

Nursing performance after brain deaths diagnosis – systematic literature review

Tais Loutarte Oliveira¹, Francisco Leandro Soares de Souza¹, Jackson Firigolo¹,
Renata Gimenez de Sá¹, Emilly Mirella da Costa Laurette¹, Jessica Julia
Barbosa Freire¹, Rhaieny Vitoria da Silva Santos¹, Gleison Faria¹, Narasandra
Gonçalves Nascimento², Elida Will², Solange da Silva Boni², Keitty Karina
Silva Santos², Henrique de Melo Bordoni², Beatriz de Almeida Amaral², Paula
Eduarda Quadros Bruno², Lucineia da Silva Toledo², Rebeca Mariana Alvim
Morais², Nubia Lafaiete Dias da Silva², Gislayne da Silva², Gislaini Patussi
Supeletti², Aline Fontes Alves³, Heloisa Almeida Massalai³, Eloize Batista
Peres Gonçalves³, Gilberto dos Santos Campos³, Renata de Melo Nogueira
Freitas³, Tiago Lopes de Carvalho⁴, Chirley Pereira Portela⁴, Poliane Petroski
Maciel⁴, Patricia Santos de Souza⁴, Letícia Aparecida de Moura Freitas⁴,
Marco Rogerio da Silva⁵, Victória Ferreira de Souza⁶, Rogerio Ribeiro Neto⁷

1 Graduated/Undergraduate student at Unifacimed-Faculty of Biomedical Sciences of Cacoal – FACIMED –
RO, Brazil. Email: gleisonfaria@hotmail.com *

2 Graduated from Higher Education in Cacoal, FANORTE, Rondônia, Brazil

3 Centro Universitário São Lucas AFYA Educacional - Ji-Paraná, Rondônia, Brazil

4 Nursing student at Universidade Paulista – UNIP/ UNIPLAN – Cacoal e Ji – Paraná –RO, Brazil

5- Nurse at the University of Vale do Rio dos Sinos – UNISINOS - São Leopoldo, Rio Grande do Sul, Brazil

6 Nurse at the University of Unifaema – Ariquemes – Rondônia, Brazil

7 Doctor Universidade privada abierta latino-americana – UPAL, Bolivia.

Abstract

The concept of death was linked to the absence of heartbeats or spontaneous respiratory movements. The diagnosis of brain death is complex, requiring a series of initial factors as prerequisites, such as: knowledge of the cause of the coma, absence of hypothermia and absence of action of central nervous system depressant medications. Objective: to verify the clinical incidence and epidemiology of brain deaths occurring in Brazil. Methodology: these are exploratory, retrospective observational or experimental studies of recovery and critical analysis of literature that were carried out through research in electronic documents published between 2010 and 2020, using scientific articles, dissertations and theses. 33 articles were analyzed that dealt with the subject covered, which deepened knowledge about it, human beings were not involved in the research, thus eliminating the use of the term free informed. Results: The activities carried out by the brain define all structures of the body. The patient's vital functions are linked and linked to the heart and lungs freely and spontaneously. The most common causes of brain death are traumatic brain injuries (TBI) resulting from car accidents or physical attacks. The act of being an organ donor is characterized as solidarity with others. The family authorizes it, however, the patient must agree in life to donate their organs to other people. It is important to remember that not all patients who progress to brain death can be organ donors, around 1 to 4% of patients who die in hospital clinics throughout Brazil are selected. Conclusion: It is concluded that, during the research, it was found difficult to find a strengthening of the health care network that would assist in the formulation of public policies aimed at organ harvesting and transplantation and that would take into account strategies that promote discussions between professionals and society. Another difficulty is carrying out multidisciplinary training in public and private networks to understand possible pitfalls and analyzes of potential organ donors.

Keywords: Brain death, research, information.

