

Organ donations in hospital services: the principal reasons for authorization refusals

Doação de órgãos em serviço hospitalar: principais motivos à negativa na autorização

Donación de órganos en el servicio hospitalario: principales razones para denegar la autorización

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Abstract: Objective: To analyze the limiting factors for organ and tissue donation for transplantation in a hospital service. **Method:** documentary study, performed in a hospital in Paraná, Brazil. The “Reports of Deaths and Monthly Donation Monitoring”, from January to December 2016, recorded by the Intra-Hospital Transplant Organ and Tissue Donation Commission, were analyzed using descriptive statistics. **Results:** deaths due to cardiopulmonary arrest prevailed, with the donor opposing the donation in life as a reason for non-authorization. Of the 54 potential donors, 27 (50%) individuals were authorized to donate, resulting in 68 organs/tissues, especially corneas. **Conclusion:** the reduced understanding of the population that led to the negative authorization of the donation and the fact that deaths from cardiopulmonary arrest made it difficult to capture multiple organs in the face of immediate ischemia were the main limitation of organ donation in the investigated service.

Descriptors: Tissue donors; Tissue and organ procurement; Structure of services; Nursing

Resumo: Objetivo: analisar os fatores limitadores à doação de órgãos e tecidos para transplantes de um serviço hospitalar. **Método:** estudo documental, realizado em um hospital do Paraná, Brasil. Analisou-se os “Relatórios de Óbitos e Monitoramento de Doações Mensais”, compreendidos no período de janeiro a dezembro de 2016, registrados pela Comissão Intra-Hospitalar de Doação de Órgãos e Tecidos para Transplantes, por meio de estatística descritiva. **Resultados:** prevaleceram óbitos por parada cardiorrespiratória, tendo o doador contrário a doação em vida como motivo de não autorização. Dos 54 potenciais doadores, foi autorizada a doação de 27 (50%)

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indivíduos, que resultou na doação de 68 órgãos/tecidos, com destaque para córneas. **Conclusão:** a falta de conscientização da população que gerou a negativa na autorização da doação e o fato de que óbitos por parada cardiorrespiratória dificultaram a captação de múltiplos órgãos frente a isquemia imediata, constituíram os principais limitadores à doação de órgãos no serviço investigado.

Descritores: Doadores de tecidos; Obtenção de tecidos e órgãos; Estrutura dos serviços; Enfermagem

Resumen: Objetivo: analizar los factores que limitan la donación de órganos y tejidos para trasplante. **Método:** estudio documental, realizado en un hospital de Paraná, Brasil. Los "Informes de defunciones y monitoreo mensual de donaciones", de enero a diciembre de 2016, registrados por el Comité intrahospitalario de donación de órganos y tejidos de trasplantes, se analizaron mediante estadísticas descriptivas. **Resultados:** prevalecieron las muertes por paro cardiopulmonar, y el donante se opuso a la donación en la vida como motivo de no autorización. De los 54 posibles donantes, 27 (50%) individuos fueron autorizados a donar, lo que resultó en 68 órganos/tejidos, especialmente córneas. **Conclusión:** la falta de conciencia de la población que condujo a la autorización negativa de la donación y el hecho de que las muertes por paro cardiopulmonar dificultaron la captura de múltiples órganos ante la isquemia inmediata fueron la principal limitación de la donación de órganos en el servicio investigado.

Descryptores: Donantes de tejidos; Obtención de tejidos y órganos; Estructura de los servicios; Enfermería

Introduction

Scientific, technological, organizational and social advances have contributed to the increasing number of organ transplants in Brazil and around the world, although insufficient in view of the large number of people waiting. This reality is striking because, in many cases, the availability of organs, tissues and cells of the human body for transplantation and treatment is the only therapeutic alternative for patients with terminal failure of various organs¹

In Brazil, in 2017, the effective donor rate grew by 14%, reaching 16.6 per million population (pmp), represented by the 3.8% increase in the potential donor notification rate (51.6 pmp) and 10.2% in the donor implementation rate (32.4%)². However, when analyzing the rate of potential donors, there is a significant inequality between the demand for organ transplantation and the number of transplants performed. This is because the rates of family refusal to donate are high and some programs have financial limitations. The rate of notifications of brain death is still low and the disparity between states in the number of effective donations is notorious.²⁻⁴

