

CUIDADO É FUNDAMENTAL

Escola de Enfermagem Alfredo Pinto – UNIRIO

INTEGRATIVE REVIEW OF THE LITERATURE

DOI: 10.9789/2175-5361.rpcfo.v14.11569

NURSING DIAGNOSIS PREVALENT IN THE CARE OF ORGAN DONOR PATIENTS IN BRAIN DEATH

Diagnósticos de enfermagem prevalentes na assistência ao paciente doador de órgãos em morte encefálica
Diagnóstico de enfermería prevalente en el cuidado de pacientes donantes de órganos en muerte cerebral

Gabriela Duarte Bezerra¹ 

Marcia Eduarda Nascimento dos Santos¹ 

Sara Teixeira Braga² 

Luana de Souza Alves¹ 

Laís Barreto de Brito Gonçalves¹ 

Woneska Rodrigues Pinheiro¹ 

ABSTRACT

Objective: to investigate, in the literature, the prevalent nursing diagnoses in assistance to potential brain-dead organ donors. **Method:** this is an integrative review, conducted by the guiding question: What is the scientific evidence about the prevalent nursing diagnoses in assisting brain-dead organ donor patients? The search was performed in LILACS, BDENF, CINAHL, MEDLINE and Cochrane Library databases. **Results:** the final sample consisted of seven articles that address the prevalent nursing diagnoses in care delivery to brain-dead organ donor patients. Data were organized into two thematic categories: Main diagnoses, pathophysiological changes and defining characteristics, and Knowledge of nursing professionals in the face of brain death for early diagnosis. **Conclusion:** assistance to potential donors is essential for the donation to be effected, therefore, nursing diagnoses are the basis for these professionals to plan all assistance.

DESCRIPTORS: Nursing diagnosis; Tissue donors; Brain death.

¹ Universidade Regional do Cariri, Crato, CE, Brazil.

² Universidade Federal do Ceará, Fortaleza, CE, Brasil

Received: 12/04/2021; Accepted: 02/24/2022; Published online: 10/10/2022

Corresponding Author: Gabriela Duarte Bezerra, Email: gabrielabezerra326@gmail.com

How cited: Bezerra GD, Santos MEN, Braga ST, Alves LS, Gonçalves LBB, Pinheiro WR. Nursing diagnosis prevalent in the care of organ donor patients in brain death. *R Pesq Cuid Fundam* [Internet]. 2022 [cited year month day];14:e11569. Available from: <https://doi.org/10.9789/2175-5361.rpcfo.v14.11569>



RESUMO

Objetivo: investigar na literatura, os diagnósticos de enfermagem prevalentes na assistência ao potencial doador de órgãos em morte encefálica. **Método:** trata-se de uma revisão integrativa, conduzida pela questão norteadora: Quais as evidências científicas à cerca dos diagnósticos de enfermagem prevalentes na assistência ao paciente doador de órgãos em morte encefálica? A busca foi realizada nas bases de dados LILACS, BDNF, CINAHL, MEDLINE e *Cochrane Library*. **Resultados:** a amostra final foi composta por sete artigos que abordam os diagnósticos de enfermagem prevalentes na assistência ao paciente doador de órgãos em morte encefálica. Os dados foram organizados em duas categorias temáticas: Principais diagnósticos, alterações fisiopatológicas e características definidoras e Conhecimento dos profissionais de Enfermagem diante da morte encefálica para o diagnóstico precoce. **Conclusão:** a assistência ao potencial doador é fundamental para a efetivação da doação, logo, os diagnósticos de enfermagem são a base para que esses profissionais planejem toda a assistência.

DESCRITORES: Diagnóstico de enfermagem; Doadores de tecidos; Morte encefálica.

RESUMEN

Objetivo: investigar en la literatura los diagnósticos de enfermería prevalentes en la asistencia a potenciales donantes de órganos con muerte cerebral. **Método:** esta es una revisión integradora, realizada por la pregunta guía: ¿Cuál es la evidencia científica sobre los diagnósticos de enfermería prevalentes en la asistencia a pacientes donantes de órganos con muerte cerebral? La búsqueda se realizó en las bases de datos LILACS, BDNF, CINAHL, MEDLINE y *Cochrane Library*. **Resultados:** la muestra final constó de siete artículos que abordan los diagnósticos de enfermería prevalentes en la atención a pacientes donantes de órganos con muerte cerebral. Los datos se organizaron en dos categorías temáticas: Diagnósticos principales, cambios fisiopatológicos y características definitorias y Conocimiento de los profesionales de enfermería sobre la muerte encefálica para el diagnóstico precoz. **Conclusión:** la asistencia a los posibles donantes es fundamental para que la donación se efectúe, por lo que los diagnósticos de enfermería son la base para que estos profesionales planifiquen toda la asistencia.

