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ORGAN RECOVERY: ANALYSIS OF THE ORGAN HARVESTING PROCESS IN PELOTAS – RS

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Abstract: INTRODUCTION: This article will address the topic of Organ Procurement in the city of Pelotas (Rio Grande do Sul), focusing on the functioning of this network. **OBJECTIVE:** To understand the process and functionality of the organ harvesting system, with the information base being Hospital A, in Pelotas (Rio Grande do Sul), and Hospital B, in Rio Grande (Rio Grande do Sul), as well as such as logistics, communication network, transportation; aiming to inform and raise awareness of the population on the subject. **METHODS:** Descriptive, qualitative, exploratory research article (interview with director of CIHDOTT at Hospital A, in the city of Pelotas, RS) and with bibliographic review. **RESULT**: The main obstacles in the recruitment process were family refusal to donate organs, difficulty in transport logistics, lack of trained teams and lack of financial incentive. **CONCLUSION:** It can be concluded from this work that organ harvesting in Brazil presents a series of problems, which are responsible for the difficulty in carrying out organ harvesting. Therefore, quality management of public health services is essential, with the aim of resolving obstacles related to the topic.
Keywords: Organ harvesting, organs, brain death, organ transplant, organ donation.

INTRODUCTION

Brazil has one of the largest public health systems in the world, called the Unified Health System (SUS), which guarantees full, universal and free access for the entire population.[1] Due to this health support, the country is a global reference when it comes to organ transplantation, being responsible for financing and carrying out more than 88% of national organ transplants.[2]

Organ harvesting is a process made up of multiple stages, starting with the suspicion of brain death, which will be confirmed

by medical evaluation. Brain death can be understood as an irreversible loss of functions performed by the brain, since the person loses vital functions, as well as the failure of the body. Next, the participation of two health teams is essential, one for the care of the donor and the other for the organs. However, an exception to the rule is corneal harvesting, which can occur regardless of the presence of brain death, violent death or natural death.[3]

To this end, despite being a very scarce subject in the literature, it is important to understand the organization of the organ procurement process in all its stages. Thus, there is a coordination called the National Transplant System (SNT), which regulates and controls activities, including social ones, that take place in the country in this area, through coordination with all members of the SNT, whether at state, municipal or municipal levels. service providers. [3]

With the development and increase of transplant activities in the country, the need arose to create a structure that would coordinate with interstate actions, thus, on August 16, 2000, the National Transplant Center (CNT – operating in Brasília) was created. DF), in addition to the State Centers in each region. Furthermore, the Organ Procurement Organizations (OPO) were created in 2009, by Ordinance No. 2600, to work together with the Organ Notification, Procurement and Distribution Centers (CNCDO) and Intra-Hospital Transplant Commissions (CIHDOTT), thus forming a logistics system for the procurement and donation of organs in the country.[3]

Regarding the diagnosis of brain death in Brazil, all guidelines must be respected in accordance with current resolution No. 2,173/17 of the Federal Council of Medicine (CFM).[4] In this context, once the patient receives a score of 3 on the Glasgow Coma Scale, CIHDOTT must notify the OPO and the State Transplant Center, as shown in Figure 1. Then, a brain death protocol is opened at the hospital, so that the patient is identified as a possible donor.[3]

Classification	Concept
CIHDOTT I	Health establishment with up to 200 (two hundred) deaths per year and beds for ventilatory assistance (in intensive care or emergency), and professionals in the area of internal medicine or pediatrics or intensive care, or neurology or neurosurgery or neuropediatrics, members of its clinical staff.
CIHDOTT II	Reference healthcare establishment for trauma and/or neurology and/or neurosurgery with less than 1000 (thousand) deaths per year or non-oncological healthcare establishment, with 200 (two hundred) to 1000 (thousand) deaths per year.
CIHDOTT III	Non-oncological healthcare establishment with more than 1000 (thousand) deaths per year or healthcare establishment with at least one organ transplant program.

