





The knowledge of patients on dialysis, healthcare professionals, students and the general population about organ donation and transplantation

Conhecimento dos pacientes em tratamento dialítico, dos profissionais e estudantes da área da saúde, e da população geral sobre doação e transplantes de órgãos

Stella Resende Sousa¹, Giulia Ferreira Mattar Abdo¹, Júlio César Amaral Teixeira^{2,3}, Jacqueline Domingues Tibúrcio³

ABSTRACT

Introduction: In Brazil, the number of transplants serves less than 50% of the population on the waitlist. The shortage of donors is multifactorial, and one of the causes is the insecurity of the brain death diagnosis and the unpreparedness of healthcare professionals. **Objective:** Check the knowledge of the patients on the matter of dialysis, healthcare professionals and students, and the overall people about organ donation and transplantation. **Methods:** Descriptive and analytical cross-sectional study on the knowledge of organ donation and transplantation of 120 individuals in the city of São João del-Rei. **Results:** 90% of the general population could not answer whether they would be a donor and only 3.3% answered correctly about the legislation. Among healthcare professionals, 90% believe that the approach on this matter during grad school was insufficient. All students answered incorrectly about the viable organs for live transplantation. Among patients, only 16.7% recognize legislation for organ donation. **Discussion:** Lack of information is one the main causes of the gap between the demand for transplants and the number of donors, and the level of schooling is an important variable in the process. In addition, the lack of preparation of healthcare professionals gives prominence to the misinformation situation. Brazil has the largest public system of organ transplantation in the world but reaches much lower donor rates when compared to other countries. **Conclusions:** It is crucial that professionals are better trained during their academic and professional training. Furthermore, it is notable the relevance of the campaigns that aim at greater population knowledge.

Keywords: Organ donation; Organ transplantation; Brain death.

¹ Acadêmico de Medicina da Universidade Federal de São João del Rei, São João del Rei, Minas Gerais, Brazil.

² Médico nefrologista, Hospital Nossa Senhora das Mercês, São João del Rei, Minas Gerais, Brazil.

³ Docente do Departamento de Medicina da Universidade Federal de São João del Rei, São João del Rei, Minas Gerais, Brazil.

Responsible Editor:

Dr. Claudemiro Quireze Jr.
Hospital das Clínicas da Universidade Federal de Goiás.
Goiânia/GO, Brazil.

Corresponding author:

Stella Resende Sousa
Universidade Federal de São João del-Rei, Minas Gerais, Brazil.
E-mail: stellasousa41@gmail.com

Supporting sources:

There were no supporting sources.

Conflict of interests:

The authors declare they have no conflicts of interest.

Ethics Committee:

Opinion number -
52548421.0.0000.5151

Received on: January 20th, 2024.

Approved on: March 3rd, 2024.

Publication Date: 11 July 2024.

RESUMO

Introdução: No Brasil, o número de transplantes atende menos de 50% da população que aguarda na fila. A escassez de doadores é multifatorial, sendo uma das causas a insegurança do diagnóstico de morte encefálica e o despreparo dos profissionais de saúde. **Objetivo:** Verificar o conhecimento dos pacientes em diálise, profissionais e estudantes da área da saúde e população geral sobre o processo de doação e transplante de órgãos. **Métodos:** Estudo descritivo e analítico de corte transversal acerca do conhecimento da doação e transplante de órgãos de 120 indivíduos em São João del-Rei. **Resultados:** 90% da população geral não soube responder se seria doador e apenas 3,3% souberam responder sobre os aspectos legais. Entre os profissionais de saúde, 90% acreditam que a abordagem sobre os temas durante a graduação foi insuficiente. Dos estudantes 100% respondeu incorretamente acerca dos órgãos viáveis para transplante intervivos. Entre os pacientes, apenas 16,7% reconhecem a legislação para doação de órgãos. **Discussão:** A carência de informações é uma das principais causas do abismo existente entre a demanda por transplantes e o número de doadores, sendo a escolaridade uma variável importante no processo. Além disso, o despreparo dos profissionais acentua o quadro de desinformação. O Brasil tem o maior sistema público de transplantes de órgãos do mundo, porém alcança índices muito menores de doadores quando comparados a outros países. **Conclusão:** É crucial que profissionais sejam mais bem capacitados durante a formação acadêmica e profissional. Ademais, constata-se a relevância de campanhas visando maior conhecimento populacional.