DESCRIPTORES: Diagnóstico de enfermería; Donantes de tejidos; Muerte cerebral.

INTRODUCTION

Organ donation is understood as a procedure involving a potential organ and tissue donor after the diagnosis of brain death.¹ Worldwide, there is a high demand for transplants and little supply of donors. In 2019, in Brazil, the number of people on the waiting list already exceeded 37,946, according to the National Transplant Center, which also points out that among 11,000 potential donors, only 33% become effective for donation.²

Brazil is among the most advanced countries in relation to legislation for the public organ transplant program, occupying the second position worldwide as the largest transplanter, behind only the United States.² There is a national average of 14.2 thousand effective donors per one million inhabitants, resulting in 20,934 transplants in the year 2014 and presenting a drop in 2015 for reasons of non-acceptance by the families of potential donors.³⁻⁴

The Federal Council of Medicine – CFM regulates the diagnosis of brain death as an irreversible situation of all circulatory, respiratory, and functional functions of the brain, including the brain stem.⁵ The diagnosis precedes the process of maintaining the body, prolonged through mechanical ventilation and other measures to keep the organs viable for possible donation.⁶

Through organ transplantation regulation, the Federal Council of Nursing (COFEN), through resolution number 292/2004, establishes that it is the nursing professional's responsibility to plan, execute, coordinate, supervise, and evaluate nursing procedures provided to the organ and tissue donor, and among the

actions, the triggering and notification of the Central Office of Notification, Capture, and Distribution of Organs (CNNCDO).⁵

In this context, the nurse plays a key role in achieving a successful transplant.⁷ For this, it is necessary that there is an adequate preservation to make the organs viable until extraction, and thus, the nurse contributes, above all, to the stabilization of the multiple effects that brain death causes to the donor's body, applying the Nursing Care Systematization (SNC) throughout the process of maintenance, procurement and transplantation.⁸

As a way to standardize the language of nursing process components, taxonomies such as the North American Nursing Diagnosis Association (NANDA), Intervention Classification (NIC) and Nursing Intervention Classification (NOC) are used to categorize nursing diagnoses, nursing interventions and nursing outcomes, respectively. These taxonomies make it possible to standardize data as well as to qualify nursing care.⁹

Nursing diagnoses are elaborated by dynamic steps and organized by the nursing process execution. Through diagnosis, care individualization arises, where existing problems can be identified by collecting and analyzing essential information for care planning.⁸

Given the above and the relevance of the theme addressed, it is also noteworthy that the process of Systematization of Nursing Care operationalizes the care process and acts in the direction of the work actions of nursing professionals. Thus, this study aims to investigate the most prevalent nursing diagnoses in the care of the potential organ donor in brain death.

METHOD

This is an integrative literature review that sought to synthesize the available evidence on the subject investigated. The research was conducted by the guiding question: What is the scientific evidence about the prevalent nursing diagnoses in the care of the brain-dead organ donor patient? To elaborate the guiding question and conduct the search for results that addressed the aspects of the study, we used the PVO strategy: Population, Variables and Outcomes to search for the articles described in (Chart 1).

Chart 1 – Subject descriptors (DeCS and MeSH) used for the construction of the guiding question. Crato, CE, Brazil, 2021

Strategy Items	Components	Subject descriptors (DeCS)	Subject descriptors (MeSH)
Population	Organ donor patients	Tissue Donors	Tissue Donors
Variables	Brain death	Brain death	Brain Death
Outcomes	Nursing diagnostics	Nursing diagnostics	Nursing diagnosis

Source: Prepared by the authors, 2021.

The Health Sciences Descriptors (DeCs) and Medical Subject Headings (MeSH) were used, aiming to standardize the search for articles indexed in the databases. The DeCs: Tissue Donors, Brain Death and Nursing Diagnosis were used, and for the MeSH, the following descriptors were chosen: Tissue Donors, Brain Death and Nursing Diagnosis, using the Boolean operator AND to help formulate the search strategy.

