









## Original article

### Organ transplantation and donations program: nursing challenges in the pandemic context

*Programa de transplantes e doações de órgãos: desafios da enfermagem no contexto de pandemia*

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### Abstract

**Objective:** to analyze the perception of health professionals regarding the difficulties found while working in the organ transplantation and donation program in the face of the COVID-19 pandemic scenario. **Materials and Methods:** This is a subjective research research, with a transversal exploratory qualitative approach, carried out with health professionals working in the area of organ transplantation and/or donation in the city of Montes Claros-MG, Brazil. **Results:** the study analyzed the answers of 13 health professionals who expressed their conceptions about the exercise of the organ transplantation and donation program, which presents peculiarities and the need for adaptation in the face of the current pandemic scenario of COVID -19. According to the participants, the biggest difficulties faced by the program are: the population's lack of awareness; overload and undervaluation of the team; the pandemic; and finally, the family members' refusal, pointing to religiosity as an interference in the program's results. **Final thoughts:** the conduct of the nursing team in the process of organ and tissue donation and transplantation has been facing changes that involve different aspects of their routine due to the current pandemic scenario, following new protocols and established norms, so that there is no contamination of pre- and post-transplant patients.

**Keywords:** Anthropometry. Muscle Strength. Pliability. Aged. Comparative Study.

### Resumo

**Objetivo:** analisar a percepção dos profissionais da enfermagem quanto às dificuldades encontradas durante a atuação no programa de doação e transplante de órgãos frente ao cenário pandêmico da COVID-19. **Matérias e Métodos:** trata-se de uma pesquisa de investigação subjetiva, de abordagem qualitativa transversal exploratória, realizada com profissionais da saúde que trabalhavam na área de transplante e/ou doação de órgãos na cidade de Montes Claros-MG, Brasil. **Resultado:** foram analisadas as respostas de 13 profissionais de saúde que expressaram suas concepções acerca do exercício do programa de transplante e doação de órgãos, que apresenta peculiaridades e necessidade de adaptação diante do cenário pandêmico da COVID-19. De acordo com os participantes, as maiores dificuldades enfrentadas pelo programa foram: a falta de conscientização da população; sobrecarga e desvalorização da equipe; a pandemia e, por fim, a recusa dos familiares, apontando a religiosidade como interferência nos resultados do programa. **Considerações finais:** a conduta da equipe de enfermagem no processo de doação e transplante de órgãos e tecidos, vem enfrentando mudanças que envolvem diferentes aspectos de sua rotina em decorrência do cenário pandêmico, seguindo novos protocolos e normas estabelecidas, para que não haja a contaminação dos pacientes pré e pós-transplante.

**Palavras-chave:** Cuidados de enfermagem. Doação de órgãos. Transplante de órgãos. Doença por coronavírus-19.

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## Introduction

Transplantation and donation consist of a surgical treatment, in which healthy tissues or organs (donor) are removed, being transplanted into another potentially sick individual, with death or failure of organs (recipient). This practice becomes important due to the number of beneficiaries, especially in situations of brain death, when these individuals are able to donate several organs to several receptors, due to the duplicity of the organs, such as kidneys, lungs and cornes<sup>1</sup>. In patients who have multiple organ failure caused by health problems, transplantation becomes a fundamental tool in the therapeutic process. Despite this, a significant difference has been observed between the number of transplants that needed to be performed and the transplants that, in fact, were performed<sup>2</sup>.

Organ donation and transplantation are fundamental for the health-disease process in society, as it enables the recovery of the recipient's health and/or improvement of quality of life, directly influencing daily life and increasing his/her life expectancy<sup>1</sup>. In addition, it has a low cost for being a unique treatment compared to chronic treatments that have a high cost to the system. In an international scenario, ten thousand renal transplant patients would lead to health savings of more than 200 million euros per year, so that the comparisons become disproportionate when faced with dialysis without including structural costs from the chronic treatment<sup>3</sup>.