Palavras-chave: Doação de órgãos; Transplante de órgãos; Morte encefálica.

INTRODUCTION

Organ transplantation is used when no other treatment can safely maintain the life of the patient with a terminal illness, being it the last therapeutic alternative¹⁻³. In order for it to happen, there must be an organ donor, which may be living or deceased. The latter type is more frequent and they must be diagnosed as patients with brain death (BD) for their organs to be viable for transplantation¹.

Despite its recognized importance, there are several reasons for the non-completion of organ donations, such as family refusal, lack of knowledge of how the donation-transplant process works, lack of understanding about the diagnosis of BD, as well as lack of knowledge of the will of the potential donor (PD)⁴.

Data from the 2019 Brazilian Transplant Data Registry (RBT) confirm that family refusal is the main cause for the non-completion of organ donation, corresponding to 40% of justifications⁵.

Brazil has the largest public system of organ transplants in the world⁶. In 2019, over six thousand kidney transplants were performed in the country, and, despite the number

of procedures being significant, the country's demand is growing steadily⁷. According to Batista et al. (2017)⁸, these surgeries are only an average of 30% of the total number of people waiting in line for this particular organ.

For Monteiro et al. (2020)⁹, inadequate emotional support, religious beliefs, fears and taboos are the main factors that prevent family members from authorizing this type of donation. There is little knowledge about legislation by healthcare professionals¹⁰ as well as about the diagnosis of BD and about the clinical handling for preservation of PD¹¹.

METHODS

This is a descriptive and analytical cross-sectional study, in which knowledge about organ donation and transplantation as well as the diagnosis and concept of BD were approached through questionnaires developed by researchers from the Epidemiology and Quality of Life Research Group - UFSJ, registered to CNPq, in the form of an interview.

Inclusion criteria was: individuals aged 18 years or over, belonging to the population profile under study (groups 1 to 4), who agreed to answer the questionnaires and who

signed the Free and Informed Consent Form as determined by the ethics regulations of the National Health Council – resolution CNS 466/2012.

The sample comprised 120 individuals who were equally distributed into four groups formed by: 1) general population; 2) healthcare professionals; 3) medical students; and 4) patients on dialysis treatment.

The present study was approved by the Human Research Ethics Committee from São João del-Rei Educational Unit (CEPSJ) under the number CAAE 52548421.0.0000.5151. Data collection took place between December 2021 and July 2022 and data analysis was performed using the MINITAB 18 software.

RESULTS

The sample consisted of 120 individuals equally divided among the four study groups. Table 1 describes the general data about the interviewed population.

In group 1, represented by the general population, 14 males and 16 females were interviewed, with a mean age of 30.4 years. The average time spent with education by this group was 18.1

years; considering school, university, and other specializations. The predominant religion was Catholic (Table 1).

Regarding the organ donation process, n=27 (90%) of this group could not answer whether or not they would be a donor and only 1 individual (3.3%) responded positively. The other 2 individuals (6.7%) who were against the donation justified their choices by their beliefs and by the presence of a previous pathology that prevents the donation, respectively. It is also noteworthy that only n=7 (23.3%) of these individuals correctly recognized that it is only necessary to self-declare to be an organ donor. When asked about the cause of death that allows organ donation, n=19 (63.3%) of respondents answered BD. With regard to the donation for a live-in transplant, n=24 (80%) of the interviewees were supporters of the donation; however, only 1 participant (3.3%) answered correctly about the legislation (Table 2).

Although n=26 (86.7%) of these individuals know that the family is responsible for authorizing (or not) the donation of organs from a deceased relative, only n=13 (43.3%) have already talked to their relatives about this matter. Regarding BD, n=21 (70%) considered it irreversible and n=9 (30%) were unable to answer.