The search was carried out in January 2021 in the selected databases: Latin American and Caribbean Literature on Health Sciences (LILACS), Nursing Database (BDENF), Cumulative Index to Nursing and Allied Health Literature (CINAHL), accessed via the Virtual Health Library (VHL). The Medical Literature Analysis and Retrieval System Online (MEDLINE) was accessed via the National Library of Medicine – National Institutes of Health (PubMed) and the Cochrane Library via the Portal de Periódicos da CAPES. These databases and libraries were chosen due to the area of knowledge and relevance they cover, including the health and nursing areas.

For the definition of the inclusion criteria, we considered: original and complete studies available in full that dealt with the theme in question, with no time limit/restriction and no language restrictions. Exclusion criteria were: reflection articles, monographs, dissertations, theses, and editorials from non-scientific newspapers.

The search for studies in the databases resulted in 533 studies. For the CINAHL, LILACS, and BDENF bases, the following search strategies were used: “Nursing Diagnosis” AND “Brain Death” AND “Tissue Donors”. In BDENF, after using the descriptors, 118 studies were found, and after applying the inclusion and exclusion criteria and reading the titles and abstracts of the articles, only nine studies were selected. In LILACS, 17 studies were identified which, after careful analysis, only ten articles were selected, and finally, in CINAHL 17 studies were identified, which after analysis resulted in six articles.

Regarding MEDLINE and Cochrane, respectively, the following search strategies were used: “Tissue Donors” AND “Brain Death” AND “Nursing Diagnosis”, resulting in 289 studies in MEDLINE and 92 in Cochrane. After applying the inclusion criteria and analyzing the titles and abstracts, thirteen articles from MEDLINE and two articles from Cochrane were selected for reading.

In total, 533 studies were identified, of which, after reading the titles and abstracts, 418 were excluded because they were not related to the research and did not meet the inclusion and exclusion criteria. Of these, three were repeated studies, nine incomplete studies, three were of another nature, such as review studies, and fifteen were not related to the proposed theme, leaving 40 studies. Of these, 20 were included for final evaluation, resulting in seven articles considered relevant for the integrative review, as shown in Chart 2.

The adapted Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA)10 flowchart was used to describe the search selection and study selection steps, as shown in (Figure 1). The selected articles were classified regarding the level of evidence, employing a classification system composed of seven relevant levels, to analyze and evaluate the quality of the studies.¹¹

RESULTS

The final sample consisted of seven articles that addressed the prevalent nursing diagnoses in the care of the brain-dead organ donor patient, also pointing out the main defining characteristics that are related to these diagnoses.

According to the North American Nursing Diagnosis Association (NANDA) nursing classification – 2021, the diagnoses presented in the studies were: Risk of unstable blood glucose (domain 2/class 3); Risk of impaired fluid volume (domain 2/class 5); Impaired gas exchange (domain 3/class 4); Decreased cardiac output (domain 4, class 4); Decreased intracranial adaptive capacity (domain 9/class 3); Risk of Infection (Domain 11/class 1); Risk of bleeding (domain 11/class 2); Hypothermia (domain 11/class 6).