It is noteworthy that the potential donor is the individual who suffered brain death (BD), who can provide the multiple organ donation, or the one who died due to Cardiopulmonary

arrest (CA) and can only donate tissues that have longer ischemia time, such as the eye globe.⁵ According to the Federal Council of Medicine (CFM), the protocol updated in 2017 defined BD as total or irreversible arrest of brain functions, and procedures for its determination begin when the individual is in a non-perceptive coma, absence of supraspinal reactivity, persistent apnea and brain injury of known and irreversible cause.⁶

The protocol also requires clinical and complementary exams that confirm the state of BD, in order to avoid its misdiagnosis. In addition, it points to a reduction in the range of reflex tests to prove death, with one hour between the first and second battery of clinical tests, associated with imaging, which may be cerebral angiography, electroencephalogram, transcranial doppler or brain scintigraphy.⁶

The lack of information about BD results in difficulties of social understanding about reality and one of the reasons is due to the fact that cardiac monitors can show electrical tracing compatible with “life”, even in the finding of BD.⁷ In this sense, the major difficulty of the approval of family members for organ donation is linked to the need for an immediate approach to inform about this possibility when individuals are undergoing the process of accepting the loss,⁷ which concern to the importance of sensitizing the population to have knowledge about whether or not their family members are interested in being a donor.

Although it is a recognized right of the family member to consent or not to the process of organ donation, it is undeniable that this therapeutic means has improved the survival and quality of life of many people, which refers to the need for health professionals and services to be properly prepared to increase their rates of organ and tissue procurement and transplantation.⁵ Thus, knowing the aspects that limit the professional’s performance and, as a consequence, organ donation, can subsidize the replanning of actions.

Given the context above, it is postulated that studies that investigate the characteristics of potential donors, the organ donation profile and reasons that led to the non-consent of this

action through the analysis of the service forms, may help to detect any vulnerabilities that may interfere in the effective donation, providing subsidies for the planning of actions that improve the effectiveness of the process. Thus, it is questioned what are the limiting factors to organ and tissue donation for transplants in a hospital service. And, to answer it, the objective was to analyze the limiting factors to organ and tissue donation for transplantation in a hospital service.

Method

This is a cross-sectional, descriptive, retrospective study of documentary source. It was performed in a nonprofit philanthropic hospital institution located in a municipality in the inner state of Paraná, Brazil, and which is accredited by the National Transplant System. The service responsible for organ donation actions has been operating since 2014.

The study timeframe was from January to December 2016. From this period, we analyzed all the “Reports of Deaths and Monthly Donation Monitoring”, which are documents registered by the Intra-Hospital Transplant Organ and Tissue Donation Commission. (CIHDOTT) of the hospital.

Data collection took place between July and August 2018, using a form elaborated by the researchers, aimed at the manual extraction of variables related to the demographic characterization of the potential donor/donor (age and gender), demographic and clinical characterization of the donor (age, sex, medical diagnosis and reason for death) and procedures related to the donation (family approach, loss, authorization and reasons for non-authorization), as recommended by current legislation.

After collection, the data were tabulated in a spreadsheet and submitted to descriptive statistical analysis, using percentage proportion, central tendency (mean) and amplitude (minimum and maximum) measures.

All ethical precepts in research involving human subjects have been respected. The proposal of this research was approved by the Research Ethics Committee involving human beings under the opinion number 2.566.663 of March 27th, 2018.

Results

Of the 614 deaths that occurred in 2016 at the institution, 343 were male (55.9%), with a mean age of 62 years. Of the total, 602 were deaths from cardiopulmonary arrest (98%) and 12 from BD (2%).

Among the investigated deaths, most (91.2%) did not meet the criteria necessary for characterization as a potential organ donor. Table 1 presents the main reasons for excluding deaths, according to criteria of the legislation.

Table 1 – Exclusion of deaths as potential donors, according to criteria of the legislation (n=560). Municipality of Paraná, 2016.

Reasons	n	%
Out of age range (≥ 75 years)	363	64.8
Organ or tissue not eligible for uptake (corneal scar/icteric eye)	44	7.9
Sepsis	22	3.9
Severe infection (active bacterial/viral)	91	16.3
Neoplasms	08	1.4
Unknown diagnosis	10	1.8
Hemodilution	5	0.9
Positive serology	11	2
Other clinical contraindications*	6	1

Caption: **n**: total number; **%**: percentage. Source: Intra-Hospital Transplant Organ and Tissue Donation Commission - CIHDOTT.