Table 1. General profile of the interviewed groups.

Interviewed groups Variables	I		II		III		IV	
	N	%	N	%	N	%	N	%
Sex								
Female	14	46,7	22	73,3	23	76,7	15	50,0
Male	16	53,3	8	26,7	7	23,3	15	50,0
Age								
Younger than 20 years	3	10,0	-	-	-	-	-	-
20 to 25 years	11	36,7	2	6,7	23	76,7	-	-
26 to 30 years	4	13,3	6	20,0	7	23,3	-	-
Older than 30 years	12	40,0	22	73,3	0	0	30	100
Group IV age description								
Younger than 60 years	-	-	-	-	-	-	11	36,7
61 to 70 years	-	-	-	-	-	-	15	50
Older than 70 years	-	-	-	-	-	-	4	13,3
Religion								
Catholic	19	63,3	22	73,3	17	56,6	23	76,7
Protestant	1	3,3	3	10,0	2	6,7	4	13,3
Others	5	16,7	1	3,3	3	10	1	3,3
None	5	16,7	4	13,4	8	26,7	2	6,7
Main professional area – only for group II								
Hemodialysis clinic	-	-	10	33,3	-	-	-	-
Ward	-	-	11	36,7	-	-	-	-
Intensive Care Unit	-	-	7	23,3	-	-	-	-
Primary care	-	-	2	6,7	-	-	-	-

Interviewed groups Variables	I		II		III		IV	
	N	%	N	%	N	%	N	%
Phase of medical course – only for group III								
Entry level (basic)	-	-	-	-	1	3,3	-	-
Clinical	-	-	-	-	23	76,7	-	-
Internment	-	-	-	-	6	20,0	-	-

Source: Study research data.

Table 2. Questions regarding organ donation and transplantation process.

Variáveis	N	%
Would you donate organs after your death?		
Yes	1	3,3
No	2	6,7
Do not know	27	90,0
Correct process for organ donation:		
Declare (formalize) yourself as a donor	12	40,0
Only self-declare yourself as a donor	7	23,3
Do not know	11	36,7
Death cause for organ donation permission		
Brain death	19	63,3
Any death cause	2	6,7
Do not know	9	30,0
Would you be a living donor?		
Yes	24	80,0
No	2	6,7
Do not know	4	13,3

Source: Study research data

In group 2, 22 female and 8 male healthcare professionals were interviewed, with a mean age of 35.03. The average time spent with education by this group - considering school, university, and other specializations - was 22.43 years. The predominant religion was also Catholic. Among the areas of professional activity, n=11 (36.7%) work in a hospital ward, n=10 (33.3%) in the hemodialysis clinic, n=7 (23.3%) in the Intensive Care Unit (ICU) and n=2 (6.7%) in primary care (Table 1).

When questioned about the approach regarding organ donation and transplantation during their graduation, n=27 (90%) of the professionals answered that it was insufficient. Regarding the confidence to explain the concept of BD to the patients' families, only n=2 (6.7%) of the professionals were completely confident, as shown below (Graph 1).

Regarding the criteria for the diagnosis of BD, n=19 (63.3%) answered it correctly about the loss of all cortical and brainstem function. Regarding the BD follow-up, n=17 (56.7%) identified the correct way to perform the clinical examination, n=7 (23.3%) answered it incorrectly and n=6 (20%) were unable to answer it.

Rev Med Minas Gerais 2024; 34: e-34112

When asking about the need for complementary tests to confirm the diagnosis of BD, n=28 (83.3%) correctly answered that there is a need for it. However, only n=3 (10%) were able to identify such tests (arteriography, electroencephalogram and transcranial Doppler). Furthermore, in relation to the apnea test, which is an also necessary BD confirming procedure, only n=11 (36.7%) were aware of it.

Group 3 was composed of 23 female and 7 male medical students. The average age was 23.1 years and the average time spent with education by this group was 17.5 years. The predominant religion was Catholic. In this group, n=1 (3.3%) belonged to the entry (basic) cycle of the course, n=23 (76.7%) to the clinical cycle and n=6 (20%) to the internment (Table 1).