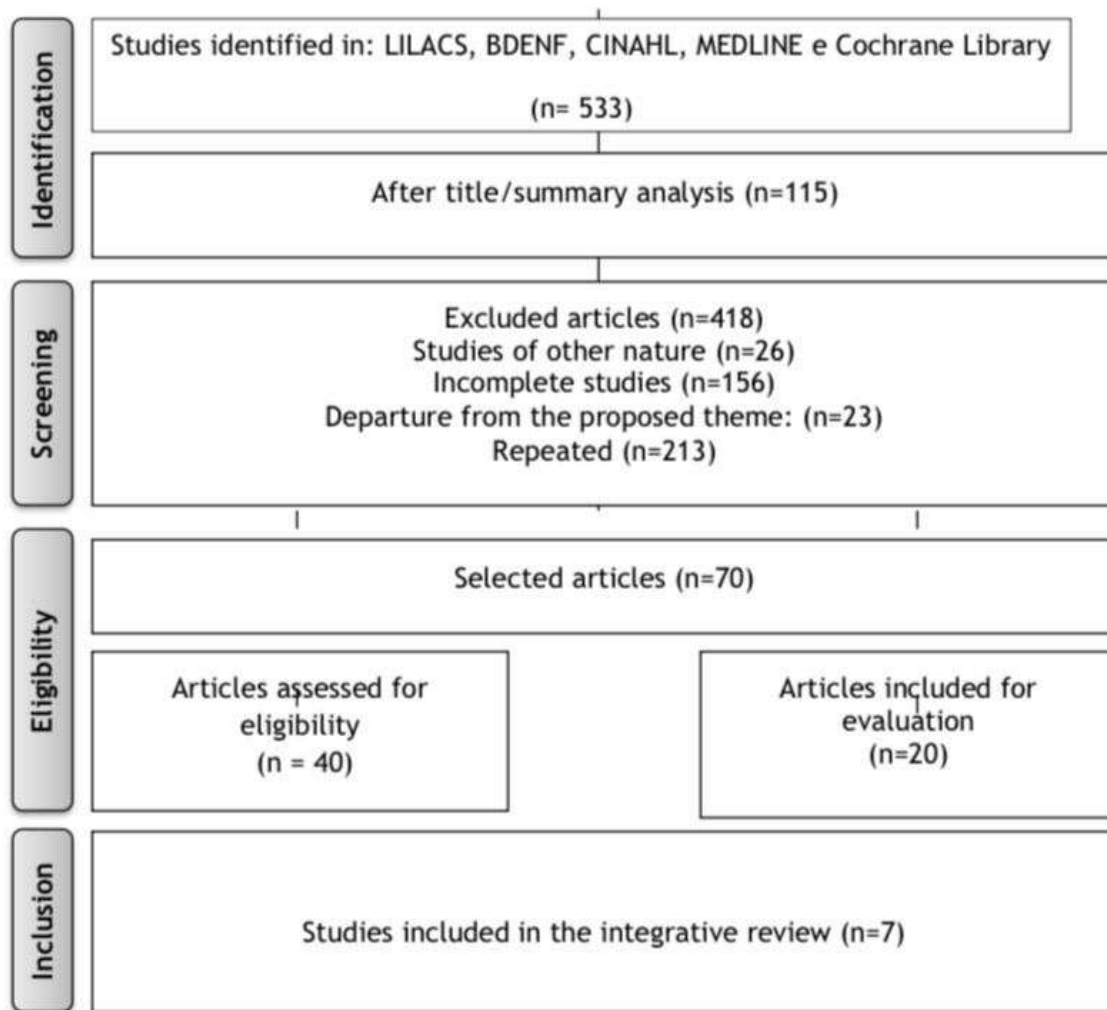


Figure 1 – Flowchart of study selection adapted according to Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA). Crato, CE, Brazil, 2021
Source: Prepared by the authors, 2021.

The primary studies were categorized as to methodological design, author/year, location, language/journal, title, results, method and level of evidence (NE) to describe the main nursing diagnoses identified in brain-dead patients who are potential organ donors. Regarding the methodological design of the studies, descriptive studies, experience reports, and expert reports were found, and as for the level of evidence, most of the studies analyzed corresponded predominantly to level VI (evidence derived from descriptive and qualitative study), as presented in the following chart (Chart 2).

The data were organized and divided into two thematic categories: I. Main diagnoses, pathophysiological changes and defining characteristics and II. Nursing professionals' knowledge on brain death for early diagnosis. The first refers to the main nursing diagnoses that were identified in patients with brain death and the physiological changes and defining characteristics, since the main diagnoses are related to these changes, and the second and last category mentions the knowledge of nursing professionals about brain death.

Main diagnoses, pathophysiological changes, and defining characteristics:

Fundamental for the early identification of signs and for closing the nursing diagnosis, in addition to offering care and extending its effectiveness, the studies presented some particularities in common about the following diagnoses: Hypothermia, which occurs due to loss of thermoregulatory function of the hypothalamus; Risk for decreased cardiac output, by extreme vasodilation resulting in severe hypotension and reactive hypovolemia; Risk for impaired fluid volume due to hypovolemic shock or hemorrhage; Impaired gas exchange, which is manifested by imbalance in ventilation perfusion and hypoxemia; Risk of unstable blood glucose, due to failure of the hypothalamic-pituitary axis that mainly reduces antidiuretic hormone; Risk of bleeding; Risk of infection, which relates to the use of central and peripheral catheters and decreased intracranial adaptive capacity due to brain injury.^{12-13,15, 18}

Chart 2 – Categorization of primary studies included in the review. Crato, CE, Brazil, 2021

