people answered, and only 37 (13.3%) gave the answer as sufficient, while 145 (52.2%) stated that they were partially sufficient. Roughly, 2/3 of the students of the faculty of theology stated that they had some knowledge on this subject (Table 1).

Among the information sources of the research group, radio/television/social media comes first with 31.14%, while my relative/friend who has an organ transplant is given the answer with 2.19%, the rate of those who say they do not have information is in the second place with 18.73%. Twenty-eight of the people participating in the study have a relative or friend who has had an organ transplant. Even out of 28 people, only 9 people were able to obtain information from a relative or friend who had an organ transplant. This rate is less than 1/3 and it is concluded that even the relatives of organ transplant patients are not adequately informed about organ transplantation and donation (Table 2).

**Table 1.** Do you find your knowledge about organ donation and transplantation sufficient?

Do you find your knowledge about organ donation and transplantation sufficient?	n	%
Sufficient	37	13.3
Partially sufficient	145	52.2
Insufficient	96	34.5
Total	278	100.0

**Table 2.** Information resources of the research group

From which sources did you get information about organ donation and transplantation? (you can choose one or more options)	n	%
I have no knowledge	77	18.73
Radio/Television/Social media	128	31.14
Newspaper/Magazine/Poster/Brochure	35	8.52
Seminar/Conference	49	11.92
School curriculum	51	12.41
Verse/Hadith/Religious publications	62	15.09
My relative/friend who has had an organ transplantation	9	2.19

A majority of the participants (95.7%) believe in the importance of organ donation, while 4.3% do not believe in the importance of organ transplantation (Table 3). About half of the participants stated that they have made or are considering organ donation (Table 4). While almost all of the people participating in the study believed in the importance of organ donation, the fact that only half of them stated that they have or will donate organs can be interpreted as a disproportionate result.

At the beginning of the reasons that push the participants who want to donate their organs to this behavior, the desire to give life to others after death is in the first place with 43.75%, and the thought of humanitarian duty is in the second place with 23.75%.

About 67.6% of the participants state that they have reservations yet. While 30.9% stated that they did not know how/where to start, 1.5% stated that they had difficulty in reaching donation channels. About 40.49% of the participants never thought about this issue, 19.62% said that they want my organs to stay in place after death, 16.07% said that they think it is unfavorable in our religion. These rates show that  $\frac{3}{4}$  of the students of theology faculty who do not donate organs think so for religious reasons. Only 8.8% of the participants knew about the studies on XTx (interspecies organ transplantation), while 91.2% had no knowledge about this subject (Table 5). Only 9.5% of the participants reviewed the source stating whether XTx is religiously appropriate (Table 6). While the reference source on XTx was written/visual media and social media in the first place with 37.2%, individuals/opinion leaders came in the second place with 24.15%, only 18.84% gave the answer of education/training that I received from schools. Some of the 41 people who gave the other answer wrote verses and hadiths as explanations and did not specify the source. After a briefing, "would you consider XTx when a relative needs an organ transplant?" only 24.1% of the research group said yes to the question (Table 7). Nearly half of those who were negative or undecided stated that they had such a thought for religious reasons. The research group "Do you receive questions about XTx from your community/environment?" 88.3% answered no to the question (Table 8). "If you need it, which type of organ transplant would you prefer?" 50.2% of them stated that they would prefer living donors, 40.8% from cadavers, and 9.1% from XTx (Table 9).

