

Original Article

Cross-Sectional Study on Nurses' Attitudes toward Organ Donation: A Comparison of Two Hospitals from Greece

Antonia Kalli, BSc, MSc, PhD(c)

School of Science, Department of Health Sciences, Doctoral Program in Nursing, European University of Cyprus, Nicosia, Cyprus

Dimitris Lamnisis, BSc, MSc, PhD

Associate Professor, School of Science, Department of Health Sciences, Doctoral Program in Nursing, European University of Cyprus, Nicosia Cyprus

Stavroula Andrea-Apostolidou, BSc, MSc, PhD

Professor, School of Science, Department of Health Sciences, Doctoral Program in Nursing, European University of Cyprus, Nicosia, Cyprus

Correspondence: Antonia Kalli, Address: 16, Thaleias Street, Larnaca - Tsakkilero, Cyprus, Phone: 00357 - 97901663, E-mail: an_kalli@hotmail.com

Abstract

Background: The limited supply of organs for transplantation is an important inhibitory factor in promoting transplant programs. The positive attitude of the health professionals as well as the potential donor family towards transplants can greatly contribute to the increase in organ donation. Educating younger age health professionals may be a catalyst in promoting transplantation.

Objective: Investigate the attitudes and opinion of nurses to the issue of organ donation and their possible correlations with demographic characteristics

Methodology: A cross-sectional study was conducted with a convenience sample of 103 Nurses working in Intensive Care Units and Nephrology Department (Hemodialysis) in Greece from June to August 2018. In order to investigate the attitude of nurses the Flodén Attitudes Toward Organ Donor Advocacy Instrument (ATODAI) questionnaire was used.

Results: Analysis shows that nurses in a great extent are willing to secure the wishes of the potential organ donor, to support the family of potential organ donors and promoting organ donation for the two Greek hospitals.

Conclusions: The role of nurses is crucial in the transplantation process as it is a factor that can determine the choices of patients' relatives regarding the decision to donate organs for transplantation. Nurses can be the key to the success or failure of transplantation programs as they can influence, either positively or negatively, patients' relatives to decide on organ donation in cases where they do not know the patients' views.

Key words: Transplantation, Organ Donation, Brain Death, Nurses Beliefs, Nurses Attitude

Introduction

One of the greatest achievements in the field of medicine in the 21st century is organ transplants. Transplants still save the lives of thousands of people worldwide because they have enabled the replacement of vital organs for humans. According to the National Transplant Organization (EOM), November 1st has been designated as "National Organ Donation Day". Every year on this day, EOM makes sure to remind the general public of the importance of

organ donation. It is a fact that organ donation has been a point of friction, debate and disagreement for many years. Many issues remain a concern, such as organs being transplanted, whether one has the right to donate their organs, whether it is ethical to donate in life or after death, whether brain death is identified as definitive human death, etc. (Gentry et al. 2004). Organ Donation is about offering organs to be transplanted by a fellow human being (donor) who is no longer in life. Up to twenty patients in

need of heart, lungs, liver, kidney, cornea, skin or even bones can be saved from a single donor.

In addition to be a successful treatment for patients with a vital organ failure, transplantation gives patients a second chance and the opportunity to improve their quality of life (Kim et al., 2006). However, the continued shortage of organs for transplantation has resulted in increased waiting lists for potential recipients waiting for a transplant (Panchal & Desai, 2011). Doctors and nurses play an important role in identifying organ donors (Cebeci et al., 2011). According to Akgun et al. (2003) the attitudes and willingness of health professionals to substantially influence the family's approach to a brain-dead patient. Physicians and nurses are the first professionals to identify the potential donor and in practice can play a key role in organ donation and transplantation in general (Cantwell & Clifford, 2000). Planning and implementing information campaigns and integrating organ donation and brain death courses into the curricula of educational institutions in the country (Symvoylakis et al., 2012) have proven effective abroad (Ramadurg & Gupta, 2014). The notion of advocacy for organ donation is critical for nurses facing the challenge of organ donor care. The nurse as a health professional can be the catalyst for the family's decision to donate organs. However, a common feature is the focus of nurses on educational issues (Bener et al., 2008).