Figure 1 (CIHDOTT Classification Concepts).

Source: Ministry of Health – ORDER, number: 2,600, OF OCTOBER 21, 2009.

In conjunction with the process, after opening the protocol, it is necessary for the family to be informed about the patient's clinical condition and demonstrate their willingness to donate the organs, through a consent form. The new legislation establishes a hierarchical organization regarding the final decision to donate, following the order of priority: wife, child, brother, parents and uncles; In cases of direct family absence, judicial measures must intervene in the decision. [3]

So that the means of procurement can be better utilized, it is necessary to create strategies aimed at overcoming the obstacles that make the process difficult, such as: failure in procurement logistics, communication between organ procurement and distribution notification centers, organization of time

and means of transport to the recipient, since organs such as the heart and lungs have extracorporeal vitality for 3 to 4 hours, without their function being impaired. [5]

Adding to this, the main impasse faced in the context of organ procurement is family refusal. This is due to limited knowledge about how the organ removal process occurs, as a small portion of the population is informed about the subject. In addition, other factors such as the difficulty in dealing with the issue in the face of grief, associated with religious issues and beliefs about body mutilation. Even though the medical team, at the time of brain death diagnosis, advises the family about the possibility of organ donation and explains how the process works, it is known that it is a delicate moment for the family, making acceptance difficult.[5]

Therefore, this article aims to analyze the flow of organ donation and procurement in the city of Pelotas (Rio Grande do Sul), in the year 2022.

METHODS

This article was developed through a case study in the city of Pelotas, which is based on exposing research issues, based on data collection through an interview with a professional responsible for CIHDOTT at Hospital A. This study has a qualitative nature, exploratory and descriptive, as well as an interview with the responsible director of CIHDOTT, as mentioned previously.

According to research carried out in a literary review, with the aim of obtaining a comparison for analysis of the data collected to analyze the proposed objectives based on articles, it was noted that this subject is quite scarce in electronic databases. Such search sources cited are national scientific publications, ordinances, decrees and laws available on government websites, including the Ministry of Health and the Federal Government, as well as Google Scholar, UpToDate, SciELO and PubMed. The objective of this article is to gather as much information as possible on the subject of Organ Harvesting, with the aim of passing it on to health professionals and the general population.

RESULTS

In this article, the organization of organ procurement was discussed, as well as its operation, analyzing the institutions that deliberate the phases of the process, including the CIHDOTT of Hospital A. This committee was created based on Ordinance No. 2,600, which made its existence mandatory in public, private and philanthropic hospitals, which fit a certain profile and classification (Figure 1); CIHDOTT II was analyzed in this hospital.

In addition to this, this Ordinance determines that CIHDOTT must be established by a formal act of the management of each health establishment and be linked directly to the institution's medical management. Furthermore, it must be composed of at least three members of its staff, one of whom must be a doctor or nurse, known as the Intra-Hospital Coordinator of Organ and Tissue Donation for Transplantation, as well as an administrative agent and, when possible, a pedagogue; Currently, at Hospital A, the team consists of a doctor and 4 nurses.

In view of this, the Commission aims to organize organ donation care protocols, offer support to family members of potential donors and communicate the medical teams of the health establishment, especially those in the Intensive Treatment and Urgency and Emergency Units, about the potential donors, providing adequate support for donation.

In relation to the Organ Procurement Organization (OPO), it must act in a regionalized manner to detect and facilitate potential organ and tissue donors for

transplants. In addition, the OPO also receives the role, delegated by the CNCDO, of supporting and organizing the execution of organ donation processes, in its geographic area of operation; with OPO 5, from Hospital B, in Rio Grande (Rio Grande do Sul), responsible for the southern macro-region, which encompasses the municipalities of Rio Grande, Pelotas, Bagé and Canguçu.

