



Attitudes Towards Legal and Ethical Aspects of Organ Donation Among Health Care Workers and General Population of Montenegro

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SUMMARY

Introduction: Medical and legal problems of organ transplantation are numerous. The donor must be fully and properly informed about all elements regarding the transplantation, and especially about the possible consequences resulting from the removal of tissues and organs, which is an essential ethical problem.

Aim: The aim of this research was to determine the attitude of health professionals and the general population in Montenegro towards some of the legal and ethical aspects of organ donation.

Material and methods: The research was conducted with the consent of the Ethics Committee of the Clinical Center of Montenegro, in Podgorica number 03 / 01-1504. The sample was formed by random selection and consisted of 400 adult citizens of the city of Podgorica. The research included 200 health workers employed at the Clinical Center of Montenegro in Podgorica and 200 adult citizens of the city of Podgorica.

Results: The majority of health workers (84.6%) state that the donor should be the one who gives consent for organ donation for life. Similarly, the vast majority (76%) of the general population believe the same. The largest percentage of participants, more than a third, in both groups, believe that using organs for the wrong purposes is sometimes possible, while almost a quarter of respondents said they did not believe it could happen. The difference in the opinion of health workers and the general population on this issue was not statistically significant ($p = 0.522$).

Conclusion: From our research it can be concluded that both groups of respondents generally believe that the guarantee that organs will be used for the right purposes is the most important factor in organ donation and that the donor is the one who will give consent for living organ donation. The proposed measures need to create a strategy to increase confidence that organ donation will be done only for the right purposes, both in the general

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population and among health professionals.

Keywords: Transplantation, Organ Donation, Legal Aspects, Ethical Aspect

INTRODUCTION

Organ transplantation has great therapeutic and economic advantages, and without good cooperation and support of health workers, health associates, the state and society, it would not be possible at all [1]. Montenegro, located in Southeast Europe, became independent in 2006. It has a population of 680,000 and a dialysis population of 230 patients in 12 dialysis centers. Montenegro is one of the signatory states to the Istanbul Declaration, which strictly prohibits trafficking in human organs [2]. In September 2012, all legal, ethical and medical conditions necessary for launching a transplant program were met in Montenegro. Previously, all Montenegrin patients who needed transplant procedures were referred to regional transplant centers. Post-death donations have caused a significant ethical dilemma in Montenegrin society, mainly due to the definition of brain death [3]. The medical and medical-legal problems of organ transplantation are numerous. The donor must be fully and appropriately informed regarding all elements of the transplantation, and especially about the possible consequences due to the removal of tissues and organs, which is an essential al-ethical problem [1,2].

AIM

The aim was to determine the attitude regarding the legal and ethical aspects of organ donation among health care workers and the general population of Montenegro.

MATERIAL AND METHODS

The academic (non-commercial) IV phase of the study was conducted at the Clinical Center of Montenegro in the capital of Montenegro, Podgorica. Data collection is done through a questionnaire and the method of personal contact. During the survey, respondents signed an informed consent form. The research was conceived as a cross-sectional study, which was supposed to provide us with an insight into

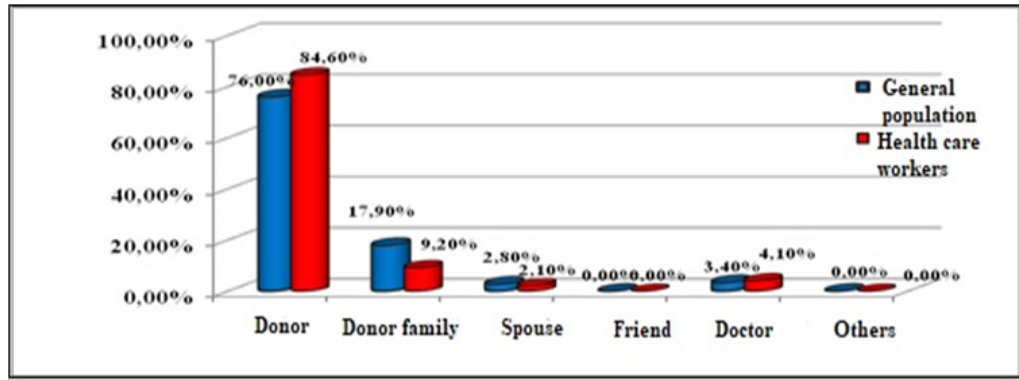
their attitude regarding the legal and ethical aspects of organ donation among health workers and the general population of the capital Podgorica. The research was conducted with the consent of the Ethics Committee of the Clinical Center of Montenegro, in Podgorica number 03/01-2015. The power of the study is not done. The sample was formed by random selection and consisted of 400 adult citizens of the city of Podgorica. The research included 200 health workers employed at the Clinical Center of Montenegro in Podgorica and 200 adult citizens of the city of Podgorica. Respondents were introduced to the purpose and goals of the research. An anonymous survey questionnaire is used as a research instrument, which is specially designed for research purposes. The content of the questionnaire related to the following questions: age of the respondents, gender, education, occupation, marital status, residence, religion. The content of the second part of the questionnaire referred to the respondents' knowledge of transplantation, and their attitude towards the legal and ethical aspects of organ donation.