Beyond the important scientific developments, the necessary and essential prerequisite for a transplant, which is a life gift to thousands of our sick fellow humans, remains only one, 'Adoption and dissemination of the free organization idea'. Love, altruism, and generosity are those feelings that are the only motivation for someone who, overcoming the greatest pain in the face of losing one's own, manages to bridge life with death. (National Transplantation Organization (EOM), 2016). The proposed study is important for medical roads in Greece and Cyprus because it has the lowest rate of organ donation from coronary donors in Europe, while Cyprus in 2011 - 2012 ranks 4th and 3rd among 37 other European countries in Europe kidney donation from living donors which accounts for 60 - 83% of all kidney transplants. Nurses are the first to approach families seeking support and answers to important questions at the stage of doubting their organ donation. The role of the nurse and the

family is very important because their attitude acts as a catalyst in the final donation decision. Therefore, it is useful to invest in identifying and subsequently improving the attitudes of nurses on this issue as well as the attitudes of the family in this regard. Especially nowadays where the need for organs for transplantation is constantly increasing.

Research questions and hypothesis

The purpose of the study is to investigate the attitudes and opinion of nurses to the issue of organ donation and their possible correlations with demographic characteristics. In more detail, the research will highlight the role of the nurse as a member of the interdisciplinary team for proper information and explanation of the term "brain death" of a potential donor. We also expect important insights that may contribute to changing the thinking and attitudes of a portion of health professionals involved in such processes.

Method

A cross-sectional study was conducted with a convenience sample of 103 Nurses working in Intensive Care Units and Nephrology Department (Hemodialysis) in Greece from June to August 2018. Response rate was 103 for Greek Nurses. The nurses in Greece came from two hospitals in Athens, the Onasion Cardiac Surgery Center and the Athens General Laiko Hospital. The outcome of the study was the views and attitudes of nurses as catalysts for transplants. The determinants of the study were the demographic characteristics of the nurses working in the ICU and the Nephrology Department of Greece.

Material: Nurses anonymously and voluntarily completed the questionnaire "Flodén Attitudes Toward Organ Donor Advocacy Instrument (ATODAI)" (Forsberg et al. 2016) on nurses' views and attitudes as important factors for transplantation. The questionnaire included 52 closed-ended questions and one open-ended question and was completed voluntarily and anonymously by nurses. The questionnaire was translated using the reverse translation procedure where one researcher translated the questionnaire from English into Greek, while a second researcher translated the questionnaire that was created into English. Finally, a third researcher checked the original English questionnaire with the English questionnaire created to identify possible errors and omissions.

The Nurses' Assessment Questionnaire on Organ Donation consists of the following 5 sub-scales: (a) promoting organ donation to the hospital including questions 30, 31, 32, 33, 34, 35, 36, 39, 40 and 44, (b) promoting organ donation at political and research level including questions 42, 43, 45 and 46; (c) supporting the potential organ donor at personal level including questions 8, 9, 11, 12 and 15 (d) support to the potential donor of organs at the professional level including the questions sentences 1, 2, 3, 4, 5 and 6; and (e) support for the potential organ donor family including questions 16, 20, 23, 24, 26, 27 and 28.

The 48 questions that make up the 5 sub-scales receive Likert Scale form answers with 1 corresponding to strongly disagree and 6 to completely agree. One question concerns nurses' confidence in the meaning of brain death, one question concerns the decision to donate organs after death (with answers "yes", "no", "do not know"), one question concerns the ability of nurses to decide on donating organs to their family members (with 'yes', 'no', 'don't know' answers) and an open question about factors that would facilitate nurses in their work. The total score on each scale is calculated by summing the answers to the questions on the scale and dividing by the total number of questions. The overall score receives values from 1 to 6 with the highest values indicating a more positive attitude.

Data analysis: The categorical variables are presented as absolute (n) and relative (%) frequencies, while the quantitative variables are presented as mean (standard deviation). Kolmogorov-Smirnov test and regularity charts were used to check the normal distribution of quantitative variables. The chi-square test was used to investigate the relationship between two categorical and / or ordinal variables. Student's t-test was used to investigate the significant difference of a quantitative variable to a dichotomous variable when the quantitative variable was following the normal distribution. Data were analyzed using the IBM SPSS 21.0 (Statistical Package for Social Sciences) statistical package.

