



Ethical-Medicolegal Aspects of Installation and Removal of Ventilator in Life Support Efforts for Critical Patients during Covid-19 Pandemic

Syafril Alfian Akbar^{1*}, Agus Yuda Hernoko², Sutarno³

Fakultas Hukum Universitas Hang Tuah Surabaya

Jl. Arief Rahman Hakim No.150, Keputih, Kec. Sukolilo, Kota SBY, Jawa Timur 60117

E-mail: syafril@gmail.com

ABSTRACT

This study aims to analyze the procedures and considerations of medical and medicolegal aspects regarding the installation and removal of the use of ventilators in life support for patients during the COVID-19 pandemic. This study uses a normative juridical legal research method. The results showed that the ethical aspects regarding the installation and removal of the use of ventilators in the effort to support patients' life during the COVID-19 pandemic were based on an agreement that was born by agreement (therapeutic agreement). The decision to stop or postpone life support therapy for medical treatment for patients is made by a team of doctors who treats patients after consulting a team of doctors appointed by the Medical Committee or the Ethics Committee based on *Permenkes* Number 37 of 2014. Meanwhile, the legal basis of procedures is in the process of making the installation decision and releasing the use of ventilators in critical patients during the COVID-19 pandemic, referring to the provisions of *Permenkes* No. 37/2014, *Permenkes* No. 290 of 2008, and *Permenkes* RI No. 290 of 2008 concerning the rejection of medical action, which patients and or their closest relatives can do. The legal basis refers to the medicolegal aspect in critical patients when installing and removing a ventilator. It is used as an indicator for determining whether to withdraw life support or withhold life support. Besides being adjusted to the validity of an agreement according to the Civil Code as stipulated in Article 1320, a doctor can initiate to understand a patient in the preparation and legal consequences of this agreement.

Keywords: Ethical-Medicolegal, Ventilators, Life Support Efforts, COVID-19 Pandemic

I. Introduction

Ventilator (mechanical ventilation) plays an important role in critical nursing because 90% of critically ill patients require intubation and ventilator assistance (PERDATIN Indonesia, 2020). The ventilator's role is a substitute for the ventilation function for patients with impaired respiratory function (Rehatta, Hanindito, & Tantri, 2019). The ventilator maintains optimal alveolar ventilation to meet the patient's metabolic needs, improves hypoxemia, and maximizes oxygen transport (Sundana, 2018). However, using

*Corresponding Author

E-mail: syafril@gmail.com

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ventilators in the long term can lead to many risks, namely death and Ventilator-Associated Pneumonia (VAP). In addition, there is a risk of VAP due to the installation of a ventilator, so weaning is necessary (PERDATIN Indonesia, 2020).

Weaning removes a mechanical ventilator as a breathing apparatus, either gradually or directly. Ventilator weaning in critical patients is the act of releasing the ventilator from the patient to return the task of breathing to the patient (PERDATIN Indonesia, 2020). Weaning can be successful if the patient can breathe freely without assistance from a ventilator for 48 hours (Sundana, 2018). Weaning methods include T-tube, SIMV (Synchronized Intermittent Mandatory Ventilation) weaning, and PSV (Pressure Support Ventilation). However, improper weaning can prolong ventilator use, cause a risk to the patient and even lead to death (Rehatta et al., 2019).

In Epstein's study of 289 patients on a ventilator, 247 patients (85%) were successfully extubated, and 42 patients (15%) had to be reintubated. Of the total 42 patients who were reintubated, 43% died (Sari, Wisudarti, & Widodo, 2017). The American Society of Anesthesiology (ASA) