Rev Nefrol Dial Traspl. 2024;44(4):197-204

Determining the Relationship Between Death Anxiety and Decision on Organ Donation

Determinación de la relación entre la ansiedad ante la muerte y la decisión sobre la donación de órganos

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RESUMEN

Introducción: Los pensamientos y preocupaciones de los individuos sobre la muerte pueden afectar al proceso de toma de decisiones para la donación de órganos. **Objetivo:** El objetivo de este estudio descriptivo es determinar la relación entre la ansiedad ante la muerte y la toma de decisiones para la donación de órganos. **Material y métodos:** La población del estudio estaba formada por individuos mayores de 18 años de la sociedad turca. La muestra del estudio estuvo formada por 232 participantes mayores de 18 años, que pueden utilizar activamente Internet y que aceptaron voluntariamente participar en el estudio. Los datos del estudio se recogieron utilizando la Escala de Ansiedad ante la Muerte de Thorson-Powell y el Cuestionario de Toma de Decisiones sobre Donación de Órganos a través de Internet entre febrero y abril de 2021. **Resultados:** En este estudio, el 84,5% de los participantes fueron mujeres, la edad media fue de 30,14 ± 10,0 años. La puntuación total media de los participantes en la Escala de Ansiedad ante la Muerte de Thorson-Powell fue de 43,95 ± 16,93, la puntuación media de ventaja del Cuestionario de Toma de Decisiones sobre Donación de Órganos fue de 24,57 ± 5,13, la puntuación media de desventaja fue de 16,31±5,77 y la puntuación media de decisión fue de 1,76 ± 0,92. Se observó que existía una correlación positiva y débil (r = 0,20; p = 0,002) entre las puntuaciones totales de la Escala de ansiedad ante la muerte de Thorson-Powell de los participantes y las medias de las puntuaciones de decisión del Cuestionario de toma de decisiones sobre donación de órganos. **Conclusiones:** Se observó que las decisiones de donación de órganos de los participantes con ansiedad ante la muerte eran positivas. Se recomienda realizar más estudios y organizar programas de formación para determinar los factores que afectan a la decisión de donación de órganos de los individuos. Se recomienda realizar estudios cualitativos que examinen las creencias sobre la muerte y los factores culturales en la decisión sobre la donación de órganos.

Palabras Clave: Donación de órganos; Ansiedad ante la muerte; Toma de decisiones

ABSTRACT

Introduction: Individuals' thoughts and concerns about death can affect the decision-making process for organ donation. **Objective**: This descriptive study aims to determine the relationship between death anxiety and decision-making for organ donation. **Material and Methods**: The population of the study consisted of individuals aged 18 and over from Turkish society. The

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Financiamiento:
Ninguno.

Conflicto de intereses:
Ninguno que declarar

Recibido: 22-11-2023
Corregido: 14-10-2024
Aceptado: 12-11-2024

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study sample consisted of 232 participants aged 18 and over who could actively use the Internet and voluntarily agreed to participate. The study data were collected using the Thorson-Powell Death Anxiety Scale and the Organ Donation Decision-Making Questionnaire via the Internet between February and April 2021. **Results**: In this study, 84.5% of the participants were women; the average age was 30.14 ± 10.0. Participants' Thorson-Powell Death Anxiety Scale total score average was 43.95 ± 16.93. The Organ Donation Decision Making Questionnaire advantage score average was 24.57 ± 5.13, disadvantage mean score was 16.31±5.77, and decision mean score was 1.76 ± 0.92. It was observed that there was a positive and weak correlation (r = .20, p = .002) between the Thorson-Powell Death Anxiety Scale total scores of the participants and the decision score averages of the Organ Donation Decision Questionnaire. **Conclusions**: It was observed that the organ donation decisions of the participants with death anxiety were positive. It is recommended to carry out more studies and organize training programs to determine the factors that will affect the organ donation decision of individuals. Conducting qualitative studies examining beliefs about death and cultural factors in deciding on organ donation is recommended.