The Brazilian Association of Organ Transplantation (ABTO) registered, in the first quarter of 2022, a total of 1,605 transplants, with the highest demand for kidney transplants with 1,035, followed by liver transplants (451), heart transplants (77), pancreas (25) and lung (17)<sup>4</sup>. In Brazil, Law n. 9.434/97 and Decree Law n. 9.175 of 2017 regulate the entire donation process and establish the guidelines of the National Policy on Organ and Tissue Transplants, in which the donation is guaranteed free of charge, as well as the criteria for the selection of potential living or deceased donors<sup>5,6</sup>.

The success of organ donation is a favorable result from a dynamic process, carried out through several stages that are interconnected, which evaluate the clinical condition of the donor, having potential living or deceased donors. Deceased donors are considered Potential Donors (PD), only after confirming Brain Death (BD) and excluding possible contraindications related to their clinical condition. From that moment on, the family should be communicated by the responsible doctor, then the transplant coordinators who, in their majority, are nurses, who work in the Intra-Hospital Commission for Organ and Tissue Donation for Transplants (CIHDOTT) or in the Organ and Tissue Procurement Services, conduct a family interview to address the issue of donation. When the family authorization is granted, the process of removal and distribution of the organs begins.

The criteria for transplants with living donors adopt the following logic: they are granted to donors over 18 years of age, spouse or family member up to the fourth degree of the recipient, upon the donor's authorization, and, in case of non-family patient, a judicial authorization will be necessary. For deceased donors, there are three types: donor with recent stopped heart, in this case, the probable accomplishment in the removal of organs and tissues should be instantaneous; donor with late stopped heart, being donor only of tissues, withdrawal period of 6 hours after cardiorespiratory arrest, and up to 24 hours if the body is refrigerated for the donation; and finally donor diagnosed with BD, being the most coherent donor, being able to donate all organs and tissues<sup>2</sup>.

In Brazil, the practice of organ donation began in 1965. With scientific and technological evolution, the development of immunosuppressive medications, in the mid-1970s, constituted a historical milestone in the organ transplantation process, which was accompanied by the improvement of techniques, equipment and compatibility examinations<sup>1</sup>. Brazil is one of the leaders of transplants in the public health system and in the international scenario, since the country stands out as the second largest in absolute numbers of kidney transplants, after only the United States<sup>7</sup>.

Most transplant surgeries are performed by the Unified Health System (UHS), currently considered the largest public transplant program in the world. The transplants performed in the Brazilian private health network represent a tiny number compared to the UHS. Despite the significant and promising growth of organ transplants, there is a disproportion between donors and recipients, with high demand of individuals in the waiting list for transplants. Thus, the existing program does not yet reach its real potential, taking into account the high government investment and the small amount of possible donations, and the Brazilian program has the margin to reach a larger number of people<sup>8</sup>.

The practice of transplants has been breaking barriers, however, it clearly faces great challenges and difficulties. For some years, the results obtained from transplants were introductory, however, these data have been developing as the technical-scientific evolution applied to this science occurs<sup>9</sup>. Most donors are deceased patients with BD in hospitals after severe brain damage. Nevertheless, only 1% of the deceased individuals donates, representing less than 3% of the deceased in hospitals in the same situation, in which there is no implementation of the process, contributing to the low number of potential donors.

In late 2019, the world witnessed the emergence of a new disease, caused by the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), named as COronaVirus Disease-2019 COVID-19. The symptoms presented consist of fever, flu symptoms and difficulty breathing, and may progress to a severe infectious process, leading to cardiopulmonary and multisystem dysfunction<sup>10</sup>.

In 2020, the year in which the COVID-19 pandemic changed the world scenario, there were thousands of deaths, changing the entire social scenario, especially that related to health. Therefore, the donation and transplantation program in Brazil has also been affected. In this assumption, due to this reality and with the blocking of elective surgeries, there was a decline in the number of interventions by the donation and transplantation program. In addition, other reasons responsible for this fall come from the restrictions of the pandemic scenario, the most impactful currently, and the refusal of the family members<sup>8</sup>.

Technical Note n. 34/2020<sup>10</sup>, issued by the Ministry of Health in 2020, establishes the technical criteria for the selection of organs and tissues PD candidates to organize and meet waiting list requests in the pandemic context. The objective of these recommendations was to ensure the protection of health professionals and patients against the contamination of COVID-19, to carry out in a safe and qualified way the active search and acquisition of organs and tissues. The risks of COVID-19 from an organ donor infected with the SARS-CoV-2 are still investigated. However, it is indispensable to act with caution when considering transplants<sup>11</sup>.