Author Year	Location	Language/ Journal	Title	Results	Method	Level of Evidence
Barreto et al, 2020. ¹²	Porto Alegre-RS	Portuguese, Esc. Anna Nery.	Clinical indicators for the nursing diagnosis Impaired balance syndrome for organ donors.	Hypothermia; risk for impaired fluid volume; risk for decreased cardiac output; decreased cardiac output; decreased intracranial adaptive capacity;	Expert consensus study, conducted using the Delph technique, of the clinical indicators of a developing nursing diagnosis.	VI
Alves et al, 2018. ¹³	Recife-PE	Portuguese/ English, Rev Enferm UFPE	Management of patients in BD	Hypothermia; decreased cardiac output; risk of unstable blood glucose;	Quantitative, descriptive, exploratory study with 18 nurses.	V
Longuiniere et al, 2016. ¹⁴	Jequié-BA	Portuguese, Rev Rene.	Intensive care nurses' knowledge about the brain death diagnosis process.	Hypothermia; decreased cardiac output.	Qualitative study, carried out with nurses who work in an Intensive Care Unit.	VI
Freire et al, 2012. ¹⁵	Natal-RN	Portuguese, Esc Anna Nery	Physiological changes of brain death in potential organ and tissue donors for transplantation	Hypothermia; risk of infection; risk of unstable blood sugar;	A descriptive exploratory study with prospective data and qualitative approach carried out in the emergency and adult intensive care units of a hospital in Pernambuco.	VI
Freire et al, 2014. ¹⁶	Natal-RN	Spanish, Enferm. Global	Conocimiento del equipo de enfermería sobre la muerte encefálica y la donación de órganos	Risk of infection; risk of impaired fluid volume; risk of unstable blood glucose; impaired gas exchange	A descriptive, quantitative study carried out in six hospitals in Natal/ RN, with 68 nursing professionals.	VI
Silva et al, 2018. ¹⁷	Recife-PE	English/ Portuguese, J Nurs UFPE	Brain Death and Organ Maintenance: Knowledge of Intensive care professionals.	Hypothermia; risk of bleeding; decreased cardiac output; risk of deficient fluid volume.	Quantitative-qualitative, evaluative, descriptive and exploratory study, carried out with 21 health professionals in a reference hospital.	VI
Conceição et al, 2010. ¹⁸	São Paulo-SP	Portuguese, Anais 10: Simpósio Nacional de Diagnósticos em Enfermagem.	Diagnósticos e intervenções em enfermagem aplicáveis ao potencial doador de órgãos e tecidos.	Risk for impaired fluid volume; risk for decreased cardiac output; ineffective airway clearance; impaired bed mobility; risk for bleeding;	Relato de experiência dos diagnósticos e intervenções de enfermagem mais prevalentes dos doadores de órgãos e tecidos viabilizados pela OPO. Dante Pazzanese, in the period from 2008 to 2009.	VI

Source: Prepared by the authors, 2021.

For the diagnosis of hypothermia, the studies describe the following defining characteristics: temperature below 36°C and cold skin; for Risk of impaired fluid volume: high urinary volume, losses from nasogastric tubes, and blood loss from wounds; for Risk of decreased cardiac output: arrhythmias, hypokalemia, and hypovolemia; for Ineffective airway clearance: abolished cough mechanism, presence of adventitious noises, and loss of the respiratory center. The authors also bring risk factors for unstable glycemia: use of glucose solution and fasting; for bleeding risk: disseminated intravascular coagulation and impaired liver function; for infection risk: the use of central and peripheral catheters.^{12,14–15,18}

Knowledge of nursing professionals on brain death for early diagnosis:

The studies pointed out that professionals when asked about their knowledge about brain death, reported it to be the complete absence of brain activity and irreversible arrest of brain functions, where all organs are functioning through devices and drugs.^{14,16–17}

The professionals also bring in their answers that they need to be attentive to early identification of signs that may indicate brain impairment, and these signs and alterations are: polyuria, dryness of mucous membranes, arrhythmias and hypothermia, signs considered important for the diagnoses of decreased cardiac output, hypothermia, and risk of impaired fluid volume.¹⁴

DISCUSSION

The studies corroborate the conception that even in the face of the efforts of health teams, there are still weaknesses with respect to the confirmation of brain death, as well as difficulties regarding experienced professionals to conduct the diagnosis. In addition, professionals also point out weaknesses in the early identification of hemodynamic changes that potential donors present.¹⁹

In a study that identified the weaknesses of the donation process, 91.3% of 137 interviewees were right about the criteria to start the brain death diagnosis, 84% were right about the clinical signs and 84% about the main care in the potential donor's maintenance. However, 24% were wrong regarding the criteria to prevent the diagnosis of brain death and 37% regarding the sequence of steps in the donation process.¹⁹

The main problems related to the process of organ and tissue donation and transplantation are associated with failures in the recognition of the diagnosis, the family approach for the acceptance of the donation process and the clinical maintenance of the potential donor.²⁰ According to De La Longuiniere (2016) by identifying the physiological changes of brain death, nurses can play an active role in early diagnosis, optimizing time and enabling the process so that it is possible to perform the maintenance of organs and later the transplant, safely and following protocols governing such work actions.