Date of Submission: 06-03-2024

Date of acceptance: 19-03-2024

I. INTRODUCTION

Brain death or brain death (ME/MC) is the complete and irreversible loss of brain function, defined as the cessation of activity in the cortex and brain stem. During brain death, the deterministic loss of cerebral cortex and brainstem function will gradually and irreversibly affect the body's homeostasis, leading to the disappearance of heartbeat or breathing (HIRSCHHEIMER, 2016; CFM, 2017; WESTPHAL, VEIGA & FRANKE, 2019).

According to Freire et al (2012), the concept of brain death has changed, since it is currently possible to maintain the vital functions of human beings for long periods, even without the functioning of the brain (CFM, 2017).

Decree No. 9,175, of October 18, 2017, reinforced the Federal Council of Medicine's (CFM) task of determining ME standards. Subsequently, CFM Resolution No. 2,173, of November 23, 2017 (CFM, 2017).

The most common causes of BD are: brain trauma (TBI) and cerebrovascular accident (CVA). organ. After BD is confirmed, patients undergo confirmation of the diagnosis through complementary imaging tests, neurological exams and notification is made to the National Organ Procurement and Donation Center (CNCDO). Early diagnosis of brain death can protect tissues and organs (HIRSCHHEIMER, 2016; CIOATTO & PINHEIRO, 2017; CUNHA, 2018; PINHEIRO et al., 2020). Cerebrovascular accident (CVA) is one of the biggest causes of death and dysfunction in the world. In some parts of Brazil, it is still the main cause of death. It is characterized by sudden onset and rapidly evolving neurological deficits, generally focal, caused by localized damage to certain regions of the brain, which may be ischemic (AMORIM et al., 2017; HOC, 2019).

Head trauma (TBI) is responsible for 15% to 20% of deaths among people aged 5 to 35 years and 1% of total deaths among adults, having a huge impact on the health of the general public and is notorious for its importance in morbidity and mortality. It is considered the main reason for the evolution of patients with ME (MELO et al., 2019). It is important to emphasize that the cause of death must be known and well defined and that the diagnosis of BD must be compulsorily notified to the Organ Procurement and Donation Notification Center for transplantation (FREIRE et al., 2012; SEMIÃO, 2019).

Currently, 90% of transplant operations in Brazil are carried out by the Unified Health System (SUS) (RIBEIRO SCP, et al., 2017). In 2019, approximately 23,957 organ transplants were performed, such as: cornea, kidney, liver, heart and lung. Despite the growing number of transplants, the demand for donations has also been increasing, but the transplant waiting list is greater than its effectiveness, resulting in a shortage of organs. The state of Rondônia corresponds to 3.67% of organ donations (cornea) in 2019 (ABTO, 2019).

In view of the above, interest was aroused in verifying nursing performance in the diagnosis of brain death in the last ten years based on previously published collections.

II. MATERIALS AND METHODS

The present work is a narrative review of the literature carried out through a bibliographical review, with the purpose of analyzing publications in journals about nursing activities in the diagnosis of brain death in Brazil with key words such as: Brain death, investigation, information.

Bibliographic research has the following problem: What were the clinical and epidemiological indications of brain death (BD) diagnoses that occurred in a public hospital in Brazil? In the inclusion criteria, it was possible to search for articles that sought to explain all notifications regarding patients suffering from brain death (BD) treated in Brazil. Exclusion criteria were anything that was incongruous and notifications that did not contain information necessary for the study. Articles in English were used on the online translation site (<https://translate.google.com.br/>).

The research was structured and carried out in the period of May and June 2020. In this way, the bibliographic review study provided guidance for researchers in relation to the subject addressed, so that they can create hypotheses and formulate more precise problems or that can be researched by subsequent studies.

The data were extracted from magazines available on electronic data platforms such as: LILACS, BVS, SciELO, REBEN, which were appropriate based on the results and fit the objectives of this research. 45 articles related to the topic were analyzed, in the end 33 articles were highlighted containing publications between the years 2010 and 2020, which had more to do with the objective of the article.

No data collection instrument was used, as stated in the text, the study is a bibliography review, therefore, it is not necessary to use it, all analysis data were written in Microsoft Word ®.