In this sense, as shown in Figure 1, the OPO must be composed of a coordinating doctor, nurses and administrative agents experienced in the area. Therefore, the technical directions of the participating hospitals must facilitate the Organization's work, guaranteeing access to hospitalization, intensive treatment, emergency or similar units, surgical centers, as well as diagnostic means units related to the organ search activity.

Thus, CIHDOTT's responsibility is to notify and promote the registration of all cases diagnosed with brain death, maintain a record of the number of deaths occurring in the institution and coordinate simultaneously with the OPO and the State Transplant Center, in order to organize the process of donation and procurement of organs and tissues.

Regarding the organs harvested, it is known that they will be directed to different regions, since in Pelotas the transplants carried out are only kidneys. However, for a long time, cornea harvesting and transplantation stood out in the city, given the presence of an Eye Bank, which began activities in 2006, but in March 2020 closed its activities due to the COVID-19 pandemic. In this context, for organ harvesting to be effective, it is necessary that all stages of the process are carried out correctly, however there are still a series of obstacles that hinder proper functioning, which will be highlighted throughout the discussion.

The interviewed team referred several times to the lack of social acceptance regarding organ donation, and reinforced that it is one of the major obstacles faced, mainly due to social ignorance about how the procurement process works.

Regarding transport logistics, the final step after harvesting, requires quick and efficient dynamics, since harvested organs have limited extracorporeal life, restricting the means of transportation intended for this process. Therefore, it is up to the State Transplant Center to send a qualified team and appropriate means of transport to collect and distribute the organ to the recipient, which occurs depending on availability and is subject to delays.

However, this process becomes difficult due to the small number of airlines in Pelotas, considering that the organ time must be transplanted in the shortest possible time, in addition to being a city relatively far from the center of the state to use land vehicles, which reinforces the need for planning aerial resources for successful capture.

DISCUSSION

Among the main factors that contribute to long transplant waiting lists in Brazil, family refusal to donate stands out. In this scenario, some of the reasons that lead to this position are: lack of knowledge about who can or cannot be a donor, the idea of reversing brain death, beliefs about body mutilation after organ collection and religious principles.[5]

Based on family responsibility, current legislation (Law 9,434 updated by Law 10,211/2001) establishes that the family has the final decision on organ procurement, which impacts the number of donors.6 Therefore, it is known that there is a need of a well-prepared team to notify and inform the family of the possibility of donation, is also essential for the success of fundraising.[5]

In this sense, the lack of knowledge about how the capture process works causes distrust and this way, social beliefs of body mutilation

and disrespect towards loved ones develop. However, this does not match the reality in the practice of harvesting, since ethical principles govern the organ collection process. Therefore, it is mandatory for the medical team to respect the integrity of the donor body, using instruments such as prostheses for anatomical reconstruction, in order to preserve the donor's physiognomy, as well as capture the largest possible number of viable organs.

Given this, a good strategy to educate the population on the subject is through health professionals, who convey security, being able to clarify doubts and demystify beliefs. Furthermore, the creation of public policies – in partnership with communication vehicles and media – on the importance of organ donation and process safety are far-reaching alternatives for disseminating information to the community.[7]

Furthermore, the presence of qualified professionals is essential for the collection and transport of organs. This team is sent by the State Transplant Center, in addition to being accredited by the National Transplant Center, which also offers training for the position. Despite this, it is known that there is a decentralization of accredited groups, as they are more prevalent in large centers, which leads to the need for travel.

Given this reality, an alternative is to expand the offer of courses for training professionals. This way, it is possible to improve fundraising logistics by promoting the decentralization of teams, given that the last training sessions were carried out in 2019. This way, in addition to the greater number of trained professionals, the need and planning for air transport would also be reduced, given the reduced need for transportation.[7,8]

In relation to the dynamics of organ procurement, it is essential to plan public policies with the aim of improving the quality and efficiency of inter-hospital transport logistics. In this context, the lack of availability of adequate means of transportation for collection is a limiting factor for harvesting organs, which have a short extracorporeal half-life, requiring a fast, well-equipped vehicle with good sanitary conditions, in order to avoid ischemia of the organ.