Keywords: Organ donation; Death anxiety; Decision making

INTRODUCTION

In parallel with the developments in technology and surgical techniques, developments in organ transplantation are progressing rapidly. However, limited organ donation worldwide causes the number of patients on the waiting list to increase rapidly. Therefore, the gap between the number of patients waiting for organ transplantation and organ donation continues to grow [1,2]. According to the Ministry of Health's data, 74704 organ transplants have been performed in Turkey since 2002. However, it is known that the number of patients waiting for transplantation is over 33071 [3]. In line with these data, organ donation is limited and does not meet the demand.

It is known that many factors affect people's decision to donate organs. These factors include education, socioeconomic level, culture, and religious belief. However, it is well-recognized that deciding to donate organs might bring up ideas and worries about death. It has been proposed that people's attitudes about death, such as conserving their physical integrity, having faith in reincarnation, and having a fear of being buried after passing away, may raise their anxiety about dying and influence their decision to give organs [4,5,6,7]. Similarly, in a study conducted by Yazar and Açıkgöz [8], it was stated that one of the reasons why individuals do not donate organs stems from the thought that it may facilitate death. However, relatively few research have examined how death fear affects organ donation [6]. Therefore, this study was carried out in order to ascertain the connection between death anxiety and the decision to donate organs. The results of this study will guide studies to increase organ donation.

Research Questions

1) Is there a correlation between death anxiety and the choice to donate organs?

OBJECTIVES

It was aimed to determine the relationship between death anxiety and decision-making for organ donation.

MATERIALS AND METHODS

Study Design and Participants

This study is of descriptive and cross-sectional type. This research was conducted online between February and April 2021. The study population consisted of individuals aged 18 and over in Turkish society. The study sample consisted of 232 individuals aged 18 and over who could actively use the Internet and voluntarily agreed to participate in the research. In this study, a priori power analysis was performed with the G-Power 3.1 statistical program based on the data in a similar study conducted by Wu et al. [5]. While the Type I error was 0.05, the power of the test was 0.99, the minimum required sample in the study was determined as 167.

Measurements

The study's data were collected using the sociodemographic characteristics form, the Thorson-Powell Death Anxiety Scale (DAS), and the Organ Donation Decision-Making Questionnaire.

Sociodemographic Form

The first part of the form includes questions aimed at evaluating the sociodemographic characteristics of the individuals included in the research.

Thorson-Powell Death Anxiety Scale (DAS)

The second part of the form includes the Thorson-Powell Death Anxiety Scale (DAS). Thorson In the scale developed by Powell and adapted into Turkish by Yıldız and Karaca (2001) [10], there are 25 items, 17 of which are positive and eight are negative. It is a five-point Likert-type scale. (Fits very well with my opinion =4. Fits well with my opinion=3. I am indecisive =2. Contrary to my opinion =1. Very contrary to my opinion=0). Positive sentence structure items on the scale are 1, 2, 3, 5, 6, 7, 8, 9, 12, 14, 15, 16, 18, 19, 20, 22, 24. Items in negative sentence structure are 4, 10, 11, 13, 17, 21, 23, and 25. The lowest 0 and the highest 100 points can be obtained from the Death Anxiety Scale, and higher scores mean higher death anxiety. Cronbach Alpha coefficient of the scale is 0.84 [10]. In this study, the Cronbach Alpha coefficient of the scale was calculated as 0.76.

Organ Donation Decision-Making Questionnaire

The third part of the form includes the Organ Donation Decision-Making Questionnaire. The Turkish validity and reliability study of the scale developed by Hall et al. in 2007 was conducted by Aytar et al. in 2020 [11]. The questionnaire is a five-point Likert type and consists of "Not very important," "Not important," "I am indecisive," "Important," and "Very important" options. There are 13 items in the questionnaire that include the possible advantages and disadvantages of organ donation. The sum of the answers given to the advantage and disadvantage items constitutes the total score of each group. The points that can be taken from the advantage items vary between 6-30, and those that can be taken from the disadvantage items vary between 7-35. The decision score is obtained by dividing the advantages and disadvantages. A decision score greater than one is considered a positive decision. The Cronbach Alpha coefficient of the questionnaire was determined as 0.83 for advantages and 0.82 for disadvantages [11]. In this study, the Cronbach Alpha coefficient of the questionnaire was calculated as 0.88 for advantages and 0.83 for disadvantages.