Nursing professionals play a key role in the organ and tissue donation and transplantation program. Their performance starts from the primary approach to professionals, family members and active search for suspected cases of BD with total mastery of the physiology and pathology of this process, as well as the interview with the patient's family, responsible for all the logistics, organization and documentation for the authorization of organ donation, as well as coordination and planning of organ removal and surgery<sup>12</sup>.

The nurse is the professional who works at the outpatient level, in preoperative actions when the patient waits for organ donation, since the outpatient is the first step for the patient with this indication, also being the environment where the follow-up is performed after hospital discharge. In the postoperative period, the health professional needs to make an accurate evaluation and effective monitoring of this patient, such as the control of complications quickly. Moreover, the nurse has the function of informing those responsible for the follow-up of the transfer, also transmitting all the guidelines, in order to educate the family members about the care process. Thus, the nurse is an active member in the area, responsible for organizing the process and providing all the necessary help, which aims to provide qualified assistance to the patient. Their professional practice establishes links between the team and the transplanted. The professional is seen as a guide who values the physical and psychological well-being<sup>13</sup>.

In this direction, the nursing professional has been gaining much prominence during long years of operation in this area, being considered as fundamental to manage this process, since it provides communication with the multidisciplinary team and with family members. This conduct is

essential for agile decision-making, prioritizing interventions that save time, ensuring the necessary care to provide quality and safe care, with actions implemented at all stages of the donation, transplantation and post-transplantation process<sup>7</sup>. Thus, nursing is directly linked to the patient and, therefore, is daily challenged regarding the delivery of a good care practice, through knowledge and technical-scientific training for the professional exercise, ensuring that the patient returns to his/her home with necessary information about self-care<sup>14</sup>.

Thus, this research aims to analyze the perception of nursing professionals regarding the difficulties found during the organ donation and transplantation program in the face of the COVID-19 pandemic scenario. In Brazil, the therapeutic need for organ and tissue transplants has become clear, as they present a low cost compared to other treatments and provide better quality of life for the recipient, increasing his/her life expectancies<sup>3</sup>.

Despite the decline observed in the period from 2019 to 2020 due to the emergence of SARS-CoV-2, the greatest difficulty of the program still comes from the non-acceptance of family members, due to various beliefs related to religion. For some, for example, even when brain death is observed, they believe that the individual is alive, because there is still the presence of respiratory and cardiac function, bringing hope to family members, despite the existence of studies in the scientific community that prove that brain death is an irreversible frame<sup>10</sup>.

The fundamental role of the nursing team in this reality of the donation and transplantation process is highlighted<sup>2</sup>. The choice of the theme of the research is justified by the need to understand the reality of the functioning of the program of transplantation of organs and tissues, executed in the responsibilities and actions of the nursing team, active in this follow-up.

## Materials and Methods

This is a subjective investigation research, with quantitative and qualitative approach, cross-sectional and exploratory. The scenario for the development of the study was the city of Montes Claros-MG, and the research population comprised nursing professionals active in the follow-up of organ transplantation and donation.

The precepts of subjectivity of the qualitative approach and the saturation of the interviews were considered to determine the final sampling more accurately. Initially, 14 nursing professionals participated, of which 1 was excluded from the study for not having the parameters defined by the research. Thus, the study sample included 13 participants, according to the inclusion criteria established: professionals of the nursing team who participate in the care of patients undergoing the process of organ transplantation and donation of both sexes and of any age group. The exclusion

criteria defined were: professionals who do not have adequate health conditions or are absent from the work activities in the period in which the research was conducted.

The selection of the research participants was guided by the Snowball technique, occurring as follows: the first participant was listed from the group of coexistence of the researchers, meeting the inclusion criteria, and later, this indicated another nursing professional who presented the established requirements. Thus, the others followed the same logic of indications.

A semi-structured questionnaire was used, built by the researchers of the study, which was applied with the help of the Google Forms software, in order to facilitate the process of collecting the desired information.

