

Brain Death-Do not Resuscitate-End-of-life Care: A Literature Review

Anastasios Tzenalis^{1*}, Maria Vasdeki²

¹Department of Nursing, University of Patras, Greece.

²Sant Dimitrios General Hospital, Thessaloniki, Greece.

*Corresponding author: Anastasios Tzenalis.

Abstract

One of the most discussed topics in the field of Intensive Care Unit is brain death. In 1968, for the first time, the committee of Harvard University in the USA established the change in the concept of death and thus "brain death" was equated with the death of the person. The ethical considerations surrounding brain death end-of-life care are complex and require health professionals to navigate difficult decisions, such as withholding treatment, with compassion and expertise. Nurses, being closely involved in patient care, have a unique perspective and influence on the quality of end-of-life care. Improving the quality of end-of-life care is critical to ensuring patient-centered care and support for patients and their families during this difficult time.

Keywords: brain death; do not resuscitate; end-of-life care

Introduction

The Western world now recognizes two types of biological death: "real and permanent" death (i.e., prolonged, and permanent cessation of cardiac, respiratory, and brain functions) and brain death (i.e., beating heart, artificial respiration, interruption of all cerebral vessels. and absence brain electrical activity [1-2].

Brain Death

Brain death, also commonly referred to as death by neurological criteria, has been considered a legal definition of death for decades. Its determination involves many considerations and subtleties [3]. Before the 1950s, the idea of death was associated with the cessation of cardiorespiratory function. After the end of respiration and circulation logically followed the termination of brain function, and the cessation of brain activity was considered a critical component of death. In the years that followed, the introduction of enhanced life support techniques such as cardiopulmonary resuscitation (CPR) and positive pressure ventilation (PPV) challenged this interdependence and the conventional meaning of death. Brain death/death by neurological criteria (BD/DNC) was first proposed in 1959 by Mollaret and Goulon, who described an apneic, comatose patient without brainstem reflexes or electroencephalographic activity [4]. Although the

functions of many of the body's organ systems can be artificially maintained, the brain is the primary control system that controls important physiological processes, including cardiorespiratory support, and so when the brain ceases to function, these vital functions will also cease. In practice, the diagnosis of brain death is critical for organ donation, particularly heart transplantation, as brain-dead donors are the only acceptable source in the United States [5].

The prevailing recognized definition of brain death consists of two of three categories. The most commonly recognized is related to the "whole brain" concept, which states that brain death is comparable to catastrophic damage to all major brain regions, including the hemispheres, diencephalon, brainstem, and cerebellum [6- 8]. A less formal view of brain death is the "higher brain" formulation, which holds that only damage to the upper brain, involving the cortex and bilateral hemispheres, is required for diagnosis, given the importance of these areas in human cognitive ability. However, individuals with simple loss of higher brain function retain the ability to breathe, which is at odds with the standard criteria for determining brain death, which rely on the presence of apnea as a critical component of the clinical assessment of brain death [2].

DNR (Do Not Resuscitate)

A DNR order instructs medical personnel not to perform CPR on a patient experiencing cardiac or

pulmonary arrest. DNR is a therapeutic decision made before cardiac or respiratory (cardiopulmonary) arrest, with the consent of the patient or, if not possible, the consent of the next of kin (family member or relative) or authorized person, in which the health professionals do not provide CPR without interrupting any degree of normal care and treatment provided to the patient [9]. In developed nations, DNR is seen and understood more clearly than in developing nations. DNR orders do not prohibit routine care such as oxygen inhalation, intravenous or oral fluid therapy, oral, parenteral or intravenous feeding, or withdrawal of life support if the patient is on a ventilator or inotrope [10].

Implementing DNR involves a complex decision-making process involving ethical and legal issues. Peterson et al in 2018 highlighted those judgments for DNR orders are usually delayed [11]. Occasionally, decisions are made on the day of a patient's death or shortly before. Many doctors believe that the DNR decision should be made immediately. The majority of doctors do not know when to issue and enforce DNR directives or with whom to negotiate. However, there are divergent opinions among health professionals. Also, the DNR decision-making process varies between and within nations. In many countries, nations, races and religions, divergent beliefs, acceptance, recognition and approval regarding performance, morality and legality have been observed. To properly use DNR orders and prevent their misuse, healthcare professionals also need to be educated about them [12].

End of Life Care

In recent years there has been a change in the way we view death. Because of advances in medical science and technology, as well as a growing interest in wellness, people are living longer, more productive lives. End of Life Care now includes not only natural causes of death, but also those predicted to occur later in life or affect children, such as terminal conditions. End-of-life care in the modern, multicultural context has unique problems and requires innovative approaches to meet people's end-of-life needs [13]. An integral part of a major interdisciplinary evaluation aimed at understanding the impact of a life-changing event such as end-of-life care is to consider the relevance of modern medical technology and improved lifestyles. The importance of longevity due to advances in medicine, lifestyle choices, ethnicity, religious and racial consciousness requires an approach that takes all these factors into account [14].

Because of the complexity of end-of-life care, it is necessary to conduct an initial bio-psychosocial-spiritual assessment from the perspective of a multidisciplinary team. Due to medical advances, increasing rates of chronic illness, increasing numbers of elderly people, and longer life spans, there is a greater demand for health professionals with training and experience in end-of-life care settings [15].