As for the organ donation process, n=17 (56.7%) of this group correctly recognize that it is only necessary to self-declare to be an organ donor. Among the causes of death for donation, n=24 (80%) correctly answered about BD, n=3 (10%) believed it could be any cause of death and n=3 (10%) were unable to answer.

Regarding to live-in transplantation, only n=4 (13.3%) correctly answered about the legal permission for such a procedure, n=15 (50%) were unable to answer and n=11 (36.7%) incorrectly answered it. No students correctly answered about the organs that can be donated in a transplant between living people.

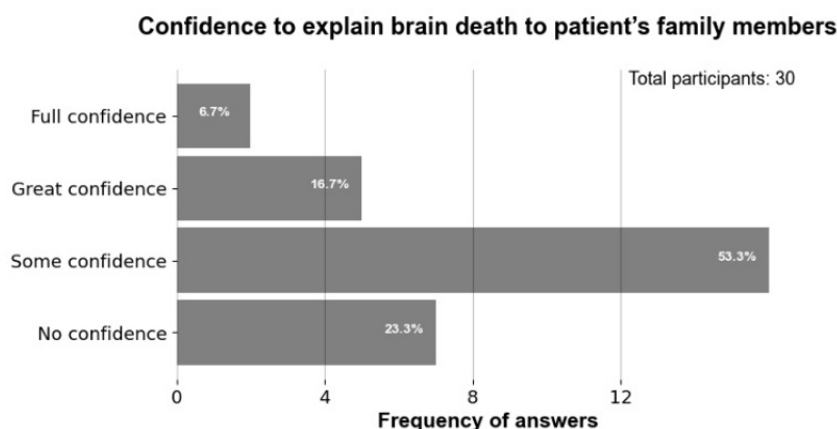
Students also answered questions about their knowledge on organ donation and transplantation (Graph 2). Regarding the approach to these topics during the medical course, n=16 (53.3%) reported never having attended classes or lectures on the subject (Graph 3).

In relation to the criteria for diagnosing BD, only n=12 (40%) answered it correctly. Regarding the BD follow-up, n=13 (43.3%) identified the correct way to perform the clinical examinations, n=3 (10%) answered incorrectly and n=14 (46.7%) did not know how to answer. On the need for additional tests to confirm the diagnosis of BD, n=18 (60%) answered it correctly. However, only n=1 (3.3%) was able to identify the tests used. Finally, n=25 (83.3%) were unable to inform about the apnea test.

The last group was composed by patients undergoing dialysis treatment, of which 15 were female and 15 were male. The average age was 61.8 years, and the average time spent with education by this group was 7.9 years. The predominant religion was also Catholic (Table 1).

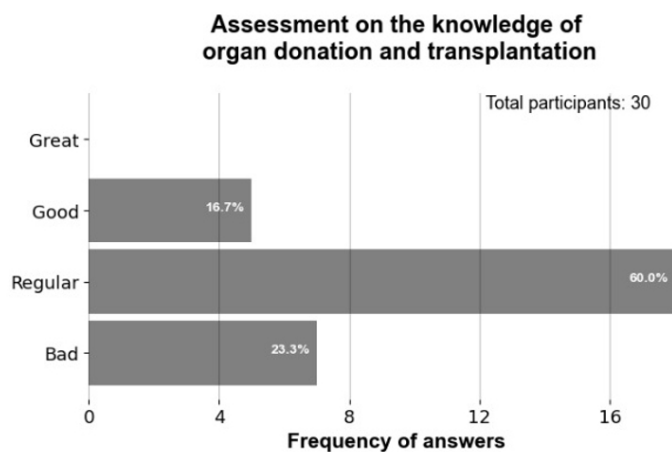
Regarding the organ donation process, n=26 (86.7%) of this group answered it positively, n=3 (10%) could not answer and only n=1 (3.3%) was against the donation, with fear as justification. Only n=5 (16.7%) correctly recognize that it is only necessary to self-declare to be an organ donor (Graph 4).