Data entry was performed in Microsoft Office Excel 2007. Statistical processing as well as table creation was performed in SPSS17. The graph was made in Microsoft Office Excel 2007. From statistical methods, absolute numbers and percentages, measures of central tendency (arithmetic mean, median, standard deviation and distance between minimum and maximum value), Chi square test were used.

RESULTS

The survey included a total of 400 participants. Of the total number there was 156 (39%) nurses surveyed, 44 (11.0%) physicians, 27 (6.8%) students, 22 (5.5%) housewives, 33 (8.3%) retired persons, employed persons (19.2%), unemployed 25 (6.3%), and others (4.0%). Distribution by the level of education of the participants was: 37 (9.3%) had elementary

Chart 1. Opinion Regarding Organ Donation on who should be the one who will give the consent on living organ donation



education, 233 (58.3%) high school education, 46 (11.5%) had associate education (or two-year education), 72 (18%) had graduated from college, and 12 (3%) completed post-graduate studies (master or doctoral degree). Most health professionals (84.6%) believe that the donor should be the one who will give consent for living organ donation. Similar majority (76%) of general population believes the same. Bigger percentage of the general population (17.9%) compared to health professionals (9.2%) said that the donor family should be giving consent on living organ donation, although not significantly different between groups ($p = 0.092$) (Chart1). Similar percentage of participants from the general population (65.9%) and healthcare profession-

als (61%) felt that the donor family should be giving consent for organ donation after death, with the difference not being statistically significant ($p = 0.092$). A significantly higher percentage of health professionals (32.3%) compared to the general population (18.4%) said that no one should give consent for organ donation, but the difference shown between the 2 groups concerning this parameter was not significant ($p = 0.02$) (Chart 2). Participants from both groups shared similar opinions about the possibility of organs being used for the wrong purposes. More than third of participants in both groups considers that this was sometimes possible, while almost a quarter of participants said they did not believe there would ever be a possibility of using an organ for the wrong

Chart 2. Opinion Regarding Organ Donation on who should be the one who will give the consent on organ donation after death

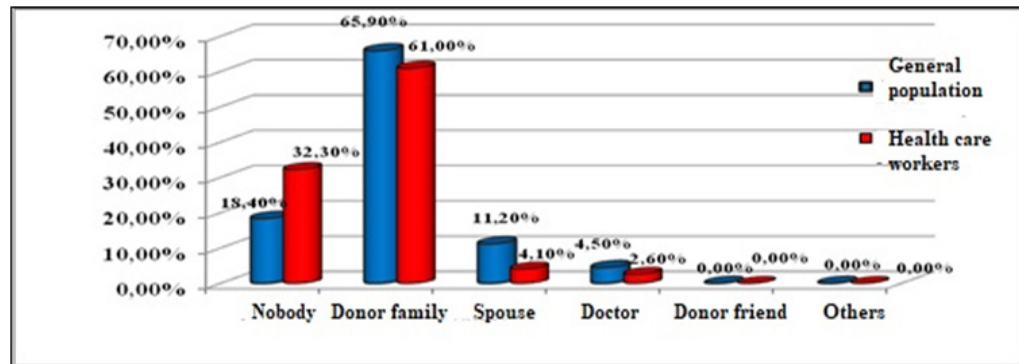
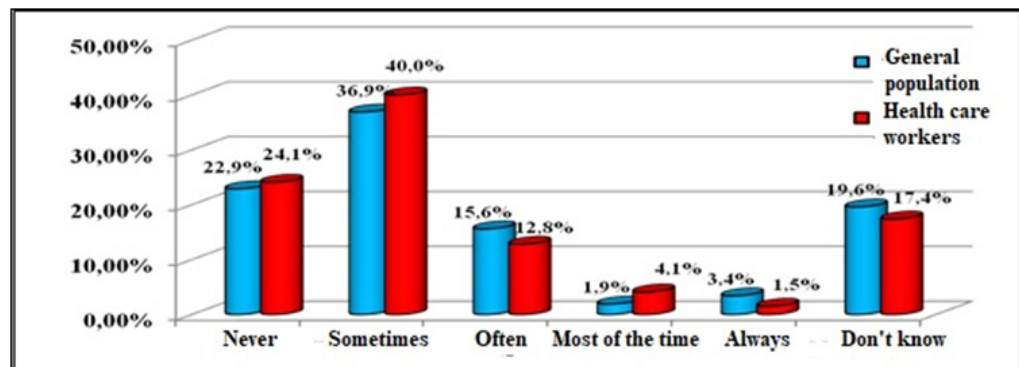