Furthermore, intra-hospital communication between different sectors, such as Emergency Room and CIHDOTT, is essential to ensure notification of all Glasgow 3 cases that are admitted. This way, this commission will be able to effectively register and open the brain death protocol for the possibility of organ collection.

With the aim of encouraging the procurement of organs, a financial support program created by the Ministry of Health, called Qualification of the National Transplant System, was recently approved. (QualiDot)[9]. This service evaluates qualitative and quantitative indicators to classify hospitals according to their services in the area of transplantation and determine remuneration, such as the percentage of effective donations in relation to the total number of brain death notifications in the last two years. However, such parameters benefit larger hospital networks with good structure and flow, generally in large centers, to the detriment of the lack of investment in smaller hospitals.[8]

Another point worth investing in is offering courses to all CIHDOTT members, in addition to offering financial support to ensure that these professionals meet schedules and goals related to organ procurement. Still at this point, it is known that such members have a more established doctor-patient relationship with the bereaved family, which facilitates the communication of bad news (Brain Death) and the possibility of donation, facilitating the family's understanding of the current situation. Finally, improving

the infrastructure of surgical blocks would contribute to expanding the procurement and transplantation of organs, as it allows for a greater number of hospitals capable of carrying out this activity.

CONCLUSION

Despite Brazil having one of the largest public health programs in the world, the Unified Health System (SUS), it still has flaws in terms of organ harvesting and transplantation, as detailed previously. To achieve this, public policies must be focused on this scenario, such as the application of funds to appropriate vehicles and trained teams, providing improvements to solve system deficits.

Therefore, for quality harvesting to occur, good health conditions of the donor are necessary, a greater quantity of organs harvested from the same donor, the shortest possible time between harvesting and transplantation, adequate transport of the organ through viable transport and a trained team, family acceptance and transplant success.

Through public health policies – in conjunction with the media – it is important to make the issue public, in order to clarify to the community in general what brain death is and when it occurs, the irreversibility of this condition, and the possibility and importance of organ donation. Furthermore, this space must be used to demystify popular beliefs about how the donor's body will be cared for at the time of collection. Such efforts are necessary to increase social acceptance of organ donation, reducing waiting lists for transplants, which are still very long.

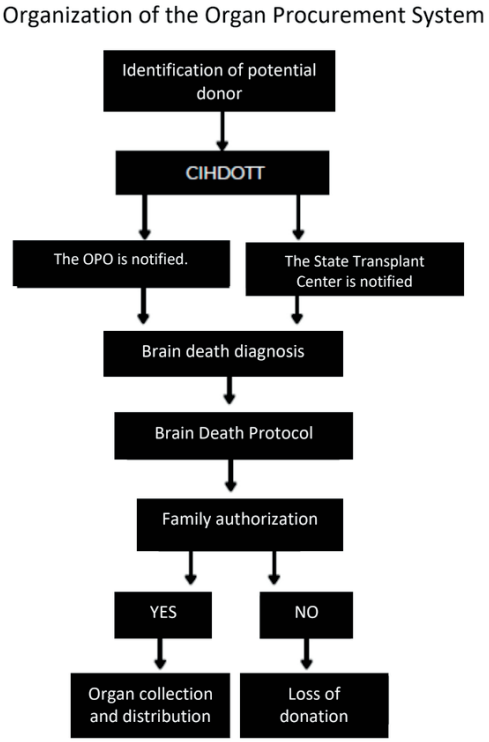

Figure 2: Flowchart of structural and functional organization of the Organ Harvesting System.

CIHDOTT: Intra-Hospital Transplant Commissions; OPO: Organ Procurement Organizations; ME: Brain Death; CNCDO: Organ Notification, Procurement and Distribution Centers.

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