*Permanent Makeup/Tattoos; History of tuberculosis/Uncertainty of treatment.

Fifty-four potential organ and tissue donor protocols were opened, presented for demographic and clinical characteristics in Table 2.

Table 2 – Demographic and clinical characterization of potential organ and tissue donors (n=54). Municipality of Paraná, 2016.

Variable	n	%
Gender		
Male	37	68.5

	Female	17	31.5
Age	61 - 70	15	27.8
	51 - 60	12	22.2
	21 - 30	8	14.8
	41 - 50	6	11
	31 - 40	5	9.3
	11 - 20	3	5.6
	03 - 10	3	5.6
	71 - 75	2	3.7
Death	Cardiopulmonary arrest	44	81.5
	Brain death	10	18.5
Medical diagnosis	Stroke	10	18.5
	Cardiogenic shock	8	14.8
	Acute myocardial infarction	7	13.0
	Acute respiratory insufficiency	5	9.3
	Polytrauma	5	9.3
	Firearm Injury	4	7.4
	Acute lung edema	2	3.7
	Head injury	2	3.7
	Exogenous poisoning	1	1.9
	Heart disease (arrhythmia)	1	1.9
	Pancreatitis	1	1.9
	Multiple organ dysfunction	1	1.9
	Chronic obstructive pulmonary disease	1	1.9
	Acute Kidney Failure	1	1.9
	High digestive bleeding	1	1.9
	Pulmonary thromboembolism	1	1.9
	Cerebral hernia	1	1.9
	Foreign-body airway obstruction	1	1.9

Caption: **n**: total number; **%**: percentage. Source: Intra-Hospital Transplant Organ and Tissue Donation Commission - CIHDOTT.

Among the 54 potential donors, there were eight losses related to logistical situations, namely: six because of not getting a hold or no show of family members, in a timely manner to donate (11%) and two occurred in the night shift and the nurse on duty did not report CIHDOTT death (3.7%). After such losses, there were 46 interviews with family members that resulted in 19 (35.4%) losses for non-authorization of family donation, as described in Table 3.

Table 3 –Distribution of reasons for not authorizing organ donation by family members in a hospital institution (n=19). Municipality of Paraná, 2016.

Reasons for not authorizing	n	%
Donor opposing the donation in life	7	13.0
Disagreement between family members	3	5.6
Unknowledge of potential donor's desire	3	5.6
Family desire for the intact body	3	5.6
Family refusal/not justified	3	5.6

Caption: **n**: total number; **%**: percentage. Source: Intra-Hospital Transplant Organ and Tissue Donation Commission - CIHDOTT.

Applying all criteria and stages of the donation process, organ donation of 27 individuals (50%) was authorized, resulting in the donation of 68 transplanted organs/tissues, specified in Table 4.

Table 4 – Distribution of effective organ donations (n=68) by organ. Municipality of Paraná, 2016.

Donated organs	n	%
Corneas	25	46.3
Eye globe	19	35.2
Heart valve	3	5.6
Kidney	12	22.2
Liver	4	7.4
Pancreas	3	5.6
Heart	1	1.9
Bones	1	1.9

Caption: **n**: total number; **%**: percentage. Source: Intra-Hospital Transplant Organ and Tissue Donation Commission - CIHDOTT.

Discussion

Most males may be associated with the lower demand for health services by this public, even with greater vulnerability to chronic diseases.⁸ Due to the low demand for health promotion and disease prevention services, male entry is sometimes characterized by services of medium or high complexity, which creates a higher risk to cases.

The major cause of exclusion of potential organ donors was related to the age group over 70 years old. Although in the institution investigated to be a potential donor, the individual

must be under 70 years old, yet some literature assures that the determinant for donation is related to the general health status of the donor.⁹ Thus, it is suggested to reflect on whether large numbers of losses could not be reduced if the assessment were based solely on clinical criteria.