Half of this population is aware that the family is responsible for authorizing (or not) the donation of organs from a deceased relative. However, n=21 (70%) never talked to their family members about this subject. When asked about the cause of death that allows organ donation, only n=10 (33.3%) answered it correctly (Graph 5). Regarding BD, n=25 (83.3%) considered it irreversible and n=5 (16.7%) were unable to answer.



Graph 1. Level of confidence presented by healthcare professionals in explaining brain death to patient’s family members.

Source: Study research data.

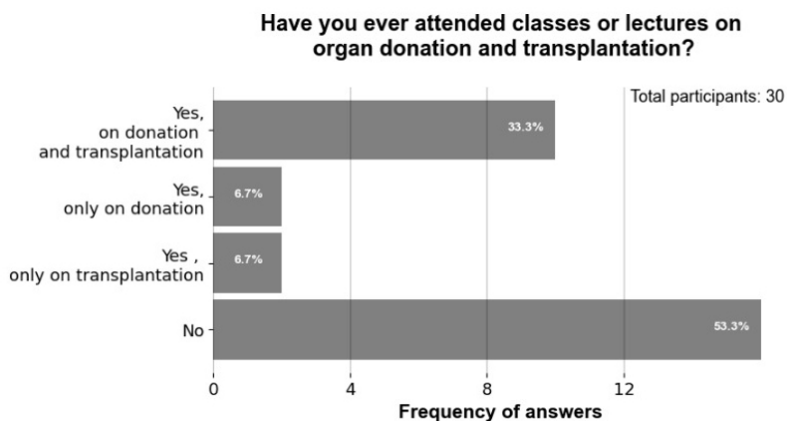


Graph 2. Assessment on the knowledge of organ donation and transplantation shown by medical students in different cycles of the course.

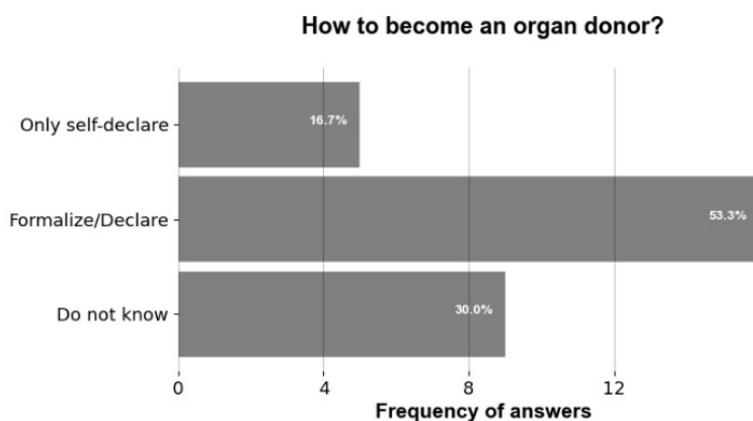
Source: Study research data.

As for the donation for a living donor, n=26 (86.7%) of the interviewees were supporters of the donation. It is noteworthy that n=14 (46.7%) answered correctly

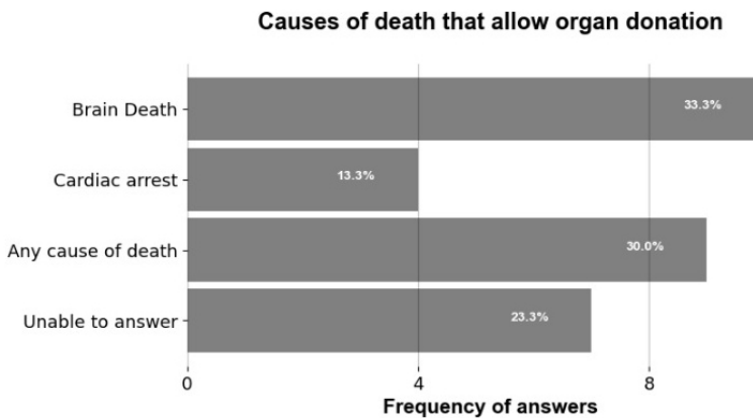
about the legislation. However, no patient answered correctly about the viable organs for living donor transplantation.