The first contact with the study participants was made electronically, by WhatsApp, for the presentation of the research proposal and forwarding of the Informed Consent Form, in its online version. Upon acceptance/agreement to participate in the study, the participant began the questionnaire response step.

The data treatment was conducted through the content analysis technique, proposed by Bardin<sup>15</sup>, which allows structurally understanding the content of the messages, through three stages, namely: pre-analysis, material exploration and inference/interpretation. In this direction, the analyst has the autonomy to extract information between the lines, treading a path that allows the systematization and organization of their data<sup>16</sup>.

## **Ethical care**

The research complied with all the determinations established in resolution 466/12 of the National Health Council and was submitted to the Research Ethics Committee of the FUNORTE University Center, being approved under opinion n. 4,935,194.

## **Results**

Of all 13 participants, there was a predominance of women (n=8; 61.5%). Regarding the age group, nine were between 38 and 47 years old (69.1%) and four were between 18 and 27 years old (30.7%). Concerning marital status, six reported being single (46.1%), six married (46.1%) and one divorced. Moreover, seven participants did not have children (53.8%).

Regarding the religiosity of the participants, 10 self-declared “Catholics”, two “Evangelicals” and one “Christian”, without adhering to a specific denomination. Regarding monthly occupational compensation, three participants (23.0%) reported receiving between 501.00 and 1,820.00 BRL, one (7.6%) declared receiving 1,821.00 and 2,600.00 BRL, six (46.1%) reported receiving between

2,601.00 and 3,900.00 BRL, two (15.2%) declared receiving between 3,901.00 and 6,500.00 BRL and one (7.6%) participant reported not receiving any type of monthly remuneration.

The study participants, when exposing their conceptions about the functioning of the organ transplantation and donation program during the pandemic, pointed out peculiarities, revealing disagreement between them. Part of the professionals perceived the experience lived in a positive way, because they deposited confidence in their co-workers and the qualified team to work in the new scenario, facing the difficulties of everyday life together.

In relation to the aspects that had repercussions on the performance of the nursing team, originated by the pandemic scenario, the participants pointed, in their statements, the change of the procedures related to the patient safety, since they needed to follow the health recommendations and reinvent themselves in practice, directly changing the entire process of patient care and also expanding the demand for care.

The increase in the number of patients was opposed to the number of team members, and this imbalance increasingly led to the hiring of new employees, largely inexperienced, intensifying the frequency of training, which affected the nursing service. According to these professionals, initially, the results of the COVID-19 tests were difficult to obtain, as well as the way of dressing and the difficulty in sensitizing the population. Nevertheless, one of the participants stated that the team's performance remained active, as reported below:

*[...] No. Although nursing had to reinvent itself and seek proper and safe ways to act, teamwork remained in all procedures. [...] (participant 5)*

The impasses related to the adaptation to the new reality also became notorious, through the implementation of new routines of procedures and protocols, collection of COVID-19 test for all potential donors, the reductions of almost all types of surgeries and the decrease of donations. These individuals also stated that the processes have become increasingly bureaucratic, severe and rigid, with the general objective of avoiding contamination of COVID-19, resulting in worsening the state of health of patients who need donations.

For the interviewees, the greatest difficulties found within the organ transplantation and donation program were: the lack of acceptance and awareness of the general population about the importance of donation; absence of professionals, especially qualified professionals; and the devaluation of the nursing team. According to the participants, the possible consequence of this problem is associated with the delay of getting the transplant and a complicated postoperative period, as shown below:

*[...] I believe that all stages of the program for the donor and recipient intend to bring security to those involved in the process, but it ended up being too systematized, and the main focus, which is the donation and implantation of the organ, ended up being too long, unbalancing the balance of those who need it and the delay in getting it. [...]* (participant 13)

*[...] The delay in receiving the transplant is perhaps the biggest difficulty, but the rejection of this new organ by the organism has also brought worrying results. [...]* (participant 14)

In this study, religiosity was identified as one of the obstacles to the performance of the program. Ten participants stated that this factor influences negatively, since certain religions do not accept that their believers are submitted to transplantation or making donations. Religious beliefs, as well as their doctrines and customs, often possess the understanding of the post-death process in such a way that they diverge from the principles of the transplant and donation program, consisting of a battle to be faced, as evidenced in the statements:

*[...]Yes. Unfortunately, there are still religious customs against organ donation. [...]* (participant 9)

*[...]It interferes on several points, such as the resistance of family members to make the donation, the patient to carry out the transplant and the professional when he/she has some ideologies different from the ethics that the profession requires. [...]* (participant 13).