Results

The average age of 71 participants from Onasion was 38.27 years (SD= 8.54) while the mean age of 32 participants from Laikon was 37.31 years (SD= 8.92). The t-test showed that the age

distribution in the two samples could be considered equivalent ($p = 0.114 > 0.05$). Regarding gender, it emerged that the majority of the sample from Onasion ($n = 52, 73.2\%$) and the sample from Laikon ($n = 24, 75\%$) were women with the gender distribution in the two samples being equivalent. ($p = 0.851$). Ethnicity results did not show significant differences between the two hospitals ($p = 0.931$). On the contrary, the analysis showed a significant difference in the composition of the samples with the current job position ($p < 0.001$) with the Laikon sample consisting of 81.3% ($n = 17$) of Nurses from Intensive Care Unit and 15.6% ($n = 5$) of Cardiac Intensive Care Unit while the sample from Onasion is 52.1% ($n = 41$) of Cardiac Intensive Care Unit, 19.7% ($n = 14$) of Intensive Care Unit nurses and 14.1% ($n = 10$) of Surgical Intensive Care Unit. In addition, in the sample from Onasion 95.7% ($n = 68$) worked as nurses and 4.3% ($n = 3$) worked as supervisors and in the sample from Laikon the corresponding rates were 90.6% ($n = 29$) and 9.4% ($n = 3$). Finally, there was a significant difference in years of service between the two samples ($p < 0.001$). In more detail, the nurses from Onasion had an average of 13.04 years (SD= 6.17) while the Laikon nurses had an average of 8.37 years (SD= 5.85). The results on demographic characteristics are given in detail in Table 1.

In Table 2 are given the results regarding the EQ-5D questionnaire and the views of the nurses in the two Greek hospitals regarding organ donation. The analysis revealed a statistically significant difference between the nurses of the two hospitals in the questions on how often they talked to the potential organ donor in the way they were talked to him before his brain death was confirmed ($p = 0.006$) and whether they consider it necessary for the family to authorize the donation of family organs ($p = 0.028$).

In more detail, it was observed that nurses from Onasion Hospital agreed or completely agreed (56.4%) compared to Laiko nurses (28.2%) on whether they often spoke to the potential organ donor in the way they talked to him before confirmed the stroke of death. Finally, a larger proportion of Laiko nurses (34.4%) do not have family authorization to make a decision on donating organs to family members if needed compared to the percentage of Onasion nurses (18.3%).

Table 1. Demographic characteristics of Greek nurses in the two hospitals

	Hospital		p - value
	Onasion (71)	Laiko (N=32)	
Age ^b	38.27 (8.54)	35.2 (9.49)	0.114 ^γ
Gender			
Female	19 (26.8%)	8 (25%)	0,851 ^α
Male	52 (73.2%)	24 (75%)	
Nationality			
Greek	69 (97.2%)	31 (96.9%)	0,931 ^α
Other	2 (2.8%)	1 (3.1%)	
Current job			
Intensive Care Unit	14 (19.7%)	17 (81.3%)	<0,001 ^α
Nephrology Department (Hemodialysis)	3 (4.2%)	0 (0%)	
Surcical Intensive Care Unit	10 (14.1%)	0 (0%)	
Cardiac Intensive Care Unit	37 (52.1%)	5 (15.6%)	
Neonatal Intensive Care Unit	7 (9.9%)	0 (0%)	
Main Job			
Nurses	68 (95.7%)	29 (90.6%)	0.441 ^α
Supervisor	3 (4.3%)	3 (9.4%)	
Years of Service in an Intensive Care Unit and / or a Nephrology Department	13.04 (6.17)	8.37 (5.85)	<0,001 ^γ
Master			
Yes	33 (46.5%)	13 (40.6%)	0,580 ^α
No	38 (53.5%)	19 (59.4%)	

Table 2. Results of the first part of the EQ5D (5 domains) in the three measurements of the study for the two Greek hospitals

	Hospital		p-value
	Onasion (71)	Laiko (N=32)	
During your career, how many times have you cared for patients who suffered from a catastrophic brain injury with circulatory and ventilator support			0,633 ^α
1-5	34 (47.9)	13 (40,6)	
6-10	10 (14.1)	3 (9,4)	
>10	7 (9,9)	3 (9,2)	
None	20 (28,2)	13 (40,6)	
Describe your experience with the situation referred to in the question above. Utilize the most accurate description			0,565 ^α
Very comfortable	1 (1,4)	1 (3,1)	
Comfortable	9 (12,7)	8 (25)	
Neutral	7 (9,9)	1 (3,1)	