III. RESULTS AND DISCUSSION

3.1 Confirmation of brain death in a patient.

The concept of death is to say that the functions of the human organism, such as lungs and heart, have lost their actions and are not essential for survival. The activities carried out by the brain define all the structures of the body, thus being the life and death of the individual, as their neurological functions, when they do not perform their actions, evolve into what we know as brain death (PUCA, 2012; SILVA et al. , 2016).

The patient's vital functions are linked and linked to the heart and lungs in a free and spontaneous way, however, as science is evolving more and more every day, it is possible to keep a patient on for a long time even without the functioning of the neurological system (brain) through artificial respirator (FREIRE, 2016). Once brain function stops, mechanical pulmonary ventilation must be performed to maintain blood circulation and other important functions, but regardless of the intensity of treatment support, irreversible cardiovascular failure will occur after a few hours or days because although some organs have their own pacemakers, they can maintain certain functions after the diagnosis of ME, and the nervous system is responsible for the unity of the human body, even with all possible artificial support, the nervous system can die in a short time (HIRSCHHEIMER, 2012).

According to CFM resolution n° 1,346/91, the Federal Council of Medicine defines that brain death is the total, irreversible cessation of all brain functions in the individual's body, which is often confirmed in an indisputable manner.

According to Castro (2010); Puca (2012) the first theory about brain death was presented in 1959 by French neurologists, who, through the condition that a brain with brain death was found in a living human, was known at the time of *depassé*. They realized that even though the brain was dead, cardiorespiratory functions remained temporarily (HIRSCHHEIMER, 2016).

The most common causes of brain death are traumatic brain injuries (TBI) resulting from car accidents or physical attacks. Next, it can be considered that diffuse lesions of the brain, subarachnoid hemorrhage, aneurysms, massive spontaneous cerebral hemorrhage, fulminant encephalitis, meningoencephalitis are causes that can also progress to brain death (GUETTI & MARQUES, 2007; SILVA et al., 2016) .

Traumatic brain injuries (TBI), cerebrovascular accidents (CVA) and hypoxic-schemic brain injuries are responsible for around 90% of cases of brain death in Brazil (SILVA et al., 2016).

Research carried out in Piauí, the most common causes of brain death are: car accidents, cerebral aneurysm, stab wounds, kidney and heart complications and respiratory failure (PAZ et al., 2011). Traumatic brain injury has a high rate of contribution to organ and tissue donations in Brazil (NORONHA et al., 2012; SILVA et al., 2014).

3.2 Potential Organ Donor

The act of being an organ donor is characterized as solidarity with others. The family authorizes it, however, the patient must agree in life to donate their organs to other people without this posing a risk to their physical and mental integrity (SILVA et al., 2014; HIRSCHHEIMER, 2016).

It is important to remember that not all patients who progress to brain death can be organ donors, around 1 to 4% of patients who die in hospital clinics throughout Brazil are selected and 10 to 15% in intensive care units are considered candidates to be organ donors (MATIA et al., 2010; WESTPHAL, 2016; (SOUZA, BENTO & MILAGRES, 2019). According to the Brazilian Association of Organ Transplants, around 10.7% of patients who are diagnosed with death brain damage can become organ donors. The demand for organ harvesting is greater than transplantation, that is, greater than what is offered, so many of the patients waiting for a transplant die waiting in line (MATIA et al., 2010; SILVA et al., 2014). According to Westphal (2016), organ transplantation is often the only alternative for patients with terminal illnesses who are registered in programs, in this sense it is observed that the demand is very high. Transplant execution is still very low.

Brazil is the country with the largest number of compatible donors in Latin America, but there is still a large number of people on waiting lists awaiting transplantation of organs in good condition for transplantation (ABTO, 2011; BRASIL, 2012a; BRASIL, 2012b). After BD is confirmed, patients undergo confirmation of the diagnosis through complementary imaging tests, neurological exams and notification is made to the National Organ Procurement and Donation Center (CNCDO), after being notified, the CNCDO itself activates the Organization for Organ Procurement (OPO) and Intra-Hospital Organ and Tissue Commission (CIHDOTT) (PAZ et al., 2011).