Three of the interviewees assumed that religiosity does not interfere with the organ transplantation and donation program. When questioned, one did not specify the reasons and the others declared that it is a question related to the human and individual side of each one.

*[...]No. Because I believe that donation has more to do with solidarity than with spirituality. [...]* (participant 12)

*[...]No. Love your neighbor as yourself, the best argument for the approach. [...]* (participant 11)

Some participants listed elements that limit the procurement of potential donors, namely: lack of information; time of death; appropriate approach and family awareness; suspension of transplants by living donors; a trained and qualified team; the bureaucracy of the process to reach the donor; and the pandemic scenario itself, as evidenced in the following statements:



*[...] Team and services for procurement. Factors intrinsically and extrinsically related to the patient and the teams that accompany these potential donors. [...]* (participant 4)

*[...] difficulty in understanding brain death; the family interview for inadequate donation; Between others [...]* (participant 1)

*[...] A quality approach to family members, emotional and religious factors and nowadays, the scenario we are experiencing, the pandemic. The lack of people telling their family about their desire to be an organ donor is often a hindrance. [...]* (participant 9)

*[...] I believe that today the biggest limitation of potential donors is the system itself, a lot of paper, protocols, authorizations, which makes it difficult to reach the donor. Family members too [...]* (participant 13)

As contributory aspects to improve the capacity of potential donors, participants considered important the actions surrounded by kindness, empathy, transparency, sensitivity, family embracement, awareness and encouragement through the media. This is seen in the excerpts from the following reports:

*[...] Raising awareness among the population regarding the importance of donation. Training professionals to better approach families of potential donors. [...]* (Interviewee 10)

*[...] Family support from the beginning of the process, being transparent with the family, not omitting anything. [...]* (Interviewee 11)

*[...] At these times, there are only two factors: collaboration in the decision, kindness and solidarity in sympathizing with the pain of others. [...]* (Interviewee 14).

## Discussion

A study, published in 2021, revealed the reduction of potential donors and effective donors after the declaration of the COVID-19 pandemic, especially affecting kidney, heart and corneal transplantation<sup>10</sup>. The pandemic scenario has brought challenges to the team that operates in the organ transplantation and donation program, since the need to follow recommendations and guidelines of health organizations, such as safety measures, led to obstacles in the validation of potential donors and the acquisition of organs, in addition to the objections to establish the criteria for transplanting<sup>17</sup>.

Some studies point out as the main difficulties faced by nurses in the process of donation and transplantation the religious aspects, the absence of qualified professionals, the lack of information and the family's doubt about brain death, as well as their denial<sup>16,18-19</sup>.

Religions are not totally opposed or prohibit organ donation. On the contrary, the majority is favorable to the process, understanding it as an act of generosity and love for others. The controversy

consists in the relationship established between body and soul, in which some religions consider that the setbacks faced by the spirit, in its destiny, come from the mutilations and aggressions directed to the body. Another important issue is the fact that, in cases of potential donors, hope for a miracle and divine intervention to achieve healing lead to postponement and continuity of the process, leading, for example, to the non-recognition and acceptance of the concept of BD<sup>20</sup>.

The empathy presented by patients and family members, expressed in the participants' speeches, positively influences the donation process, since the need of family members to try to fulfill the last wish of the loved one contributes to the increase of the capacity to attract potential donors<sup>9</sup>.

Added to this, another factor that would contribute to this process is the efficient action of the search agencies of potential donors, being them the Organ Search Organization of MG Transplants (OPO/MGTx) and the Intra-Hospital Commissions for Organ and Tissue Donation for Transplants (CIHDOTT). In addition, health professionals must be trained in the process of organ donation and transplantation in order to sensitize the population and, consequently, increase the number of effective donors.