Uncomfortable	6 (8,5)	2 (6,3)	
Very Uncomfortable	9 (32,4)	4 (12,5)	
Don't answer	39 (54,9)	16 (50)	
How many times have you participated in the Family approach for organ donation in collaboration with the Organ Procurement Organization?			0,235 ^a
1-5	23 (32,4)	7 (21,9)	
6-10	5 (7,0)	0 (0)	
>10	4 (5,6)	3 (9,4)	
Καμία	39 (54,9)	22 (68,8)	
Describe your experience with the situation referred to in the question above. Utilize the most accurate description			0,080 ^a
Very comfortable	0 (0)	0 (0,0)	
Comfortable	10 (14,1)	2 (6,3)	
Neutral	7 (9,9)	0 (0)	
Uncomfortable	6 (8,5)	2 (6,3)	
Very Uncomfortable	10 (14,1)	2 (6,3)	
Don't answer	38 (53,5)	26 (81,3)	
Have you or anyone within your family and/or friends been impacted by Donation and/or Transplantation for Organ donation (Donor)			0,857 ^b
Yes	8 (11,3)	4 (12,5)	
No	63 (88,7)	28 (87,5)	
Have you or anyone within your family and/or friends been impacted by Donation and/or Transplantation for Transplantation (Recipient)			0,697 ^b
Yes	26 (36,6)	15 (46,9)	
No	13 (18,3)	11 (34,4)	
No desicion	32 (45,1)	6 (18,8)	
Statements about your perception regarding the declaration of brain death. Please choose the ONE statement that you agree with the most regarding the declaration of brain death.			0,768 ^b
I do not trust that the patient is dead when he or she has died from irreversible cessation of all functions of the entire brain and is regarded as a potential donor.	2 (2,9)	0 (0)	
I trust that the patient is dead when I have seen the results of a confirmatory test, such as a cerebral angiograph, with my own eyes	20 (29)	7 (21,9)	
I trust that the patient is dead when I have read the report of the confirmatory test, such as a cerebral angiograph	11 (15,9)	6 (18,8)	
I trust that the patient is dead if I am present during the clinical neurological examination performed by the physician	9 (13)	6 (18,8)	
I trust that the patient is dead when I am confident in the competence of the physician performing the examinations	9 (13)	6 (18,8)	
I trust that the patient is dead when a physician, after the clinical examination, declares that the patient has died.	18 (26,1)	7 (21,9)	
I often speak to the potential donor the way I did before he or she became brain dead			0,006 ^a
Strongly disagree	6 (8,5)	0 (0)	
Disagree	0 (0)	2 (6,3)	
Slightly disagree	9 (12,7)	9 (28,1)	
Slightly agree	16 (22,)	12 (37,5)	
Agree	19 (26,8)	6 (18,8)	
Strongly agree	21 (29,6)	3 (9,4)	
I will authorize organ donation for my family members after their death			0,028 ^b
Yes	26 (36,6)	15 (46,9)	
No	13 (18,3)	11 (34,4)	
I have not made a decision	31 (45,1)	6 (18,8)	

Values are expressed as n (%) unless otherwise stated. a χ^2 test b average value (standard deviation) c t-test

Table 3. Nurses' responses to their attitudes towards securing the wishes of the potential organ donor for the two Greek hospitals

	Hospital		p-value
	Onasion (71)	Laiko (N=32)	
1. It is my responsibility to respect the wishes of the potential donor.	5.11 (1.29)	5.50 (.80)	0.122
2. I will respect the potential donor's/ patient's wish regarding organ donation, even if it is against my personal beliefs.	5.48 (.79)	5.59 (.56)	0.460
3. It is my responsibility to protect the potential donor's wish throughout the entire donation process.	4.91 (1.30)	5.41 (.80)	0.052
4. If it is known to me, I will express the deceased's wish regarding donation.	6.28 (7.22)	5.44 (.72)	0.512
5. I advocate the wishes of the deceased and/or their family regarding donation by expressing this message to the intensivist or attending physician.	4.80 (1.18)	5.34 (.97)	0.025
6. I express the wishes of the deceased and/or their family regarding donation to the patient's primary care team.	4.93 (1.01)	5.22 (.97)	0.177
7. Through my actions, I ensure that optimal treatment and care is provided to the potential donor.	5.34 (.77)	5.99 (1.12)	0.024
8. If anyone hinders or obstructs optimal treatment and care of the potential donor, I will advocate on behalf of the patient.	6.17 (7.23)	5.28 (.96)	0.492
9. When applicable, I voice possible consequences with the physician regarding his/her chosen treatments/interventions to the potential donor.	5.04 (.95)	5.16 (1.08)	0.590
10. I encourage my co-workers to ensure continuity of best practices in treatment and care for the potential organ donor.	5.17 (.83)	5.56 (.76)	0.024
11. I will take initiative to secure best practices for the medical treatment of the potential donor.	4.79 (1.12)	4.97 (1.23)	0.458
12. If I perceive a treatment as unethical I will act on it by voicing my opinion.	6.14 (7.25)	5.47 (.67)	0.603
13. I consult the Organ Procurement Organization (OPO) coordinator to provide assistance and recommendations for the treatment of the referred potential donor.	4.51 (1.43)	5.06 (1.27)	0.062
14. I request extra resources to facilitate the implementation of organ donation, for example calling in an additional nurse.	4.46 (1.35)	4.66 (1.45)	0.517
15. In my role as a nurse, I will speak up if I recognize that care for the potential donor is not optimized.	5.31 (.84)	5.25 (.76)	0.731