Procedure

This study tried to reach the participants living in Turkey, but two-thirds were living in the west of Turkey. The data collection forms were published electronically. An invitation letter containing the purpose and link of the study was sent to the participants aged 18 and over from the groups on social networking sites. In order to increase participation in the study, a reminder message was sent to the participants two weeks after sending the first invitation letter. IP auditing allowed one participant to fill out only one survey.

Data Analysis

The data obtained from the research were analyzed using the Statistical Package for the Social Sciences (SPSS) for Windows 20.0 package program. Descriptive statistics were used to evaluate the data. Kolmogorov Smirnov Test was applied to determine whether the data showed a normal distribution. For parametric data, one-way analysis of variance (ANOVA), Independent Groups T-Test. Mann Whitney U, Kruskal-Wallis Test, and Spearman correlation analysis were applied for non-parametric data. All results ' p values less than 0.05 were considered statistically significant ($p<0.05$).

Ethics

In order to carry out the study, written permission was obtained from the ethics committee of non-interventional clinical studies of a university in Izmir (Date: 29.01.2021 Decision No: 153). Necessary explanations about the purpose and application of the research were provided in the introduction part of the data collection form. In line with this information, "I agree to participate in the study" and "I do not agree to participate in the study" options were placed at the bottom of the form. In this direction, the participants who accepted to participate in the study could fill out the data collection form. In order to apply the "Death Anxiety Scale" and "Organ Donation Decision Making Questionnaire" used in the study, written permission was obtained from the authors who conducted the validity and reliability study of the scales in Turkish via e-mail. Research and publication ethics were complied with in the study. The research was conducted following the Principles of the Declaration of Helsinki.

RESULTS

The mean age of the participants included in the study was 30.14±10.0 (min=18 max=68). The data on the sociodemographic characteristics of the participants are shown in **Table 1**.

Table 1: Distribution of Participants by Socio-Demographical Characteristics (n:232)

Socio-Demographic Characteristics	Number	Percentage
Gender		
Male	36	15.5
Female	196	84.5
Marital Status		
Married	105	45.3
Single	127	54.7
Educational Status		
Literate	2	.9
Primary School	2	.9
High School	67	28.9
University	115	49.6
Postgraduate	46	19.8
Longest Living Place		
Village, Town	31	13.4
City	201	86.6
Region of residence		
Black Sea	4	1.7
East Anatolia	9	3.9
Southeast Anatolia	10	4.3
Mediterranean	15	6.5
Central Anatolia	22	9.5
Marmara	56	24.1
Aegean	116	50.0
Status of Working Actively		
Working	128	55.2
Non-working	104	44.8
Income Level		
Income less than expenses	55	23.7
Income equals expenses	119	51.3
Income more than expenses	58	25.0
Status of Having an Organ Donation Card		
Has one	29	12.5
Do not have one	203	87.5
Total	**232**	**100**

It was determined that the Thorson-Powell Death Anxiety Scale total score mean of the participants included in the study was 43.95±16.93 (min=3 max= 89). It was found that the Organ Donation Decision Making Questionnaire mean score of advantage was 24.57±5.13 (min=6 max=30), the mean score of disadvantages was 16.31±5.77 (min=7 max=35), and the mean score of the decision was 1.76±0.92 (min=0.18 max=4.29). A positive, weak, and statistically significant relationship (r=0.20, p=0.002) was found between the participants' Thorson-Powell Death Anxiety Scale total score averages and Organ Donation Decision Questionnaire decision score averages (**Table 2**).