Ethical dilemmas regarding treatment withdrawal

There are significant challenges in defining the role of ethics in patient care at the bedside. As noted, the best interest of the patient should be the priority for all involved in a treatment program. The widely accepted ethical rules, which should inform the choice to preserve life or limit treatment in the nursing department of hospital units, are summarized in the following [16]:

- ✚ Freedom of choice or the patient's ability to direct their own medical treatment.
- ✚ Beneficence or providing care in the best interests of the patient.
- ✚ Do no harm, meaning that the treatment will not make things worse for the patient.
- ✚ Distributive justice or the principle that resources should be distributed evenly and fairly.

Therefore, patient refusal of treatment, ineffectiveness of treatment, or failure of a treatment to improve the patient's health after a reasonable trial of it are all circumstances that may lead to de-escalation or non-de-escalation of treatment. But it is important to remember that implementing these rules is a difficult task that often leads to disagreements [17].

Considering the above, it is accepted that choices regarding the treatment of critically ill patients in the ICU have significant bioethical implications. Therefore, the following axes compose the bioethical treatment framework for these patients [18]:

- ✚ There is a greater chance of mortality for the patient.
- ✚ It is often impossible for patients to take an active role in their own care.
- ✚ Shared decision-making is achieved by open lines of communication between patients, their loved ones and health care providers.
- ✚ Cutting-edge therapy is rarely accessible due to its high cost and rarity.

Overall, healthcare professionals face ethical dilemmas when deciding whether to withhold treatment is appropriate. Factors such as prognosis, treatment futility, patient values, and the opinions of

interdisciplinary teams play a key role in these complex decisions. Involvement of the patient's family in the decision-making process is essential. Open communication, emotional support, and empathy help families overcome ethical dilemmas about withholding treatment and ensure their voices are heard and respected. The ethical dilemmas surrounding withholding treatment in end-of-life patients require a delicate balance between autonomy, beneficence and non-maleficence. Collaboration and compassionate communication are critical to navigating these complex decisions [16].

Conclusion

Intensive Care Unit health professionals play a key role in the care of patients at the end of their lives. The support they provide both to the patients themselves and to their families is not only physical but also emotional. The approach of each health professional to this condition affects the degree of palliative care at the end of the patients' life. Improving the quality of end-of-life care is critical to ensuring patient-centered care and support for patients and their families during this difficult time.

References

- Charlier P, Hassin J. (2015). Social death: ethical and medical anthropology aspects. *Ethics, Medicine, and Public Health*, 1:512-516.
- Greer DM, Shemie SD, Lewis A, Torrance S, Varelas P, Goldenberg FD, et al. (2020). Determination of brain death/death by neurologic criteria: the world brain death project. *JAMA*, 324:1078-1097.
- Spears W, Mian A, Greer D. (2022). Brain death: a clinical overview. *Jou of Intensive Care*, 10(1):1-6.
- Mollaret P, Goulon M. (1959). The depassed coma (preliminary memoir). *Rev Neurol (Paris)*, 101:3-15.
- Manara AR, Thomas I. (2020). Current status of organ donation after brain death in the UK. *Anaesthesia*, 75(9):1205-1214.
- Diagnosis of brain death. (1976). Statement issued by the honorary secretary of the Conference of Medical Royal Colleges and their Faculties in the United Kingdom, 1976. *Br Med J*, 2:1187-1188.
- Smith M, Citerio G. (2017). Death determined by neurological criteria: the next steps. *Intensive Care Med*, 43:1383-1385.
- Lewis A, Bakkar A, Kreiger-Benson E, Kumpfbeck A, Liebman J, Shemie SD, et al. (2020). Determination of death by neurologic criteria around the world. *Neurology*, 95:299-309.
- Assarroudi A, Nabavi FH, Ebadi A, Esmaily H. (2017). Do not- resuscitate Order: The Experiences of Iranian Cardiopulmonary Resuscitation Team Members. *Indian Journal of Palliative Care*, 23(1):88-92.
- Mishra, et al. (2017). End-of-Life Care: Consensus Statement by Indian Academy of Pediatrics. *Indian Pediatrics*, 15(55):851-859.
- Petterson M, Høglund, M Hedstrom, AT. (2018). Perspective on the DNR decision process: A survey of nurses and physician in hematology and oncology. *PLOS ONE*, 13(11):0206550.
- Fallahi et al. (2018). Nurses and physicians' viewpoints about decision making of do not attempt resuscitation (DNAR). *Multidisciplinary Respiratory Medicine*, 13:20.
- Parrell L. (2016). End-of-Life Care issues in *Encyclopedia of Social Work*. National Association of Social Workers, Oxford University Press. USA.
- Payne M. (2009). Developments in end-of-life and palliative care: International issues.
- Sheldon F. M. (2000). Dimensions of the role of the social worker in palliative care. *Palliative Medicine*, 14(6):491-498.
- Carlet J, Thijs LG, Antonelli M et al. (2004). Challenges in end-of-life care in the ICU. Statement of the 5th International Consensus Conference in Critical Care: Brussels, Belgium, *Intensive Care Medicine*, 30:770-784.
- Akdeniz M, Yardimci B, Kavukcu E. (2021). Ethical considerations at the end-of-life care. *SAGE*.
- Taylor E, Mamier I, Ricci-Allegra P & Foith J. (2017). Self-reported frequency of nurse-provided spiritual care. *Applied Nursing Research*, 30-35.

Cite this article: Tzenalis A, Vasdeki M. (2023). Brain Death-Do not Resuscitate-End-of-life Care: A Literature Review. *Journal of Clinical Surgery and Surgical Research*, BioRes Scientia Publishers. 2(2):1-4. DOI: 10.59657/2992-9989.brs.23.015

Copyright: © 2023 Anastasios Tzenalis, this is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Article History: Received: September 04, 2023 | Accepted: September 18, 2023 | Published: September 25, 2023