The existence of potential donors and effective donors in Brazil compared to other developed countries, refers to the high rates of indices caused by victims of traffic accidents and violence aged between 1 and 39 years (SILVA et al, 2014; HIRSCHHEIMER, 2016; PINHEIRO et al., 2020). More recent studies do not agree that the incidence of the age group for the main candidates for organ harvesting is between 41 and 60 years of

age, the authors mention that deaths occur more frequently, and many of the patients have healthy organs (PAZ et al., 2011; MENDES et al., 2012).

1.3 Nursing assistance in the maintenance of potential organ donors

The nurse has an extremely important role in providing care to patients with brain death, not only on a theoretical or practical basis, but also extremely important in terms of physical, psychological, biological, economic, spiritual, sociological and historical aspects that are entirely linked to professionalism, that is, it makes the nurse a mediator, to provide care in an adequate and continuous manner (ARAÚJO et al., 2017; COSTA et al., 2018).

Providing support to the care team in intensive care is extremely important in recognizing and validating a potential organ donor. Valuing the team is also fundamental because the effectiveness and success of the donation is proportional in following steps, filling out documents and filling in data (WESTPHAL, 2016; ARAÚJO et al., 2017).

The nurse must have theoretical and practical knowledge in identifying physiological changes, since, as part of patient-oriented care, they spend most of their time monitoring and providing care to the patient and must know the physiological changes of brain death that can act in a acceptable in closing the diagnosis of brain death, thus making the process viable and speeding up contact with possible organ harvesting teams. In this part, it is noted that the nurse has a great role as a member of the multidisciplinary team (LONGUINIÈRE, 2016; SOUZA, BENTO & MILAGRES, 2019).

Have a dialogue and know how to pass on important and extremely important information. Nurses with experiences directly linked to realities can indicate strategies for optimizing the acquisition of possible organs and tissues. Good communication must always be maintained and nurses from other sectors must be aware of them and sensitize them to help in the process. The lack of materials of important use in hospital sectors is a reality experienced daily by professionals, generating obstacles, creating an obstacle in identifying a possible donor, carrying out a quality exam and poor communication with family members (MORAES, 2014; LIMA et al., 2017).

Nurses are faced daily with various ethical conflicts related to the organ donation process, such as: difficulty for some medical professionals in accepting the diagnosis; not disconnecting the mechanical ventilator of patients who developed BD, but are not potential for donation, lack of knowledge of brain death protocols, disregard by professionals towards potential donors, lack of materials, failure of communication and religion (ARAÚJO & MASSAROLLO, 2014; FREIRE, 2015).

IV. CONSIDERAÇÕES FINAIS

It is concluded that, during the research, it was noted that it was difficult to find a strengthening of the health care network that would help in the formulation of public policies aimed at organ harvesting and transplantation and that would take into account strategies that promoted discussions between professionals and society. Another difficulty is carrying out multidisciplinary training in public and private networks to understand possible pitfalls and analyzes of potential organ donors.

Another important issue concerns carrying out new research related to this topic, so that nursing professionals can integrate more fully into these fields and clarify the relevance of their functions.

In this article, we aim to encourage readers to deepen their understanding of ME and its diagnostic criteria. Considering the importance of the topic for the patient's life and the family's comfort in this situation, health professionals are obliged to inform themselves and use legal means.