Table 2: Distribution of Participants' Thorson-Powell Death Anxiety Scale and Organ Donation Decision Questionnaire Average Scores

Scale and Sub-Dimensions		Average ± SS	Min.	Max.
Thorson-Powell Death Anxiety Scale		**45.93 ± 16.93**	**3**	**89**
Organ Donation Decision Making Questionnaire		**1.76 ± 0.92**	**0.18**	**4.29**
	Advantage	24.57 ± 5.13	6	30
	Disadvantage	16.31 ± 5.77	7	35
		r = 0.20 p = 0.002		

***r**= Spearman correlation coefficient*

 ISSN 0326-3428

It was determined that there was no positive and statistically significant relationship between the participants' Thorson-Powell Death Anxiety Scale total score averages and Organ Donation Decision Questionnaire advantage score averages (r=0.07, p=0.290). However, a negative and statistically significant relationship existed between the participants' Thorson-Powell Death Anxiety Scale total score averages and Organ Donation Decision Making Questionnaire disadvantage score averages (r=-0.20, p=0.002).

Table 3 shows the distribution of the study participants' average scores on the Thorson-Powell Death Anxiety Scale and Organ Donation Decision-Making Questionnaire according to the variables.

Thorson-Powell Death Anxiety Scale total score averages of male participants were statistically significantly higher than female participants' mean scores (p=0.0001). It was determined that there was a statistically significant difference between the marital status of the participants and the advantage and decision-making scores of the Organ Donation Decision Questionnaire, and the average of both scores of the married participants was higher than the singles (p=0.045). It was determined that there was a statistically significant difference between the educational status of the participants and the disadvantage and decision-making scores of the Organ Donation Decision Questionnaire; the average disadvantage score of postgraduates was lower than the other groups (p=0.047), and the average score of decision making was higher than the other groups (p=0.034). It was determined that the disadvantage score average of the Organ Donation Decision Questionnaire of the actively working participants was significantly lower than the non-working ones (p=0.016). It was determined that there was a statistically significant difference between the status of having an organ donation card of the participants and the disadvantage and decision-making scores of the Organ Donation Decision Questionnaire; the disadvantage score average of those who have an organ donation card is lower than those who do not have an organ donation card (p=0.001), and the average of their decision-making score is higher than those who do not have an organ donation card (p=0.002)
(**Table 3**).

Table 3: Distribution of Thorson-Powell Death Anxiety Scale and Organ Donation Decision Questionnaire Mean Scores by Variables (n:232)

Variables	Thorson-Powell Death Anxiety Scale Ave ± SS	Organ Donation Decision Questionnaire		
		Advantage Ave ± SS	**Disadvantage Ave ± SS**	**Decision Making Ave ± SS**
Gender Male Female	54.86 ± 12.40 41.94 ± 16.90 t* = -4.37 **p =0.0001**	23.86 ± 4.49 24.70 ± 5.23 U** = 2941.50 p = 0.111	17.89 ± 6.52 16.03 ± 5.60 U** = 2940.50 p =0.112	1.57 ± 0.79 1.81 ± 0.94 U** = 2998.50 p = 0.153
Marital Status Married Single	46.14 ± 18.12 42.13 ± 15.71 t* = 1.80 p = 0.072	24.74 ± 5.13 24.43 ± 5.13 U** = 5413.00 **p = 0.013**	15.40 ± 6.11 17.07 ±5.39 U** = 6331.50 p = 0.507	1.94 ± 1.03 1.64 ± 0.79 U** = 5648.50 **p =0.045**
Educational Status Literate Primary School High School University Portgraduate	43.50 ± 34.65 50.00 ± 14.14 40.79 ± 15.81 46.58 ± 16.49 41.71 ± 18.56 F*** = 1.56 p = 0.186	25.50 ± 0.71 13.50 ± 6.36 24.72 ± 5.29 24.22 ± 5.41 25.70 ± 3.41 X^2**** = 6.40 p = 0.171	19.50 ± 3.54 21.50 ± 2.12 17.19 ± 5.87 16.39 ± 5.87 14.48 ± 5.17 X^2**** = 9.63 **p = 0.047**	1.33 ± 0.20 0.65 ± 0.36 1.66 ± 0.85 1.73 ± 0.88 2.10 ± 1.04 X^2**** = 10.40 **p = 0.034**