Chart 3. Opinion Regarding Organ Donation on the possibility of organs being used for the wrong purposes



purposes. The difference of opinion in the question was not statistically significant ($p = 0.522$) (Chart 3).

DISCUSSION

The Spanish model of organ donation is the most successful in Europe, where the cadaveric transplant rate is as high as 44%. This model is implemented by health professionals who are involved in health education programs of medical workers and general population to increase transplantation rates in the country. This model directly results in a steady increase in the number of adults in general population seeking consent for organ donation [4]. The Law on Transplantation of Parts of the Human Body, Organs and Tissues for Medical Purposes, which is in line with European and international legislation was adopted in 2009 [5,6]. One of the most important segments of the transplant program are raising awareness and dissemination of knowledge about the importance of transplantation among the professional and non-professional public. According to a study by Smeltzer et al (2008), the disproportionate ratio of donated and needed organs is a major problem in this area [7]. More than 3,000 studies were conducted in the United States and in Western Europe over the period 2000-2005, questioning various factors that directly influence the decision to donate organs, ranging from cultural and psychosocial to ethnic and religious principles [8]. Studies conducted in African-American populations found religious beliefs and distrust in the state's health system as causes for the negative attitude towards organ donation. The Spanish and Asian populations in America cited the lack of public awareness regarding organ transplantation and donation resulted in such an attitude [9]. Organ donation is considered a good deed in Islam and should by no means be used in trafficking. It is also forbidden to donate organs after death without the prior express consent of the donor, or subsequent consent of his immediate family members. The attitude of the Catholic Church towards organ donation was expressed by the late Pope John Paul II in his book „The Gospel of Life” where he said that it was among the acts of kindness and compassion that underpins the authentic culture of life „The Gospel of life is celebrated above all else in the daily living of life which should be filled with sacrificing for others... A particular

praiseworthy examples of such gestures is the donation of organs performed in an ethically acceptable manner with a view toward offering health and even life itself to the sick, who sometimes have no other hope”. The attitude of the Catholic Church on organ donation is positive, as it aims to provide the health and life of the sick to whom organ transplantation is the only salvation. The attitudes of the general population towards organ donation for transplantation change significantly when there is a positive attitude of the religion regarding this topic. However, according to what Montenegrin media reports, representatives of some religious communities in Montenegro believe that religion should not be an obstacle to organ donation. Regardless of their stance on transplantation, the church gives no room for debate on this topic. Since September 2012, only 300 citizens have signed a donor card in Montenegro, which is an extremely low number portion of the total adult population in the country. The proposal for „presumed consent” for organ donation entered the parliamentary debate in 2014, but was not adopted by MPs who showed great animosity towards organ donation. These data correlate with number of transplants performed. Only one cadaveric kidney transplant was performed on December 8, 2013, and only 24 kidney transplants from living person for the three years since organ donation through donor cards took effect. Health care professionals educated to promote organ donation should influence the country legislative system to take actions to rise the general population awareness of the importance of organ donation [10]. Most countries in the world that have well-regulated organ donation, are constantly pursuing strategies to increase organ donation [11]. Nurses in Serbia do not have a positive attitude about transplantation, education would cause the attitude to change in a positive way [12]. Previous research in Montenegro showed that willingness to donate organs at all times in the general population was at 17.9%, and among health care workers at 11.3% [3]. No field of medical science and medical practice initially caused as many ethical dilemmas as donating organs from a deceased person. This happened because it was based on a state of brain death, but overall bioethical science defined cadaveric transplantation fully justified for the care of lives and human health [13]. Laws on organ transplantation and donation, which regulate organ