Values are expressed as average value (standard deviation) a t-test

Table 4. Nurses' responses regarding their attitude to support the family of potential organ donors for the two Greek hospitals

	Hospital		p-value
	Onasion (71)	Laiko (N=32)	
16. It is my professional responsibility to provide support to the family throughout the decision making process for organ donation.	4.94 (1.27)	5.16 (.88)	0.393
17. In my role as a nurse, I provide a private setting for families to discuss organ donation.	5.37 (1.43)	4.91 (1.35)	0.387
18. If the deceased's wish regarding donation is known, I ensure that the family's decision take this into consideration.	3.63 (2.11)	5.69 (.47)	<0.01
19. I will act in support of the family's decision even when it is contrary to the expressed wish of the deceased.	3.46 (6.46)	1.81 (.74)	0.153
20. If I am against organ donation, I will advise the family not to pursue the donation.	5.30 (.67)	5.13 (.71)	0.230
21. If I am against organ donation and the family makes a decision that leads to donation, I will still try to convince them otherwise to change their minds.	2.64 (1.40)	1.84 (.72)	0.003
22. In my role as a nurse, I ensure that the family is given the opportunity to receive information regarding organ donation and their right to an informed decision.	1.42 (.53)	1.31 (.47)	0.313
23. I discuss with the family the possible consequences of their decisions.	4.12 (1.36)	4.63 (1.26)	0.076
24. If the family has questions regarding organ donation, I provide them with the appropriate resources to help them formulate their decision.	5.27 (.61)	5.31 (.69)	0.741
25. I endeavor to ensure that the family reaches a decision regarding donation that they can be at peace with.	4.99 (.88)	5.25 (.95)	0.175
26. I make sure that the family is updated on a regular basis.	5.13 (.78)	5.38 (.75)	0.137
27. I remind my colleagues involved in the potential donor's care to update the family on a regular basis.	5.28 (.75)	5.31 (.69)	0.812
28. I make certain that the family understands any donation related interventions needed on the authorized donor.	5.11 (.69)	5.34 (.75)	0.133

Values are expressed as average value (standard deviation) a t-test

Table 5. Nurses' responses regarding their attitude towards promoting organ donation for the two Greek hospitals

	Hospital				p-value
	Onasion (71)		Laiko (N=32)		
30. If necessary, I point out to my colleagues and leadership the importance of donation guidelines and policies.	5.30	(3.52)	5.38	(.49)	0.905
31. I promote effective communication and cooperation between the different professions, involved in the care of the potential donor. For example lab, radiology.	5.11	(.73)	5.31	(.64)	0.185
32. I read and apply the hospital's policy on organ donation.	5.13	(0.7)	5.34	(.75)	0.192
33. If applicable, I take action within the hierarchy to change policy about organ donation.	4.30	(1.19)	3.87	(1.77)	0.153
34. I directly address problems related to organ donation following the hospital's chain of command.	5.72	(5.97)	5.16	(.68)	0.597
35. When applicable, I arrange or initiate activities such as education, case reviews, or debriefing, in order to optimize the process of donation.	4.44	(1.14)	5.09	(.59)	0.003
36. When required, I am willing to contribute to the improvement of practices and guidelines for the donation process within my unit.	4.69	(1.00)	4.88	(.79)	0.348
37. I help develop guidelines that take the potential donor's situation into consideration, as well as the needs of the donor's family.	5.14	(.83)	5.41	(.67)	0.116
38. I collaborate with other departments within my hospital, such as radiology and/or lab, to improve guidelines for the process of organ donation.	4.87	(.98)	5.31	(.69)	0.024
39. I endeavor that all potential donors are given equal care within my unit, independently of the assigned staff.	5.03	(.95)	5.26	(.82)	0.245
40. I advocate and promote organ donation beyond my specific area of practice. Both with colleagues in other departments as well as with laymen outside of the hospital/medical field.	4.57	(1.36)	4.84	(1.17)	0.319
41. It is my opinion that the US legislation regarding organ donation is sufficient.	3.57	(1.64)	3.97	(1.49)	0.246
42. I consider promoting organ donation by working at a political level.	2.81	(.95)	3.28	(1.25)	0.040
43. I participate in political decisions regarding organ donation.	3.22	(1.37)	3.16	(1.94)	0.849
44. I use available scientific references to ensure that my practices regarding organ donation are evidence-based.	4.16	(1.36)	4.59	(1.46)	0.144
45. If given the opportunity, I will participate in research that contributes to guidelines and policies regarding organ donation.	4.61	(1.33)	4.44	(1.48)	0.567
46. I am actively participating in Research & Development that contributes to organ donation.	3.77	(1.78)	3.91	(1.55)	0.713