Graph 3. Questioning on possible classes students have attended on organ donation or transplantation during their graduation years.
Source: Study research data.



Graph 4. Knowledge presented by patients undergoing dialysis on the correct needs to become an organ donor
Source: Study research data.



Graph 5. Knowledge presented by patients undergoing dialysis treatment about the cause of death that allows a subsequent organ donation.
Source: Study research data.

DISCUSSION

Organ transplantation is the last therapeutic alternative that can safely maintain the life of the terminally ill patient, which are very common in the Brazilian population¹⁻³.

However, when the demand is compared to the availability of organs, there is a very large gap that prevents an increase in transplant rates. The reasons for this disproportionality are still not very well understood since the cause is multifactorial¹. In addition, the greatest difficulty is the lack of information, which is linked to the low level of education of the population. Unfortunately, in Brazil, more than 50% of Brazilians over 25 years old did not finish basic education and, according to Mendes (2020)¹², “education(...) is an important variable, and people with a higher education level seem to have a better acceptance of organ donation”.

From the results of the general population, it is inferred that 90% of this group could not answer whether or not they would be a donor and only 1 individual (3.3%) responded positively. This scenario can be strengthened mainly by the lack of knowledge about the process of organ donation and transplantation. A study carried out in Belém (Pará state) with 136 patients analyzed the influence of BD knowledge on the intention to donate organs. It was observed that only 19.9% understood and fully accepted the diagnosis of BD, and only 18.4% of the total number of participants trusted the diagnosis; the others believed that the doctor responsible for it could be mistaken. The study showed that the lack of confidence in the diagnosis effectively influenced on the intention to donate their own organs or those of close relatives. It was also identified that 23% of the 136 respondents did not know the meaning of the diagnosis, and 57.1% of these believed in the possibility of reversing the situation¹. Therefore, lack of knowledge of one of the fundamental requirements of organ donation greatly influences the entire process, as well as lack of confidence in the health system and medical diagnosis.

As for healthcare professionals, 90% responded that the approach to organ donation and transplantation during graduation years was insufficient, and when approached about safety while explaining the concept of BD to the patients' families, 23.3% are not confident and 53.3% have some security. When BD is communicated to a patient's relatives, besides the intrinsic nature of bad news, it can also include other difficulties, such as: (a) the concept of BD is not always conveyed using accessible terms; (b) the antagonistic perception that, although without brain activity, the patient seems to breathe normally with devices, have a flushed skin and is sleeping, can confuse family members; and (c) beliefs (religious or not) that still feed hopes for the patient's improvement may influence family members to refuse the donation. In these conditions, researchers have already proposed procedures to facilitate the flow of information in bad news communication processes¹⁰.

Baile et al. (2000)¹³, for example, proposes the SPIKES protocol (from the original, in English: S - Setting up

the interview; P - assessing the patient's Perception; I - obtaining the patient's Invitation; K - providing Knowledge and information to the patient; E - addressing the patient's Emotions with empathic responses; S - Strategy and summary). In this protocol, the following elements are mentioned: (a) formalizing an invitation to communicate with family members; (b) setting the place for the interview, with a comfortable physical location, including privacy, significant people for dialogue, availability of the professional, establishing of eye contact to seeking empathy; (c) approaching of the person who is going to receive the news, identifying what they already know and how much they wants to know about details; (d) providing information, with adequate vocabulary; (e) empathetic observation of emotions; and (f) regular use of content summary strategies¹⁰.

Researchers indicate that compliance with the measures suggested in the bad news communication protocols also depends on the professional and social skills of the professional who will communicate. This concern is relevant, as shows a study that evaluated the knowledge of physicians who worked in an intensive care unit (ICU), which found that 59 out of a total of 246 (24%) have confused the time of death of the patient with the time of registration of the diagnosis of BD¹⁰.