The predominance of potential donors was men aged 51 to 70 years whose main cause of death was cardiopulmonary arrest. In Brazil, mortality in the male population is primarily associated with external causes, followed by circulatory diseases and neoplasms.¹⁰ In this study, the characterization of potential organ and tissue donors had the medical diagnosis of stroke, followed by cardiogenic shock, also found in another study in which 53.9% of potential donors had stroke as BD cause.¹¹⁻¹²

The data corroborate the main cause of mortality in the world due to cardiovascular diseases, which represents about 30% of deaths in Brazil. In general, cardiovascular diseases can be prevented by addressing behavioral risk factors such as smoking, inadequate diet, alcoholism, hypertension and diabetes mellitus.¹³ In this scenario, the importance of prevention and investments in health education is observed, especially from men. For this, the strategies established by the National Policy on Men's Health should be strengthened, discussed and effectively implemented by health professionals in the daily practice of the service.¹⁴

Another point that should be highlighted are the reasons for not authorizing donation by family members. This is because, despite all the efforts of the multiprofessional team, there are still other criteria that end up eliminating potential donors such as the donor being opposed in life, to donation. Often, the lack of adequate information provided can lead to family discomfort and discontent, negatively contributing to the consent of the donation.¹⁵

One of the great questions among family members is the understanding of the meaning of BD. This lack is evidenced by the maintenance of cardiac functioning and other organs, even if artificially,¹⁶ which may cause families to hesitate to accept the end of life, a problem that can

be resolved through health education with the population, and, especially of health professionals. The lack of adequate information can lead to misinterpretations, which makes the development of actions and awareness campaigns of the population regarding the criteria for organ donation necessary, so that it is not restricted to specific actions, but rather integrates the work routine at different points of health care.

Another determining factor for family refusal is related to the desire for the intact body. The fear of authorizing the donation is often feared because it is believed that in the manipulation of the body of the loved one may cause deformities while removing the organs, consequently making it difficult to release the body to the mourning. In this context, religion stands out as an influencing factor in family decision, identified in a study,¹⁵ which emphasized the religious issue as one of the main reasons for family refusal.

Other losses due to logistical issues, shows the lack of preparation of the team and insufficient continuing education about the process. Thus, investment in continuing education for all involved in the donation process is necessary to improve the working conditions of the professionals involved in partnership with support networks.¹⁷

Even in the face of these obstacles, there were 50% donations of the total families approached. The largest number of donated organs is still the eye globe and cornea, due to individuals diagnosed with CA when compared to those of BD. The growing increase in donations ranked Paraná in national prominence in 2016 by the rate similar to the best performing countries in the world.² This highlight may be related to the policies of the Paraná State Transplant System (SET-PR), which invests and encourages the updating of professionals working in the donation process, considering this encouraging aspect to improve organ donation.¹⁸

Regarding the number of donations, 50% of potential donors are approaching the state of Paraná's index of 48.7% according to the SET-PR, between 2011-2016,¹⁶ and is very different

from the study conducted in the city of Natal-RN in six hospitals identifying 27.7% effectiveness.¹⁹ The gradient between the two regions of the country corroborates the data from the Brazilian Association of Organ Transplants, which identified an increase in the Southern region in 2016, especially in Parana, with 42% growth, reaching the rate of 30.0 pmp, twice higher than the national average of 14.6 pmp.²

To optimize this performance, patient safety is also a crucial aspect in maintaining the donation process. This is because it needs to go through all scenarios of care management, since the care provided is the result of the integration between health professionals and the health services involved. This inseparability, when properly conducted, prevents errors and/or adverse events from occurring in the process of providing and managing care.²⁰⁻²¹

Finally, articulating strategies emphasized in the standardization of processes through Permanent Education for both professionals and the population, can enhance safe and qualified decision making. Thus, strengthening this care practice and improving health outcomes through, organ and tissue donation and transplantation.

In this study, it was not possible to associate the specificities of the results found along the structural (physical, material) and organizational (care flowchart and human resources) as an influence on the outcomes and success of effective donations, recommending future investigations.

Conclusion

It is concluded that the profile of potential donors is concentrated in adult and elderly men with death due to cardiovascular causes. The main reasons for the negative authorization of organ donation, possibly, are linked to sociocultural interference with the process, due to the lack of knowledge of the population about the aspects involving organ donation and the link in the social imaginary of the disruption with body integrity.

Another limiting point to organ donation is related to the clinical profile of the investigated patients, since most deaths in the institution occurred due to Cardiopulmonary arrest, a fact that restricts the capture of multiple organs due to the ischemia time that allows tissue viability.

It was not possible to verify the association of the reasons for non-authorization in relation to the sociocultural characteristics of patients and their families, an aspect pointed out as of interest to future investigations. Nevertheless, it is believed that the study contributes in the area of organ donation, as it represents a situational diagnosis that favors the decision-making of health professionals involved in the area, in order to improve donation rates.

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