According to Swan (2016) the main nursing care to be provided in the maintenance of the clinical picture of patients are related to the physiological changes of brain death such as hypertension, diabetes, hypothermia, infections and corneal ulcers.

During brain death evolution and regression of hemodynamic parameters, the scientific literature presents several physiological changes that occur in response to the loss of brainstem function.²¹

In addition to the periodic evaluation and continuous observation of clinical signs and vital parameters, the nursing professional performs essential functions that assist in the effectiveness of organ donation as well as in the hemodynamic and physiological maintenance and preservation of organs.²²

Thus, the nursing professional is also assigned the responsibility of early identification of hemodynamic changes related to brain death.¹⁸ Regarding nursing diagnoses, there is a prevalence related to physiological dysfunctions. In endocrine-metabolic changes, endocrine regulatory dysfunctions prevail (>50%), electrolyte imbalance (43%) and hypothermia (32%), corroborating to hormonal deficiencies and subsequent central thermoregulatory dysfunction.^{12,22}

The nursing team controls all hemodynamic data of the potential donor; for this, it is necessary that professionals have knowledge about the physiopathological changes characteristic of brain death, as well as the hemodynamic repercussions resulting from volume replacement and administration of vasoactive drugs.²³

A highly complex procedure, conducted by actions that need to effect care, demonstrates the importance of nursing professionals in the Systematization of Nursing Care (SAE). An essential tool to achieve quality of care, improve communication between the team, prioritize the needs of each patient, and also

develop actions based on technical and scientific knowledge that aim to operationalize the work process and organize the health service.²⁴⁻²⁵

We point out as limitations the small number of studies that comprised the study sample, as well as research that shows the prevalent nursing diagnoses in the care of the brain-dead patient. Such weaknesses demonstrate the need for further studies and research on the subject, in order to increase the efficiency of the organ donation process and improve the care provided to the potential donor. Thus, this research aims to contribute and promote evidence, expand knowledge about the various clinical changes that the brain-dead patient presents, as well as nursing diagnoses that are listed to conduct care and assistance to the donor patient.

CONCLUSION

The nurses' role involves from the first care with the neurological picture to the care to maintain the body temperature, and they must be prepared to act upon any change that the body presents. In summary, nurses are indispensable in the transplant process, as they are the ones who provide care, assist in the identification of interferences and hemodynamic maintenance of the potential donor, as well as notify the transplant regulation centers.

The nursing diagnoses are associated with the deleterious effects that brain death may cause to the potential donor, thus, the most prevalent diagnoses were: hypothermia; risk for impaired fluid volume; risk for decreased cardiac output; impaired gas exchange; risk for unstable blood glucose; risk for bleeding; risk for infection, and decreased intracranial adaptive capacity.

As seen in the literature, the need for organ donations is increasingly growing, as well as the work developed by nursing professionals in these scenarios. The adequate assistance and care to the potential donor are fundamental for the donation to take place, therefore, nursing diagnoses are the basis for these professionals to plan all the assistance that maintains the patient's stability.

Given this context, it is necessary to expand the studies on this topic, given the fact that a single donor can save the lives of dozens of people, and nursing diagnoses can guide a more specialized care, so that the process of donation/transplantation is effectively operationalized.

REFERENCES

1. Conselho Federal de Medicina (Brasil). Resolução CFM n° 1.480, de 21 de agosto de 1997. Ed. Brasília: CFM; 1997. Disponível em: <https://sistemas.cfm.org.br/normas/visualizar/resolucoes/BR/1997/1480> .
2. Barreto LNM, Cabral ÊM, Almeida MA. Diagnósticos de Enfermagem Prevalentes em Potenciais Doadores de Órgãos em Morte Encefálica [capítulo de livro na Internet]. A Enfermagem Centrada na Investigação Científica 3; 2020[acesso em 10 jan de 021].Disponível em: <https://lume.ufrgs.br/handle/10183/214119>.