REFERENCES

- [1]. ARAÚJO C, SANTOS JAV, RODRIGUES RAP, JÚNIOR LRG. O papel do profissional de enfermagem na doação de órgãos. *Revista Saúde em Foco – Edição nº 9 – Ano: 2017*. Disponível: portal.unisepe.com.br/unifia/wp-content/uploads/sites/10001/2018/06/061_papel_profissional_enfermagem.pdf
- [2]. ARAÚJO MN, MASSAROLLO MCKB. Conflitos éticos vivenciados por enfermeiros no processo de doação de órgãos. *Acta paulista de enfermagem* 2014; 27(3).
- [3]. ASSOCIAÇÃO BRASILEIRA DE TRANSPLANTE DE ÓRGÃOS (ABTO). Registro Brasileiro de Transplantes. Dimensionamento dos Transplantes no Brasil e em cada estado. São Paulo, 2019. Disponível: www.abto.org.br/abtov03/Upload/file/RBT/2019/RBT-2019-leitura.pdf CONSELHO FEDERAL DE MEDICINA (CFM). RESOLUÇÃO Nº 2.173, DE 23 DE NOVEMBRO DE 2017. Edição: 240 | Seção: 1 | Página: 50-275. Brasília, 2017. Disponível: <https://saude.rs.gov.br/upload/arquivos/carga20171205/19140504-resolucao-do-conselho-federal-de-medicina-2173-2017.pdf>
- [4]. ASSOCIAÇÃO BRASILEIRA DE TRANSPLANTE DE ÓRGÃOS -ABTO. Registro Brasileiro de Transplantes. São Paulo; 2011.
- [5]. BRASIL. Conselho Federal de Medicina. Resolução CFM nº 1.480, de 8 de agosto de 1997. [Internet]. Dispõe sobre a caracterização de morte encefálica. Brasília: CFM; 1997 [acesso 02 junho 2019]. Disponível: http://www.portalmédico.org.br/resolucoes/CFM/1997/1480_1997.htm.
- [6]. BRASIL. Ministério da Saúde. Número de transplantes mais que dobra em dez anos. 2012a [Acesso em 2012 mar 4]. Disponível em <http://portalsaude.saude.gov.br/portalsaude/noticia/4234/162/numero-de-transplantesno-brasil-mais-que-dobra-em-dez-anos.html>
- [7]. BRASIL. Ministério da Saúde. Portal da Saúde. Transplantes. 2012b [Acesso em 2012 abr 6]. Disponível em