Table 3 presents the responses of nurses to their attitudes towards ensuring the wishes of the potential organ donor. Increasing the average value of a statement implies a more positive attitude for nurses to secure the wishes of the potential organ donor. The t-test revealed 3 statistically significant differences between the Laiko and Onasion hospital nurses. In more detail, it was observed that the nurses from the Laiko Hospital ($M = 5.34$, $SD = 0.97$) were more likely to support the wishes of the deceased and / or family, compared to the nurses from Onasion ($M = 4.80$, $SD = 1.18$). About the donation, expressing this message to the obstetrician or treating physician ($p = 0.025 < 0.05$). Similarly, nurses from the Laiko Hospital ($M = 5.99$, $SD = 1.12$) are more likely to take the necessary steps to ensure optimal treatment and health care to be provided to the potential donor, compared to nurses from the Onasion hospital ($M = 5.34$, $SD = 0.77$). Finally, it was observed that nurses from the Laiko Hospital ($M = 5.56$, $SD = 0.76$), compared to nurses from Onasion ($M = 5.17$, $TA = 0.83$), urged their colleagues to ensure continuity of best practices. in the treatment and care of the potential donor organs to a greater extent ($p = 0.024 < 0.05$). In the remaining questions regarding their attitude towards ensuring the wishes of the potential organ donor, no statistically significant differences were observed between the sample of Laiko and the sample of Onasion. These results indicate that there are few differences between the two samples in terms of their attitudes to safeguard the wishes of the potential organ donor.

Table 4 presents the responses of nurses regarding their support for the family of potential organ donors. Higher than the average value of a statement implies a more positive attitude of nurses to support the family of potential organ donors. From all the answers, there was a statistically significant difference between the sample from Laiko and the sample from Onasion hospital in two cases. In more detail, it emerged that nurses from Laiko ($M = 5.69$, $SD = 0.47$) agreed to a greater extent than nurses from Onasion ($M = 3.63$, $SD = 2.11$), even if the deceased's wish was known regarding donations, ensure that the family decision is taken into account ($p < 0.01$). On the other hand, nurses from Onasion ($M = 2.64$, $SD = 1.40$) agree to a greater extent than the nurses from Laiko ($M = 1.84$, $SD = 0.72$) with the view that if they are against organ donation and the family makes a

decision which leads to a donation, they will try to persuade them otherwise to change their mind. ($p = 0.003 < 0.05$). In the remaining questions regarding their attitude to support the family of potential organ donors, no statistically significant differences were observed between the sample of Laiko and Onasion. These results show that there is little difference between the two samples in their attitude towards supporting the family of potential organ donors.