Furthermore, when we address the question of medical students, it is clear that there is a lack of knowledge about issues related to the organization of the system and others related to organ transplantation. A survey conducted by the Medical Course at the Faculdade de São Leopoldo, in Campinas, Brazil, interviewed 327 students from the first to the sixth year of Medicine. Almost 90% said they were aware of the possibility of organ donation from a deceased donor and also from a living donor. For 66.4% of the participants, living organ donation between unknown persons is prohibited, demonstrating ignorance of the possibility of donation with judicial authorization; 26.6% erroneously stated that donation between spouses was not allowed; only 70.6% said they knew that the transplant queue is unique and national and almost 30% of participants are unaware of the existence of funding by the Brazilian Unified Health System (*Sistema Único de Saúde – SUS*)¹⁴.

There is a comparison of the transplant systems between Brazil and Spain in Coelho and Bonella (2019)⁶ study. The two countries stand out among the rest: Brazil for having the largest public system of organ transplantation in the world and Spain for maintaining the highest rate of effective donors per million people for decades. While in the European country the rate of donors per million was 46.7 in 2017, Brazil reached the rate of 16.6 in the same year whereas the rate of acceptance of donation by families in Spain reaches 87%, having a national transplant system (*Organización Nacional de Transplantes*), created in 1989. Spain's success is certainly due to factors such as: great commitment in carrying out popular education campaigns on the subject; ongoing training of healthcare professionals, mainly those training related to bad news communication;

and also a telephone channel full time available that the population can clarify its questions with an expert on the subject⁶.

Finally, it is not enough having laws on organ donation and transplantation. It is necessary that healthcare professionals and the population are aware of them, as this is the only way to implement them, and by consequence increasing the number of organs available for transplantation. Therefore, healthcare professionals should be even better trained on related topics, such as BD⁹.

CONCLUSION

Organ transplantation has revolutionized the history of medicine, considerably allowing patients' life expectancy and quality to increase. By this perspective, it is crucial that healthcare professionals are able to approach family members regarding the concept of BD and this communicating of bad news, requiring greater academic and professional training on the process of donation and transplantation of organs and tissues. Additionally, the relevance of population knowledge and the dissemination of coherent information, such as popular education campaigns, is needed so that the process continues to successfully operate.

AUTHOR'S CONTRIBUTION

We describe contributions to the papers using the taxonomy (CRediT) provided above:

Sousa proposed the theme developed, and carried out the bibliographical survey, formatting and review of the writing: SRS. Carried out the bibliographical survey, took part in writing the text, formatting and reviewing the writing: GFMA. Participated in choosing the topic covered, writing the text, formatting and reviewing the writing: JCA. Provided guidance on outlining the topic covered, participating in writing the study and reviewing the text: JCAT. All authors discussed, read and approved the final version of the chapter.

COPYRIGHT

Copyright© 2021 Sousa et al. This is an Open Access article distributed under the terms of the Creative Commons Attribution 4.0 International License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original article is properly cited.