## Discussion

Religions are a major factor in motivating people and guiding them about organ donation decisions. Islam is known to support organ donation and transplantation in ethical and scientific forms. However, in Muslim-majority coun-

**Table 3.** Do you believe in the importance of organ donation?

Do you believe in the importance of organ donation?	n	%
Yes	265	95.7
No	12	4.3
Total	277	100.0

**Table 4.** Have you ever donated/do you intend to donate organs?

Have you ever donated/do you intend to donate organs?	n	%
Yes I donated	3	1.1
I think, but I did not donate	142	51.8
No I think	129	47.1
Total	274	100.0

**Table 5.** Do you know about XTx (interspecies organ transplantation)?

Do you know about XTx (interspecies organ transplantation)?	n	%
Yes	24	8.8
No	248	91.2
Total	272	100.0

**Table 6.** Have you reviewed a resource that states whether XTx is religiously appropriate?

Have you reviewed a resource that states whether XTx is religiously appropriate?	n	%
Yes	25	9.5
No	238	90.5
Total	263	100.0

**Table 7.** Would you consider XTx when a relative needs an organ transplantation?

Would you consider XTx when a relative needs an organ transplantation?	n	%
Yes	66	24.1
No	44	16.1
I don't know enough about this	164	59.9
Total	274	100.0

**Table 8.** Do you receive questions about XTx from the society or your relatives?

Do you receive questions about XTx from the society or your relatives?	n	%
Yes	24	8.5
No	249	88.3
Total	273	96.8

**Table 9.** If you need an organ transplantation, which type of transplant would you prefer?

If you need an organ transplantation, which type of transplantation would you prefer?	n	%
Living donor liver transplantation	133	50.1
Deceased donor liver transplantation	108	40.8
XTx	24	9.1
Total	265	100.0

tries, a most people do not donate their organs. Religious perspectives on organ donation are one of the important barriers to transplantation. It has been stated that this is not due to the principles of Islam, but rather to ignorance.<sup>[3, 4]</sup> In this study, we chose theology faculty students as the study group and investigated their thoughts on XTx as well as organ donation. Our aim was to analyze the acceptance of XTx, a therapy that is still experimental, on young people who will shape the society religiously in the future.

In this study, we can say that although the faculty of theology's students gave positive opinions about organ donation and transplantation, they would only donate their organs in a rate of 50% maximumly. About 1/3 of the participants who thought negatively about organ donation, but probably 3/4 of them, did so for religious reasons. Less than 9% of the participants had an information on XTx. In general, questions about XTx revealed that students had extremely inadequate knowledge about it. Surprisingly, most of the participants disclosed their source of information on XTx. This disproportionate result may be an indication that the participants have an indecisive attitude. According to the participants, the society was uninterested and ignorant about XTx. Only 9% of the students stated that they would prefer XTx if they had to. It would be very useful in their hands to inform the public about the acceptance of therapies using animal or transgenic components. However, it is not clear whether the general public accepts therapy with animal organs. Previous studies have reported the variable acceptance rates of XTx, ranging from 40% to 75%.<sup>[5]</sup> This study was especially important in our geographic area, which has among the clergy who can be very influential on the society in organ donation and transplantation.

A study from our institute showed that only 60.5% of the Islamic religious officials deemed organ donation as appropriate to Islamic beliefs, which was significantly affected by their level of education.<sup>[2]</sup> In terms of having adequate knowledge of organ donation, 72.7% of those with a master's or doctorate degree and only 19.7% of those with a high school degree said they have enough information. The level of education significantly affected the willingness of reli-

gious officials to donate their organs. About 27.2% of those with a master's or doctorate degree and only 3.9% of those with a high school degree are willing to donate their organs. Likewise, a study from our institute involving Theology and Nursing students showed that theology students tended to have the question about XTx and only positive attitude towards XTx from halal animals. Interestingly, Theology students' view of XTx towards their senior year became more negative.<sup>[6]</sup>

As a result, at the end of this study, measures to increase the knowledge level of theology faculty students, who will guide the society in the future on organ donation/transplantation and XTx, should be taken in advance. Related to this, the importance of organ donation/transplantation and XTx should be included in the curriculum of theology faculties, joint workshops with theology faculties should be organized to draw the attention of students to this field, and theology faculty students should be encouraged to write thesis on organ transplantation, organ donation and XTx.

#### Disclosures

**Ethics Committee Approval:** This article was produced from a social science thesis project. Therefore, it has been reported by the institute that ethics committee approval is not required.

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