In Table 5 are presented the responses of the nurses regarding their attitude towards promoting organ donation. A higher price than the average price of a statement implies a more positive attitude for nurses to promote organ donation. Of all the responses, only one statistically significant difference was observed between the Laiko and the Onasion hospital sample in 3 cases. In more detail, it emerged that nurses from Laiko ($M = 5.09$, $SD = 0.59$) agree to a greater extent than nurses from Onassis ($M = 4.44$, $SD = 1.14$) that if possible, they organize activities (e.g. educational programs, case reports, etc.) to promote organ donation ($p = 0.003 < 0.05$). Similarly, nurses from Laiko ($M = 5.31$, $SD = 0.69$) agree to a greater extent than nurses from Onasion ($M = 4.87$, $SD = 0.98$) by helping to develop guidelines that take into account his condition. potential donor as well as the needs of the donor family ($p = 0.024 < 0.05$). Finally, nurses from Laiko ($M = 3.28$, $SD = 1.25$) agree to a greater extent than nurses from Onasion ($M = 2.81$, $SD = 0.95$) with the intention of promoting organ donation by collaborating at the political level. ($p = 0.040 < 0.05$). In the remaining questions regarding their attitude towards promoting organ donation, no statistically significant differences were observed between the sample of Laiko and the sample of Onasion. These results show that there are no significant differences between the two samples in terms of their attitude towards promoting organ donation as the 17 statements regarding promoting organ donation showed a statistically significant difference between the two groups in only 3 cases.

Discussion

To the existing knowledge, this is the first study to be carried out in Greece with this research question and the second study to be carried out internationally following the study by Forsberg et al. (2016). For this reason, the discussion is essentially limited to comparing our study with that of Forsberg et al. (2016), as it is the only one

with a similar research question. It is noted that Forsberg et al. (2016) investigated the attitudes of 502 Swedish nurses, while in our study the attitudes of nurses working in Greece were evaluated. It is also noted that very few studies have been conducted on the attitudes of nurses towards transplants in general. It is noted that these studies have found that nurses' positive attitude towards transplants is crucial for promoting organ donation (Zampieron et al. 2010; Kim et al. 2006). Forsberg et al. (2016) found that nurses working in hospitals in the province, nurses with more work experience, and nurses who came into contact with relatives had more positive attitudes regarding the support of potential organ donors and their families. In a similar study conducted in Melbourne, emphasis is placed on the degree to which health professionals accept the concept of brain death. Although there is a general acceptance of the concept of brain death, which applies to Australian health professionals, research conducted over the last two decades has revealed either significant confusion or a lack of acceptance and application of the concept. For some health professionals, the concept of brain death is well-defined, while others consider it to be confusing or inadequate, leading to conflicts with beliefs about life and death (Kim et al., 2006). Another research conducted in Hong Kong investigated a group of nurses working in a university hospital, attitude and commitment to organ donation posthumously. It turned out that 96% of those surveyed had a positive attitude about humanitarian beliefs related to organ donation, while 24% of nurses revealed fears of physical mutilation. In general, however, participating nurses had a positive attitude towards post-mortem organ donation (Boey, 2002). According to Shabanzadeh et al. (2009), in a survey of nurses from twenty-four intensive care units (ICUs) in Tehran hospitals, aimed to evaluate their knowledge of organ donation, understanding of the concept of brain death, and the legal knowledge they had nurses on this subject. According to the results, 75% of nurses found a positive attitude towards donating organs from a cadaveric donor and their consent was provided primarily for humanitarian agents, while their disagreement with the donation was mainly because they viewed it as a disgraceful act. the body of the dead. It is essential for ICU nurses to be actively involved in identifying potential organ donors and it is important to be

directly involved in the organ donation process and to be retrained continuously (Gentry et al., 2004; Lin et al., 2010). Higher rates of transplantation success can be achieved when health professionals are potential organ donors, as they are used as positive models for patients and patients' relatives (Boey, 2002; Ingram et al., 2002; Gentry et al., 2004).

The results regarding the attitudes of nurses to safeguard the wishes of the potential organ donor made little significant difference. In particular, there was a significant difference in 3 of the 15 statements by nurses from Laiko to support to a greater extent the wishes of the deceased and / or the family regarding donation, expressing this message to the obstetrician or therapist to consult to a greater extent the person in charge of the National Transplantation Agency for assisting in the treatment of the potential donor and to a greater extent requesting additional resources, for example, by calling an additional nurse to facilitate implementation of organ donation. These results indicate that there are few differences between the two samples in terms of their attitudes to safeguard the wishes of the potential organ donor.

The results regarding their attitude to support the family of potential organ donors made little significant difference. In particular, there was a significant difference in 3 of the 13 statements with nurses from Laiko agreeing to a greater extent that if the deceased's wish for donation is known, they ensure that the family's decision is taken into account and that if they are against organ donation, they will advise the family not to seek organ donation. On the other hand, nurses from Onasion are more confident that the family is regularly informed. These results show that there is little difference between the two samples in their attitude towards supporting the family of potential organ donors.