REFERENCES

- Teixeira RK, Gonçalves TB, Silva JA. A intenção de doar órgãos é influenciada pelo conhecimento populacional sobre morte encefálica? Rev Bras Ter Intensiva [Internet]. 2012; [cited 2023 Aug 22]; 24(3):258-62. Available from: <https://www.scielo.br/j/rbti/a/ktdhBJPpqsPPPT8xmhJysqr/?lang=pt>
- Borges LP, Brito TS, Lima FDM, Lacerda JN, Marques LL, Santos MC, et al. Doação de órgãos e tecidos: percepção de familiares que optaram pela não doação. Rev Enferm Atual In Derme [Internet]. 2021; [cited 2024 Jul 22]; 95(34):e-021064. Available from: <https://teste.revistaenfermagematual.com/index.php/revista/article/view/1083>
- Lima AAF. Doação de órgãos para transplante: conflitos éticos na percepção do profissional. Mundo Saúde [Internet]. 2012; [cited 2024 Jul 22]; 36(1):27-33. Available from: <https://revistamundodasaude.emnuvens.com.br/mundodasaude/article/view/509>
- Silva NO, Sousa ML, Cruz Neto J, Souza CAS, Alves HLC, Albuquerque GA. Conhecimento populacional sobre doação e transplante de órgãos e tecidos: revisão bibliográfica. Saúde [Internet]. 2021; [cited 2023 Mar 12]; 15(22):54-63. Available from: <https://www.revistasuninter.com/revistasauade/index.php/saudeDesenvolvimento/article/view/1158>
- Souza CC, Nascimento EKK, Quadros A, Dellanhese APF, Lysakowski S, Fernandes MTC. Conhecimento da população brasileira acerca da doação de órgãos e tecidos para transplantes. REAS [Internet]. 2020; [cited 12 Mar 2023]; (56):e4471. Available from: <https://acervomais.com.br/index.php/saude/article/view/4471>
- Coelho GH, Bonella AE. Doação de órgãos e tecidos humanos: a transplantação na Espanha e no Brasil. Rev Bioét [Internet]. 2019; [cited 2019 Sep 26]; 27(3):419-29. Available from: <https://www.scielo.br/j/bioet/a/Y85LHYRFXvFLsYzT4qDXQkK/abstract/?lang=pt>
- Vieira RF, Carmona MJ. Volemia and kidney transplantation. Rev Bras Anestesiol [Internet]. 2020; [cited 2020 Jun 01]; 70(3):191-3. Available from: <https://www.scielo.br/j/rba/a/fhmsCCssXK4jPWTxYtvPyKM/?lang=en>
- Batista CM, Pessoa JL, Moreira RS, Ferraz AS, Roza BA. Perfil epidemiológico dos pacientes em lista de espera para o transplante renal. Acta Paul Enferm [Internet]. 2017; [cited 2024 Mar 28]; 30(3):280-6. Available from: <https://www.scielo.br/j/ape/a/TmDk36pRjZnhZDWt8G4BBhD/?lang=pt>
- Monteiro ET, Albuquerque SP, Melo RS. Doação de órgãos e tecidos em hospital público de Pernambuco. Rev Bioét [Internet]. 2020; [cited 2019 Dec 20]; 28(1):69-75. Available from: <https://www.scielo.br/j/bioet/a/rdkXrWdDTxVRHV6BJgFQxjM/?lang=pt>
- Meneses NP, Catelli I, Junior AL. Comunicação de morte encefálica a familiares: levantamento com profissionais de saúde. Rev SBPH. 2018;21(1):192-217. DOI: <https://doi.org/10.25248/reas.e4471.2020>
- Souza DR, Tostes PP, Silva AS. Morte encefálica: conhecimento e opinião dos médicos da Unidade de Terapia Intensiva. Rev Bras Educ Méd [Internet]. 2019; [cited 2019 Mar 03]; 43(3):115-22. Available from: <https://www.scielo.br/j/rbem/a/gqcgglqY5qz4WtPhKcKHV3w/?lang=pt>
- Martins MM. A doação de órgãos mediante o consentimento presumido: Projeto de lei N° 3.176/2019 [dissertação]. Brasília: Centro Universitário de Brasília - UniCEUB; 2020; [cited 2021 Apr 28]; 25 p. Available from: <https://repositorio.uniceub.br/jsui/handle/prefix/14938?mode=full>

13. Baile WF, Buckman R, Lenzi R, Glober G, Beale EA, Kudelka AP. SPIKES-A six-step protocol for delivering bad news: application to the patient with cancer. *Oncologist* [Internet]. 2000; [cited 2024 May 22]; 5(4):302-11. Available from: <https://pubmed.ncbi.nlm.nih.gov/10964998/>
14. Rosso ARD, Carbone N, Ciurcio EKD, Fantin JVS, Succi GM. O que sabem estudantes de medicina sobre doação e transplantes de órgãos no Brasil? *BJT* [Internet]. 2020; [cited 11 Mar 2023]; 23(4):11-6. Available from: <https://bjt.emnuvens.com.br/revista/article/view/37>



This is an open access article distributed under the terms of the Creative Commons Attribution License.