Longest Living Place Village, Town City	46.94 ± 14.88 43.49 ± 17.21 t* = 1.06 p = 0.292	24.26 ± 5.61 24.62 ± 5.06 U** = 3032.50 p = 0.810	14.81 ± 5.06 16.55 ± 5.85 U** = 2559.50 p = 0.109	1.86 ± 0.93 1.76 ± 0.91 U** = 2914.50 p = 0.563
Region of residence Black Sea East Anatolia Southeast Anatolia Mediterranean Central Anatolia Marmara Aegean	49.75 ± 15.24 53.44 ± 13.20 39.20 ± 18.13 43.80 ± 16.61 44.86 ± 16.33 43.55 ± 18.16 43.46 ± 16.76 F*** = .71 p = 0.643	27.25 ± 0.96 24.44 ± 6.58 23.60 ± 3.57 24.60 ± 3.58 22.41 ± 6.37 24.66 ± 5.17 24.94 ± 5.06 X^2**** = 7.32 p = 0.292	17.25 ± 3.86 15.78 ± 6.20 19.00 ± 3.68 17.40 ± 4.24 17.36 ± 7.51 16.16 ± 5.62 15.83 ± 5.83 X^2**** = 6.21 p = 0.401	1.64 ± 0.34 1.98 ± 1.31 1.29 ± 0.36 1.55 ± 0.71 1.65 ± 1.05 1.77 ± 0.84 1.86 ± 0.96 X^2**** = 5.69 p = 0.459
Status of Working Actively Working Non-working	45.27 ± 17.70 42.32 ± 15.85 t* = 1.33 p = 0.186	24.76 ± 5.07 24.35 ± 5.21 U** = 6339.00 p = 0.531	15.60 ± 6.07 17.19 ± 5.29 U** = 5429.50 **p = 0.016**	1.90 ± 0.99 1.62 ± 0.79 U** = 5681.00 p =0 .055
Income Level Income less than expenses Income equals expenses Income more than expenses	41.89 ± 18.99 44.45 ± 16.19 44.88 ± 16.93 F*** = .54 p =0.582	24.29 ± 6.45 24.69 ± 4.59 24.60 ± 4.83 X^2**** = .40 p = 0.820	15.82 ± 6.16 16.87 ± 5.66 15.66 ± 5.61 X^2**** = 2.16 p = 0.34	1.86 ± 1.06 1.69 ± 0.80 1.88 ± 1.00 X^2**** = 1.359 p = 0.507
Status of Having an Organ Donation Card Has one Do not have one	47.59 ± 13.48 43.43 ± 17.32 t* = 1.49 p = 0.142	25.69 ± 5.09 24.41 ± 5.12 U** = 2420.00 p =0.120	12.93 ± 4.39 16.80 ± 5.79 U** = 1774.00 **p =0.001**	2.23 ± 0.95 1.71 ± 0.90 U** = 1904.50 **p = 0.002**

** = t test, ** = Mann whitney U Test, *** = One-way Anova, , **** = Kruskall Wallis Test*

DISCUSSION

Numerous individuals pass away while awaiting organ transplants in our nation and around the world due to insufficient organ donations and low transplanting rates. It is stated that identifying and eliminating the behaviors that prevent organ donation will increase the rate of the decision to donate organs [12,13]. Therefore, in this study, the relationship between death anxiety and the decision to donate organs was examined.

People can be encouraged to donate organs by identifying the perceived benefits and drawbacks and increasing public awareness [11]. Therefore, understanding the decision-making behavior of individuals for organ donation is very important to increase donation commitment. In a study conducted by Flemming et al., it is stated that African Americans have a positive decision balance toward organ donation. In this study, it was determined that the participants had a positive decision balance toward organ donation. Although our findings are similar to the study conducted by Flemming et al. [14], the limited number of studies on the subject reveals that more studies should be conducted in deciding on organ donation.

It is well-recognized that a variety of factors affect organ donation. It is known that education level, socioeconomic status, and being young are factors associated with positive attitudes toward organ donation. It is also known that people are more willing to make a living donation to a family member than to donate after death [15]. In the literature, it is stated that there is a negative relationship between education level and attitude towards organ donation. In other words, as the education level decreases, the attitude toward organ

donation is negatively affected [6,7,16-18]. The study's findings are similar to those of the literature in that the mean score of postgraduates deciding on organ donation is higher than that of the other groups. In this context, prioritizing work to increase organ donation to individuals with low education levels will contribute to organ donation.