- http://portal.saude.gov.br/portal/saude/area.cfm?id_area=1004
- [8]. CASTRO AA. Revisão sistemática com ou sem metanálise. São Paulo: AAC; 2001. Disponível em: http://metodologia.org/wp-content/uploads/2010/08/lv5_rsl09.PDF.
- [9]. CIOATTO RM, PINHEIRO AAG. Transplante de órgãos humanos no Brasil: a temática não pode ser declarada morta. *Revista de Direitos e Garantias Fundamentais*, 2017; 18(3):177-214
- [10]. COSTA, K.L; MORAIS, C.S; MACHADO, M.M; CARVALHO, L.F.R. Assistência de enfermagem ao potencial doador de órgãos em morte encefálica: Revisão integrativa. *Piauí*. 2018. V.23,n.2,pp.153-158 *Brazilian Journal of Surgery and Clinical Research – BJSCR*
- [11]. CUNHA DSP, et al. Morte encefálica e manutenção de órgãos: conhecimento dos profissionais intensivistas. *Revista de Enfermagem UFPE online*, 2018; 12(1):51-58.
- [12]. FREIRE ILS. Estrutura, processo e resultado da doação de órgãos e tecidos para transplante. *Revista brasileira de enfermagem* 2015; 68(5) 837-845.
- [13]. FREIRE SG, FREIRE ILS, PINTO JTJM, VASCONCELOS QLDAQ, TORRES GDV. Alterações fisiológicas da morte encefálica em potenciais doadores de órgãos e tecidos para transplantes. *Esc Anna Nery (impr.)*2012 out - dez; 16 (4):761-766. *Escola Anna Nery Revista de Enfermagem*, vol. 16, núm. 4, outubro-diciembre, 2012, pp. 761-766. Disponível: <http://ribeirodasil.dominiotemporario.com/arquivos/Morte%20Encefálica%20-%20Eric%20Grossi.pdf>. Acesso 17/10/2019
- [14]. FREIRE SG. alterações fisiológicas da morte encefálica em potenciais doadores de órgãos e tecidos para transplantes. *Esc. Anna Nery*. 2012;4(16):761-6.
- [15]. GIL, A. C. Como elaborar projetos de pesquisa. 6. ed. São Paulo: Atlas, 2017.
- [16]. GUETTI, N.R; MARQUES, I.R. Assistência de enfermagem ao Assistência de enfermagem ao potencial doador de órgãos em morte encefálica. São Paulo. 2007. *Rev Bras Enferm*, Brasília 2008 jan-fev; 61(1): *Rev Bras Enferm*, Brasília 2008 jan-fev; 61(1): 91-7.
- [17]. HIRSCHHEIMER MR. Morte encefálica e doação de órgãos e tecidos. *Revista Residência Pediátrica*, 2016; 6(sup11):29-45.
- [18]. HOSPITAL OSVALDO CRUZ (HOC). Protocolo Alemão Oswaldo Cruz. São Paulo, 2019. Disponível: https://www.hospitaleswaldocruz.org.br/area-medica/wp-content/uploads/sites/4/2019/05/Protocolo-Clinico-Gerenciado-Diretrizes-de-Atendimento-ao-Paciente-com-Acidente-Vascular-Cerebral-Isquêmico_PR28-MAI19.pdf
- [19]. LAGO P, Piva J, GARCIA PC, TROSTER E, BOUSSO A, SARNO MO, et al. Brain death: medical management in seven brazilian pediatric intensive care units. *J Pediatr*. 2007; 83(2): 133-40. Acesso 15/09/2019
- [20]. LEITE, Naianne F.; MARANHÃO, Thércia L. G.; FARIAS, Athena de A. Captação de Múltiplos órgãos: os desafios do processo para os Profissionais de Saúde e Familiares . *Id on Line Revista Multidisciplinar e de Psicologia*, Fevereiro de 2017, vol.11, n.34, p. 246-270. ISSN: 1981-1179.
- [21]. LIMA CSP, Batista ACDO, BARBOSA SDFP. Percepções da equipe de enfermagem no cuidado ao paciente em morte encefálica. *Rev Eletrônica Enferm [Internet]*. 2013;15(3):780–9. Available from: <http://revistas.ufg.br/index.php/fen/article/view/17497>. Acesso 03/09/2019
- [22]. LIMA, Adrielle Maia et al . O psicólogo na comissão intra-hospitalar de doação de órgãos e tecidos: relato de experiência. *Psicol. hosp. (São Paulo)*, São Paulo , v. 15, n. 1, p. 02-23, jan. 2017 . Disponível em <http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S1677-74092017000100002&lng=pt&nrm=iso>. acessos em 04 ago. 2020.
- [23]. LONGUINIÈRE ACF. Conhecimento de enfermeiros intensivistas acerca do processo de diagnóstico da morte encefálica. *Northeast network nursing jornal* 2016; 17(5).
- [24]. MAROTO EG. Morte encefálica: conceitos essenciais, diagnóstico e atualização. Serviço de Neurocirurgia Hospital das Clínicas da UFMG. 2009 *Revista Médica de Minas Gerais*. [citado em 25 out. 2019]. Disponível: <http://rmmg.org/artigo/detalhes/428>