3. Associação Brasileira de Transplante de Órgãos. Dimensionamento dos Transplantes no Brasil e em cada estado. Registro Brasileiro de Transplantes. [Internet]. 2017 [acesso em 10 de janeiro 2021];(4). Disponível em: <http://www.abto.org.br/abtov03/Upload/file/RBT/2017/rbt-imprensa-leitura-compressed.pdf>.
4. BRASIL. Lei n.10.211, de 23 de março de 2001. Altera os dispositivos da lei n. 9.434, de 4 de fevereiro de 1997, que dispõe sobre a remoção de órgãos, tecidos e partes do corpo para fins de transplante e tratamento. Diário oficial da União. 2006. Disponível em: http://www.planalto.gov.br/ccivil_03/leis/leis_2001/l10211.htm
5. Mattia AL, Rocha AM, Filho JPAF, Barbosa MH, Rodrigues MB, Oliveira MG. Análise das dificuldades no processo de doação de órgãos: uma revisão integrativa da literatura. *Bioethikos*. [Internet]. 2010 [acesso 17 de janeiro 2021];4(1). Disponível em: <http://www.saocamillo-sp.br/pdf/bioethikos/73/66a74.pdf>.
6. Guetti NR, Marques IR. Assistência de enfermagem ao potencial doador de órgãos em morte encefálica potencial doador de órgãos em morte encefálica. *Rev Bras Enferm*. [Internet]. 2008 [acesso em 12 de janeiro 2021]; 61(1). Disponível em: https://www.scielo.br/scielo.php?script=sci_arttext&pid=S0034-71672008000100014.
7. Mendes KDS, Barbosa S, Roza BA, Schirmer J, Galvão CM. Transplante de órgãos e tecidos: responsabilidades do enfermeiro. *Texto Contexto Enferm*. [Internet]. 2012 [acesso em 11 de janeiro 2021];21(4). Disponível em: https://www.scielo.br/scielo.php?script=sci_arttext&pid=S0104-07072012000400027.
8. Santos ATF, Figueiredo AS, Domingos JEP, Silva NO, Tamboril ACR, Viana MCA. Diagnósticos de Enfermagem em Potencial Doador de Órgãos e Tecidos e Pacientes Transplantados: Revisão Integrativa. *Id on Line Rev. Mult. Psic*. [Internet]. 2019 [acesso em 12 de janeiro 2021];13(46). Disponível em: <https://idonline.emnuvens.com.br/id/article/view/1889/2895>.
9. Pereira JC, Stuchi RAG, Sena CA. Proposta de sistematização da assistência de enfermagem pelas taxonomias NANDA/NIC/NOC para o diagnóstico de conhecimento deficiente. *Cogitare enferm*. [Internet]. 2010 [acesso em 15 de janeiro de 2021];15(1). Disponível em: <https://revistas.ufpr.br/cogitare/article/view/17175/11310>.
10. Moher D, Liberati A, Tetzlaff J, Altman DG; Group PT. Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLoS Medicin*. [Internet]. 2009 [cited 2021 jan 10];6(7). Available from: <https://pubmed.ncbi.nlm.nih.gov/19622551/>.
11. Stillwell SB, Fineout-Overholt E, Melnyk BM, Williamson KM. Evidence-based practice, step by step: searching for the evidence. *Am J Nurs*. [Internet]. 2010 [cited 2021 jan 10];110(5). Available from: <https://pubmed.ncbi.nlm.nih.gov/20520115/>.
12. Barreto LNM, Cabral EM, Chies N, Almeida MA. Indicadores clínicos para o diagnóstico de enfermagem síndrome do equilíbrio fisiológico prejudicado para doadores de órgãos. *Esc Anna Nery*. [Internet]. 2020 [acesso em 10 de janeiro 2021];24(3). Disponível em: <https://doi.org/10.1590/2177-9465-ean-2019-0341>.
13. Alves NCC, Oliveira LB, Santos ADB, Leal HAC, Sousa TME. Manejo dos pacientes em morte encefálica. *Rev enferm UFPE on line*. [Internet]. 2018 [acesso em 13 de janeiro 2021];24(2). Disponível em: <https://www.periodicos.ufpe.br/revistas/revistaenfermagem/article/viewFile/110145/28648>.
14. Longuinere ACF, Lobo MP, Leite PL, Barros RCS, Souza AN, Vieira SNS. Conhecimento de enfermeiros intensivistas acerca do processo de diagnóstico da morte encefálica. *Rev Rene*. [Internet]. 2016 [acesso em 15 de Janeiro 2021];17(5). Disponível em: <http://www.periodicos.ufc.br/rene/article/view/6204>.
15. Freire SG, Freire ILS, Pinto JTJM, Vasconcelos QLDAQ, Torres GV. Alterações fisiológicas da morte encefálica em potenciais doadores de órgãos e tecidos para transplantes. *Esc Anna Nery*. [Internet]. 2012 [acesso em 13 de janeiro 2021]; 14(4). Disponível em: <https://www.scielo.br/j/ean/a/n7LDXBcLbs5vZmcDGQWtM8q/abstract/?lang=pt>.
16. Freire ILS, Mendonça AEO, Freitas MB, Melo GSM, Costa IKF, Vasconcelos TG. Conocimiento del equipo de enfermería sobre la muerte encefálica y la donación de órganos. *Enfermería Global*. [Internet]. 2014 [acceso 12 de jan 2021];13(36) Disponible: https://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S1695-61412014000400010.
17. Silva FAA, Cunha DSP, Lira JAC, Ribeiro JF, Campelo GVS, Nunes BMVT. Brain death and organ maintenance: knowledge of intensive care professionals. *J Nurs UFPE on line*. [Internet]. 2018 [cited 2021 jan 11];12(1). Available from: <https://periodicos.ufpe.br/revistas/revistaenfermagem/article/view/25130/25851>.
18. Marcelino CAG, Silva ABV, Kobayashi RM, Ayoub AC, Conceição AP. Diagnósticos e intervenções de enfermagem aplicáveis no potencial doador de órgãos e tecidos In: 10º SINADen Simpósio Nacional de Diagnósticos em Enfermagem. [evento na internet]. 2010 [acesso em 11 de janeiro 2021]. Disponível em: <http://www.abeneventos.com.br/10sinaden/anais/files/0076.pdf>.
19. Cordeiro TV, Knih NS, Magalhães ALP, Barbosa SFF, Paim SMS. Fragilidades do conhecimento das equipes de unidades críticas relacionadas ao processo de doação de órgãos e tecidos. *Cogitare enferm*. [Internet]. 2020 [acesso em 11 de janeiro 2021];25. Disponível em: <https://revistas.ufpr.br/cogitare/article/view/66128>.
20. Magalhães ALP, Oliveira RJT, Ramos SF, Lobato MM, Knih NS, Silva EL. Gerência do cuidado de enfermagem ao paciente em morte encefálica. *Rev enferm UFPE on line*. [Internet]. 2019 [acesso em 12 de janeiro 2021];13(4). Disponível em: <file:///C:/Users/Administrador/Downloads/238433-138997-1-PB.pdf>.