donation from dead donors who have been diagnosed with brain death vary from state to state. Most organ transplants come from organ donors who have been diagnosed with brain death [14,15]. Healthcare professionals are usually the first individuals in contact with potential donors and their family members. As much as the request for a donation may be the collective responsibility of health professionals, it also depends on any individual serving as a fundamental link in the process [16]. By accepting brain death, it has become possible not only to undertake kidney transplantation but also to initiate other solid organ transplants where it is not possible to perform a living related transplant such as, heart, lung and pancreas [17]. In many countries of the world, including Montenegro, neurological criteria can be used for the legal determination of death (which is also called brain death). Nevertheless, there is a great controversy in the bioethical literature as to whether brain death is equivalent to biological death. This international legal review shows that there is significant variability in the way different jurisdictions have evolved to justify the legal status of brain death and its relationship to the rule of dead donors [18]. Organ transplantation is one of the most critical ethical topics in law and medicine and a subject of discussion in worldwide. Organ donation after death is related to a variety of factors, including traditional values, attitudes of health professionals, and the religious beliefs of a state [19]. In medical ethics, careful attention should be paid to researchers involved in organ transplantation and donation. Ethics fundamentally considers the values, ideas, traditions, and practices of a community or individual [20]. Any potential solution in organ donation would raise ethical concerns and result in different social recognition, reprimands, and apathy. Transplant surgery is now well accepted, and the list of candidates for transplantation is growing much faster than the availability of organs, which is manifested by a longer waiting list for organs than the dead with a diagnosis of brain death [21]. Transplantation is the best method for treating patients with end-stage organ failure where successful ensures a better quality of life and longer survival [22].

CONCLUSION

In efforts for organ donation and the belief that

it will be organized in accordance with ethical and legal norms, health workers have the highest level of responsibility and education in order to influence the general population to believe in ethical and legal regulations related to transplantation. From our research, it can be concluded that the majority of both groups of participants consider, that a guarantee that organs will be used for the right purposes is the most important factor in organ donation. Furthermore only quarter of participants said they did not believe there would ever be a possibility of using the organ for the wrong purposes. Also, both groups of participants believe that the donor is the one who will give their consent for living organ donation.

CONFLICTS OF INTEREST

All authors declare no conflict of interest.

REFERENCES

- Oosterlee A, Rahmel AO. Eurotransplant International Foundation Annual Report 2011. *NDT International*. 2012;6(3):18-22.
- Pelicic D, Vukcevic B, Bokan D, Stojanovic V, Radojevic N. Attitudes Toward Organ Donation and Transplantation Among Transplant-Related Health Care Workers and the Local Population of Montenegro. *Exp Clin Transplant*. 2019 Oct;17(5):673-677.
- Pelicic D, Ratkovic M, Radunovic D, Basic-Jukic N. Development of a National Transplant Program in Montenegro. *Experimental and Clinical Transplantation*. 2019; 17(2): 284-285.
- Nisreen FA, Qureshi A, Basmah NJ, Nosheen Z. Knowledge and ethical perception regarding organ donation among medical students. *BMC Medical Ethics*. 2013;14(1):38.
- Oosterlee A, Rahmel AO. Eurotransplant International Foundation Annual Report 2011. *NDT International*. 2012;6(3):18-22.
- Fрати P. Organ transplantation from living donors, between bioethics and the law, *Transplantation Proceedings*. 2005;37(3):2433-35.
- Smeltzer S, Suzanne C. Brunner and Sudarth's textbook of medical: Surgical nursing. Philadelphia: Lippincott; 2008.
- Michelle JI, 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*. 2011;0(8):1-8.
- Deedat S., Kenten C. & Morgan M. (2013). What are effective approaches to increasing rates of or-

gan donor registration among ethnic minority populations: a systematic review. *BMJ Open*

10. Akgün S, Tokalak I, Erdal R: Attitudes and behavior related to organ donation and transplantation: a survey of university students. *Transplant Proc* 34:2009, 2002

11. Cecka JM. Kidney transplantation in the United States. In: Cecka JM, Terasaki PI, eds. *Clinical transplants 2008*. Los Angeles, CA: UCLA Tissue Typing Laboratory, 2009: 1-18.

12. J.B. Transplantacija organa produžava život. *White - specijalizovani časopis za lekare, stomatologe i farmaceute* 2009;3 1:8-11.