- [25]. MATIA AL, et al. Análise das dificuldades no processo de doação de órgãos: uma revisão integrada da literatura. *Rev Bioethikos*. 2010;1(4):66-74.
- [26]. MENDES, Karina Dal Sasso et al . Transplante de órgãos e tecidos: responsabilidades do enfermeiro. *Texto contexto - enferm.*, Florianópolis , v. 21, n. 4, p. 945-953, dez. 2012 . Disponível em <http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0104-07072012000400027&lng=pt&nrm=iso>. acessos em 04 ago. 2020. <https://doi.org/10.1590/S0104-07072012000400027>.
- [27]. MORAES, EL. Experience of nurses in the process of donation of organs and tissues for transplant. *Revista latino-americana de enfermagem* 2014, 22(2) 226-233.
- [28]. MORAIS Neto OL, MALTA DC, SILVA MMA. Promoção à saúde e vigilância de violências: efetividade e perspectivas. *Cienc Saúde Colet [on line]* 2009 [Acesso em 2012 set 25]; 14(5):1638. Disponível em <http://www.scielo.br/pdf/csc/v14n5/01.pdf>. p. 1638-1638
- [29]. NORONHA M. G. O, et al. Estudo do perfil dos doadores elegíveis de órgãos e tecidos e motivos da não doação no Hospital Santa Isabel em Blumenau, SC. *Rev AMRIGS*. 2012; 56(3):199-203.
- [30]. PAZ ACAC, Ribeiro PCA, Mascarenhas MDM, Silva MV. Caracterização dos doadores de órgãos e tecidos para transplante do estado do Piauí, de 2000 a 2009. *Enferm Foco*. 2011; 2(2): 124-27
- [31]. PINHEIRO, E. M.; ANDRADE, ÁLLEF D. B. DE; ROSA, L. L. D.; BICALHO, B. O.; BORTOLINI, V.; JUNIOR, E. L. F. Incidência de protocolos de morte encefálica, captações e fatores que influenciam o processo de doação de órgãos em um Complexo Hospitalar Regional. *Revista Eletrônica Acervo Saúde*, n. 39, p. e2274, 7 fev. 2020.
- [32]. PUCA Antonio. A morte cerebral é a verdadeira morte? Um problema aberto. *Revista - Centro Universitário São Camilo - 2012;6(3):321-334*. Disponível: <http://www.saocamilo-sp.br/assets/artigo/bioethikos/96/8.pdf>
- [33]. SEMIÃO MCP. Características dos pacientes que evoluíram para morte encefálica em unidades de cuidados críticos. Florianópolis, 2019. UFSC. [tese]. Disponível: <https://repositorio.ufsc.br/bitstream/handle/123456789/197134/TCC%20versão%20final%20para%20repositório.pdf?sequence=3&isAllowed=y>
- [34]. SILVA OM, KOLHS M, ASCARI RA et al. Perfil de doadores de órgãos de um hospital público do oeste de Santa Catarina. *J. res.: fundam. care. online* 2014. out./dez. 6(4):1534-1545 DOI: 10.9789/2175-5361.2014.v6i4.1534-1545
- [35]. SILVA, M.T; LUBENOW, J.A.M; MACEDO, D.A.F; VIRGINIO, N.A. Assistência de enfermagem ao paciente doador de órgãos: Revisão integrativa da literatura. *Rev. Ciênc. Saúde Nova Esperança – Abr.* 2016;14(1):37-46. Disponível: www.facene.com.br/wp-content/uploads/2010/11/4.-ASSISTENCIA-DE-ENFERMAGEM-AO-PO-TENCIAL-DOADOR-DE-ÓRGÃOS_PRONTO.pdf
- [36]. SOARES, E. - Metodologia científica: Lógica, epistemologia e normas - Ed. Atlas SoA - 2003 -ISBN 85-224-3377-1 -© 2002 by Ed. Atlas S.A
- [37]. SOUZA MF; BENTO JC; MILAGRES CS. Percepções do enfermeiro intensivista frente à morte encefálica e à doação de órgãos.

- FHO/UNIRARAS v. 18, n. 1 (2019). Disponível:
<https://portalatlanticaeditora.com.br/index.php/enfermagembrasil/article/view/1960/html>
- [38]. WESTPHAL GA. Diretrizes para avaliação e validação do potencial doador de órgãos em morte encefálica. Rev Bras Ter Intensiva 2016; 28(3) 220-255.
- [39]. WESTPHAL, Glauco Adrieno; VEIGA, Viviane Cordeiro; FRANKE, Cristiano Augusto. Determinação da morte encefálica no Brasil. Rev. bras. ter. intensiva, São Paulo, v. 31, n. 3, p. 403-409, Sept. 2019. Available from <http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0103-507X2019000300403&lng=en&nrm=iso>. access on 16 July 2020. Epub Oct 14, 2019. <https://doi.org/10.5935/0103-507x.20190050>