21. McKeown DW, Bonser RS, Kellum JA. Management of the brain dead organ donor. *Trends in Anaesthesia and Critical Care*. *Br J Anaesth*. [Internet]. 2012 [cited 2021 jan 13];108(S1):i96–i107. Available from: <https://www.bjanaesthesia.org/action/showPdf?pii=S0007-0912%2817%2932173-6>.
22. Costa CR, Costa LP, Aguiar N. A enfermagem e o paciente em morte encefálica na UTI. *Rev. bioét.(Impr.)*. [Internet]. 2016 [acesso em 12 de janeiro 2021];24(2). Disponível em: https://www.scielo.br/scielo.php?script=sci_arttext&pid=S1983-80422016000200368&lng=pt&tlng=pt.
23. Lima CSP, Batista ACO, Barbosa SFF. Percepções da equipe de enfermagem no cuidado ao paciente em morte encefálica. *Rev. Eletr. Enf.* [Internet]. 2013 [acesso em 12 de janeiro 2021];15(3). Disponível em: <https://revistas.ufg.br/fen/article/view/17497>.
24. Neto VLS, Silva MS, Lima AKV, Gurgel ALPF, Mendonça AEO, Costa CS. Bone marrow transplantation: nursing diagnosis in receivers. *Rev Enferm UFPI*. [Internet]. 2015 [acesso em 13 de janeiro 2021];4(4). Disponível em: <https://www.ojs.ufpi.br/index.php/reufpi/article/view/2774/pdf>.
25. Matos SS, Ferraz AF, Guimarães GL, Gouveia VR, Mendoza IYQ, Silqueira SMF, et al. Transplantados cardíacos em pós-operatório mediato: diagnósticos de enfermagem segundo pressupostos de Horta*. *REV. SOBECC*. [Internet]. 2015 [acesso em 13 de janeiro 2021]; 20(4). Disponível em: https://www.researchgate.net/publication/300088106_Transplantados_cardiacos_em_pos-operatorio_mediato_diagnosticos_de_enfermagem_segundo_pressupostos_de_horta.