Death anxiety is stated to be one of the factors affecting the decision-making process for organ donation. In the literature findings, people thought that their death will accelerate after organ donation [19,20], belief in the existence of life after death [5], having religious beliefs that they need their bodies to remain whole in order to enter heaven [13,21] are considered to both increase death anxiety and prevent organ donation of people. Besides, those who believe in reincarnation believe that what they do in this life will determine their well-being in the next life, so they should do their best to do "good things" like organ donation after death [22]. In a study conducted with university students in Japan, it was stated that anxiety arising from traditional death beliefs negatively affects organ donation [5]. Similarly, it was stated that Chinese people's beliefs about the body and death negatively affect their organ donation orientation [22]. This study determined a positive, weak, and statistically significant relationship between the Thorson-Powell Death Anxiety Scale total score average and the Organ Donation Decision Questionnaire decision score average. This fact means that the organ donation decisions of the participants with high death anxiety are positive.

Contrary to the literature findings, in this study, it was seen that the organ donation decisions of the participants with high death anxiety were positive. It is thought that this difference may be due to individuals' beliefs about death and cultural differences. In addition, this situation makes us think that individuals with high death anxiety have the thought that they may need organ donation in the future. Conducting qualitative studies examining beliefs about death and cultural factors in deciding on organ donation is recommended.

Study Limitations

There are some limitations to this study. The first is that the group that does not actively use the Internet or smartphone or is illiterate could not be included in the sample. Considering the pandemic conditions, collecting face-to-face data from individuals was impossible. Another limitation is that the sample group is thought to be affected because the researchers live in the Aegean Region.

CONCLUSION

In the study, it was seen that there was a positive, weak, and statistically significant relationship between death anxiety and deciding on organ donation; death anxiety, educational status, and marital status were the factors affecting the organ donation decision. In line with these findings, it is recommended that information about organ donation and transplantation be added to education curricula to increase knowledge and sensitivity about organ donation and to increase studies on factors that may affect the decision-making process of individuals.

CONFLICT OF INTEREST

There is no conflict of interest between the authors.

BIBLIOGRAPHY

1) Bortz AP, Ashkenazi T, Melnikov S. Spirituality as a predictive factor for signing an organ donor card. *J Nurs Scholarsh*. 2015;47(1):25–33. doi: 10.1111/jnu.12107.
2) Şantaş G, Şantaş F. Türkiye'de organ bağışının mevcut durumu ve organ bağışında stratejik iletişimin önemi. *SDÜ Sağlık Bilim Derg*. 2018;9–14. https://doi.org/10.22312/sdusbed.298160.
3) *Republic of Turkey Ministry of Health*, (cited Novemver 2023). Available from: https://www.saglik.gov.tr/TR-100600/turkiyede-organ-bagisi-bilinci-ve-nakil-sayilari-umudu-artiyor.html
4) *Karar destek sistemi* [Internet]. [cited 2021 Jan 11]. Available from: https://organkds.saglik.gov.tr/dss/PUBLIC/WL_SmallIntestine.aspx
5) Wu AMS, Tang CS, Yogo M. Death anxiety, altruism, self-efficacy, and organ donation intention among Japanese college students: A moderated mediation analysis. *Aust J Psychol*. 2013;65(2):115–23, https://doi.org/10.1111/ajpy.12003.
6) Yaşin Tekizoğlu F. Organ bağışı: Bireylerin kararlarını etkileyen psikolojik faktörler. *Muhakeme Derg*. 2018;1(1):21–35, https://doi.org/10.33817/muhakeme.413846.
7) Wu AM, Lu L-S. Cognitive obstacles against organ donation: The influence of negative attitudes, norms, and traditional beliefs on Chinese people's intention to donate organs after death. *J Community Appl Soc Psychol*

[Internet]. 2011; 21:87–93. Available from: http://www3.interscience.wiley.com/journal/5625/home, DOI: 10.1002/casp.1054

8) Yazar MA, Açıkgöz MB. Nevşehir il merkezinde yaşayan halkın organ bağışı ve nakli konusundaki bilgi ve tutumları. *Turk Anesteziyoloji ve Reanimasyon Dern Derg.* 2016;44(5):250–7, DOI: 10.5152/TJAR.2016.87094.