The interviewees' speeches reveal that it is essential to invest in qualification, training and incentive campaigns, especially when considering the pandemic context, after all, communication and knowledge are a tool of great relevance for the consent of family members to perform the donation. For the professional team and the family of the deceased, the donation of consented character is safe and protects all participants in this process, however, as the refusal of family members is a great hindrance, the donation of presumed character would improve the number of donations in the country<sup>9</sup>.

Regarding innovation in the organ transplantation and donation sector, from the new pandemic scenario, there was a superiority of reports that expose the failure to identify new strategies or innovations in the process. However, positive statements point to some changes, such as monitoring and control of possible risks related to potential donor contamination by strategies applied by nurses in the unit; implementing protocols and modifying the safety culture, such as visits, to ensure the continuity of organ and tissue donation and transplantation processes, ensuring the quality and safety of the entire process; the analysis of the adjustment and incorporation of tests for COVID-19 as the serologies required in the protocols, resulting from the pandemic scenario; in addition to the adherence of technology as a great ally of the process.

Another published study showed the primordial role of nursing professionals to establish innovations and strategies in the face of the pandemic scenario. It emphasizes the importance of nurses and the devaluation they experience in their practice. Thus, there is need to deepen the daily experiences of the nursing team, understand the planning and strategies adopted in the face of the

COVID-19 pandemic scenario<sup>19</sup> and define implementations that allow the improvement of working conditions in the field of organ donation and transplantation, ensuring continuity of service in pandemic times that may arise in the future<sup>21</sup>.

The statements allowed the understanding that communication was also present with patients already in recovery period, being contacted by phone, video calls, WhatsApp messages and other communication tools, as an attempt to prevent them from staying in waiting rooms in hospital or outpatient settings, reduced to exposure to SARS-CoV-2 contamination.

The interviewees stressed the need to achieve the expansion of the number of viable donors; improve the survival and quality of life of recipients; improve the performances in extracorporeal organ maintenance and maintenance of deceased donors; efficiently and cohesively identify the potential donor, providing adequate care, considering that early identification of these patients is of fundamental importance for the completion of all stages of this process.

Since the participants were from the same region, this study is limited to understanding the perspectives of professionals who work in the organ transplantation and donation units of other regions, since the pandemic can have different repercussions throughout the country.

However, the research showed that the nursing team recognizes the scenario of the COVID-19 pandemic and their role, but in the process of adaptation. Therefore, based on the results obtained from the analysis of the reports, this study is important and relevant to subsidize future research and contribute to the formation of knowledge, discussions about the changes and challenges that nursing professionals experience in current times.

## Conclusion

The findings of this study unveil that the interviewees have different views regarding the transplantation and donation program. The conduct of nursing team in the process of donation and transplantation of organs and tissues has faced changes that involve different aspects of their routine due to the pandemic scenario, following new protocols and established norms, to avoid contamination of patients before and after transplantation.

Developing this research allowed the observation that the interviewees had difficulty to adapt to the world public health situation, generated by COVID-19. The uncertainties and insecurities added to the increased demand for care and bureaucratic processes consisted of obstacles faced by professionals arising from the pandemic scenario.

Another factor, unveiled by the participants, which significantly interferes in this process and can have negative impacts on the program is religiosity, which encompasses the context of the donor

and his/her family. Although studies express that most religions are in favor of donation, part of the family is based on religious belief not to grant the donation, reflecting unfavorably in the numbers of donations.

Therefore, the nursing team is an indispensable member for the process of transplantation and donation, playing a determining role in all stages. Nevertheless, in order to perform these functions efficiently, there was need to promote qualification, education and training for the professionals who assisted these patients in the pandemic period, and to increase the understanding of family members for continuity in the health service. Importantly, due to the pandemic, technological advancement was an essential tool for communication and constancy of care. Moreover, there is a growing need for preparation and scientific knowledge to deal with patient care and avoid contamination.

### Authors' contributions

The authors approved the final version of the manuscript and declared responsible for all aspects of the work, including ensuring its accuracy and completeness.

### Competing interests

The authors declare that there are no competing interests.

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