13. Vlaisavljevic Z, Jankovic S, Maksimovic N, Culafic M, Stulic M, Milovanovic T, Oluic B. Attitudes of Nurses Toward Organ Donation in Serbia. *TransplantProc*. 2020 Apr;52(3):673-679.

14. Stadlbauer V, Steiner P, Schweiger M, et al. Knowledge and attitude of ICU nurses, students and patients towards the Austrian organ donation law. *BMC Med Ethics*. 2013;14:32.

15. Gridelli B, Remuzzi G. Strategies for making more organs available for transplantation. *N Engl J Med*. 2000;343(6):404-410.

16. Prottas J, Batten HL. Health professionals and hospital administrators in organ procurement: attitudes, reservations, and their resolutions. *AJPH*. 1988;78:642-5.

17. Shroff S. Legal and ethical aspects of organ donation and transplantation. *Indian J Urol*. 2009 Jul;25(3):348-55.

18. Aramesh K, Arima H, Gardiner D, Shah SK. An International Legal Review of the Relationship between Brain Death and Organ Transplantation. *J Clin Ethics*. 2018 Spring;29(1):31-42.

19. Guzik-Makaruk EM, Olesiuk-Okomska M, Matuszkiewicz-Rowińska J, Małyszko J. Selected Legal Aspects of Donation After Circulatory Death in Poland. *Ann Transplant*. 2019;24:93-99.

20. Abbasi M, Kiani M, Ahmadi M, Salehi B. Knowledge and Ethical Issues in Organ Transplantation and Organ Donation: Perspectives from Iranian Health Personnel. *Ann Transplant*. 2018;23:292-299.

21. DeVita MA, Snyder JV, Grenvik A. History of organ donation by patients with cardiac death. *Kennedy Inst Ethics J*. 1993 Jun;3(2):113-29.

22. Stefanović NZ, Cvetković TP, Dinić KS, Mitić BP, Paunović GJ, Damjanović ID, et al. Influence of different formulations of tacrolimus on dosage regimen and drug exposure with in the first year after kidney transplantation. *Hospital Pharmacology - International Multidisciplinary Journal*. 2019;6(2):774-84.

Stavovi o pravnim i etičkim aspektima doniranja organa među zdravstvenim radnicima i opštom populacijom u Crnoj Gori

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KRATAK SADRŽAJ

Uvod: Medicinski i pravni problemi transplantacije organa su brojni. Donor mora biti u potpunosti upoznat i na pravi način informisan o svim elementima transplantacije, a naročito o mogućim posledicama zbog oduzimanja tkiva i organa, što je suštinski medicinsko-etički problem.

Cilj: Cilj ovog istraživanja bio je da se utvrdi stav prema nekim od pravnih i etičkih aspekata doniranja organa među zdravstvenim radnicima i opštom populacijom u Crnoj Gori.

Materijal i metode: Istraživanje je sprovedeno uz saglasnost Etičkog komiteta Kliničkog centra Crne Gore, u Podgorici broj 03/01-1504. Uzorak je formiran slučajnim odabirom i činilo ga je 400 punoletnih građana grada Podgorice. Istraživanjem je obuhvaćeno 200 zdravstvenih radnika zaposlenih u Kliničkom centru Crne Gore u Podgorici i 200 punoletnih građana grada Podgorice.

Rezultati: Većina zdravstvenih radnika (84,6%) navodi da donor treba da bude onaj koji daje saglasnost za doniranje organa doživotno. Slično, velika većina (76%) opšte populacije veruje isto. Najveći procenat učesnika, više od trećine, u obe grupe smatra da je korišćenje organa u pogrešne svrhe ponekad moguće, dok je gotovo četvrtina ispitanika izjavila da ne veruje da bi se to moglo dogoditi. Razlika u mišljenju zdravstvenih radnika i opšte populacije po ovom pitanju nije bila statistički značajna ($p = 0,522$).

Zaključak: Iz našeg istraživanja može se zaključiti da obe grupe ispitanika uglavnom smatraju da je garancija da će se organi koristiti u prave svrhe najvažniji faktor u doniranju organa i da je donor taj koji će dati saglasnost za doniranje živih organa. U predlogu mera je potrebno osmisliti strategiju u cilju povećanja poverenja da će se doniranje organa obavljati samo u prave svrhe kako u opštoj populaciji, tako i kod zdravstvenih radnika.

Ključne reči: transplantacija, donacija organa, pravni aspekti, etički aspekti

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