

BIOSURVEILLANCE: QUALITY AND SAFETY IN THE PROCESS OF ORGAN AND TISSUE DONATION AND TRANSPLANTATION

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Health care in different care scenarios is permeated with risks, both for the patient and the professional. The process of organ and tissue donation and transplantation is not different.

According to the Brazilian Transplantation Registry (RBT), between January and September 2019, the waiting list for transplantation had 36,468 patients. In the same period, 2,775 organ and/or tissue donations were made, and more than 20 thousand transplants were performed (6,772 of solid organs, 10,995 of the cornea, and 2,575 of bone marrow)¹.

Such numbers have been increasing since 2009 when the Brazilian Association of Organ Transplantation (*Associação Brasileira de Transplante de Órgãos – ABTO*) started consolidating and periodically publishing these data¹. The significant number of transplants reveals that Brazil is the country with the most extensive public program for this type of procedure in the world².

In this context, the donation-transplantation process is characterized as a highly complex area. Therefore, it involves different professionals and services in distinct stages, among them: identification of the potential donor, diagnosis of brain death, family interview, donor maintenance, surgery to remove multiple organs and tissues, packaging, organ and/or tissue storage and transportation to the transplant center, transplantation, and follow-up of the transplanted individual.

Each of the stages comprises risks of adverse events that can harm the recipient, such as failure to perform the transplant, disease transmission, and infections and/or unexpected complications after the procedure³. Regarding living donor transplantation, concern and care for the donor, who is a healthy individual, further increases the complexity of the process.

Consequently, health professionals have a great responsibility concerning care quality and safety for the donor and recipient. The behavior of health professionals is a decisive factor for care safety⁴. Since communication is the impact factor for patient and professional safety in any health process, the use of indicators and the analysis and dissemination of results can contribute to best practices in the donation and transplantation process.


Countries such as Italy, Spain, the United States, and Australia have developed and implemented surveillance systems, aiming to map risks and analyze adverse events and, based on them, propose safety measures. Thus, biosurveillance corresponds to a set of monitoring and control actions that cover the entire cycle of organ and tissue donation and transplantation⁵.

In Brazil, the Ministry of Health, via the Brazilian Health Regulatory Agency (*Agência Nacional de Vigilância Sanitária – ANVISA*) has been implementing a biosurveillance system through a component of the Health Surveillance Notification and Investigation System (*Sistema de Notificação e Investigação em Vigilância Sanitária – VIGIPOS*). This system is used in the process of donation and transplantation of cells, tissues, and organs⁵, enabling those involved in both stages to notify the risks and adverse events.

The importance of notification stands out for the possibility of generating knowledge, learning from past situations, and creating strategies to increase safety and quality in the processes³.

It is noteworthy that quality and safety improvements in the donation and transplantation process presuppose the adoption of indicators and the analysis of results that can guide best evidence-based care practices. To that end, surveillance models already implemented in other countries should be investigated².


Thus, considering the insufficient number of donors to supply the waiting list and that transplantation is often the only chance of survival for many individuals, collective efforts are necessary, aiming at higher quality and safety in the organ and tissue donation and transplantation process². Therefore, biosurveillance systems can contribute significantly to successful results.

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