9) Demira, S., & Sakallı-Uğurlua, N. Ölüm Belirginliği ve Yardım Hatırlatıcısı ile Organ Bağışını Teşvik Etme, I. *Psikoloji Kongresi*, 2016, Başkent Üniversitesi. 431-446.

10) Karaca F, Yıldız M. Thorson powell ölüm kaygısı ölçeğinin Türkçe çevirisinin normal populasyonda geçerlik ve güvenilirlik çalışması. *Tabula Rasa.* 2001;1(1);43–55.

11) Aytar A, Aytar A, Altintas A, Soy EHA, Akdur A, Haberal M. Organ donation decisional balance survey: Reliability and validity of the turkish version. *Exp Clin Transplant*. 2020; 18:58–64, DOI: 10.6002/ect.rlgnsymp2020.L9

12) Jacob Arriola KR, Robinson DHZ, Perryman JP, Thompson N. Understanding the relationship between knowledge and African Americans' donation decision-making. *Patient Educ Couns*. 2008;70(2):242–50, https://doi.org/10.1016/j.pec.2007.09.017

13) Webb, G., Phillips, N., Reddiford, S., & Neuberger, J. Factors affecting the decision to grant consent for organ donation: a survey of adults in England. *Transplantation*, 2015;99(7), 1396-1402, DOI: 10.1097/TP.0000000000000504.

14) Flemming SSC, Redmond N, Williamson DHZ, Thompson NJ, Perryman JP, Patzer RE, et al. Understanding the pros and cons of organ donation decision-making: Decisional balance and expressing donation intentions among African Americans. *J Health Psychol.* 2020;25(10–11):1612–23, DOI: 10.1177/1359105318766212.

15) Irving MJ, Tong A, Jan S, Cass A, Rose J, Chadban S, et al. Factors that influence the decision to be an organ donor: A systematic review of the qualitative literature. *Nephrol Dial Transplant*. 2012;27(6):2526–33, DOI: 10.1093/ndt/gfr683

16) Güner, Y. O., & Cicerali, E. E. Organ Bağışında Psikolojik ve Kültürel Etmenler. *OPUS International Journal of Society Researches*. 2021;17(38),5735-5763, DOI: 10.26466/opus.848199.

17) Sungur, M. A., & Mayda, A. S. Düzce Üniversitesi Tıp Fakültesi dönem I ve dönem VI öğrencilerinin organ bağışı konusunda bilgi ve tutumları. *Düzce Üniversitesi Sağlık Bilimleri Enstitüsü Dergisi*, 2014;1(2),15-20.

18) Güngörmüş Z, Dayapoğlu N. Organ bağışı hakkında bireylerin bilgi, tutum ve davranışları. *TAF Prev Med Bull.* 2014;13(2):133–40. DOI:10.5455/pmb 1-1358319696

19) McNamara P, Guadagnoli E, Evanisko MJ, Beasley C, Santiago-Delpin EA, Callender CO, et al. Correlates of support for organ donation among three ethnic groups. *Clin Transplant*. 1999;13(1 I):45–50, DOI: 10.1034/j.1399-0012. 1999.t01-2-130107.x

20) Siminoff L, Saunders Sturm C. African American reluctance to donate: beliefs and attitudes about organ donation and implications for policy. *Kennedy Inst Ethics J*. 2000;10(1):59–74. 10.1353/ken. 2000.a18642

21) Callender CO, Miles P V., Hall MB, Gordon S. Blacks and whites and kidney transplantation: A disparity! But why and why won't it go away? *Transplant Rev*. 2002;16(3):163–76, https://doi.org/10.1053/trre.2002.127298.

22) Wu AMS, Tang CSK. The negative impact of death anxiety on self-efficacy and willingness to donate organs among Chinese adults. *Death Stud*. 2009;33(1):51–72, DOI: 10.1080/07481180802494172