The results regarding their attitude towards promoting organ donation only made a statistically significant difference. In detail, there was a significant difference in 3 of the 13 statements made by nurses from Laiko agreeing to a greater extent agreeing that they help develop guidelines that take into account the status of the potential donor as well as the needs of the donor's family. These results show that there were no significant differences between the two samples in their attitude towards promoting organ donation as the 17 statements regarding

promoting organ donation showed a statistically significant difference between the two groups in only one case.

The results of the survey showed that nurses in Greece have a positive attitude towards transplants. In addition, it has emerged that they consider themselves responsible for securing the wishes of the potential organ donor and recognize the need to support the family of the potential organ donor.

References

- Akgun S., Bilgin N., Tokalak I., Kut A., Haberal M., (2003). Organ donation: a cross-sectional survey of the knowledge and personal views of Turkish health care professionals. *Transplant Proceedings*, 35 pp. 1273-1275.
- Bener A (2008). Do we need to maximize the knowledge and attitude level of physicians and nurses toward organ donation and transplant, 6 (4): 249-53.
- Bener A, El-Shoubaki H, Al-Maslmani Y (2008). Do we need to maximize the knowledge and attitude level of physicians and nurses toward organ donation and transplant? *Dec;6(4):249-53*.
- Cantwell, M., Clifford, C., (2000). English nursing and medical students' attitudes towards organ donation. *Journal of Advanced Nursing* 32 (4) pp. 961-968.
- Cebeci, F., G Sucu, E Karazeybek, (2011). The role of nurses to Augment Organ Donation and Transplantation: a Survey of Nursing Students. *Transplantation Proceedings*, Volume 43, Issue 2, pp. 412-414.
- Forsberg A, Cavallini J, Fridh I, Lennerling A. The core of social function after solid organ transplantation. *Scand J Caring Sci* 2016; 30(3): 458-65.
- Gentry CD. & McCurren C. (2004). Organ procurement from the perspective of perioperative nurses, *AORN Journal*, 80(3): 417-431.
- Ingram Jacqueline E., Ellen B. Buckner, Ann B. Rayburn, (2002). Critical Care Nurses' Attitudes and Knowledge Related to Organ Donation. *Dimensions of Critical Care Nursing*, Vol. 21, No. 6 pp 249-255.
- Kam Weng Boey (2002). A cross-validation study of nurses' attitudes and commitment to organ donation in Hong Kong. *International Journal of Nursing Studies* 39, 95-104.
- Kim JR, Fisher MJ, Elliott D, (2006). Undergraduate nursing students' knowledge and attitudes towards organ donation in Korea: Implications for education. *Nurse Education Today* 26 (6) pp. 465-74.
- Lin, LM., Lin, CC., Lam, HD., Chen, Cl., (2010). Increasing the participation of intensive care unit nurses to promote deceased donor organ donation. *Transplant Proc.* 42 (3) pp. 716-8.
- Machado J. (2010). Undergraduate nursing students' knowledge and attitudes towards organ donation in Korea: Implications for education, *Nurse Education Today* 26: 465-474.
- National Transplantation Organization (EOM), (2016). http://www.eom.gr/index.php?option=com_enhancedweblinks&view=categories&Itemid=6&lang=en
- Panchal Shaishav and Desai Toral (2011). Perception and practices encouraging organ donation among doctors in Surat city. *National Journal of Community Medicine* 2 (2) pp. 269-72.
- Ramadurg, U. Y. and A. Gupta (2014). Impact of an Educational Intervention on Increasing the Knowledge and Changing the Attitude and Beliefs towards Organ Donation among Medical Students. *J Clin Diagn Res* 8(5): JC05-07.
- Shabanzadeh AP, Sadr SS, Ghafari A, Nozari BH, Touseh M. Organ and tissue donation knowledge among intensive care unit nurses. *Transplant Proc.* 2009 Jun;41(5):1480-2.
- Symvoulakis, E. K., Z. Tsimitsiou, et al. (2012). Kidney organ donation knowledge and attitudes among health care professionals: findings from a Greek general hospital. *Appl Nurs Res* 25(4): 283-290.
- United Network for Organ Sharing (2011). UNOS: Donate Life [Homepage of United Network for Organ Sharing], [Online]. Available:<http://www.unos.org/> [2010, 16/12].
- Zampieron A, Corso M, Frigo AC. (2010). Undergraduate nursing students' attitudes towards organ donation: a survey in an Italian university. *Int Nurs Rev.* 57(3) pp. 370.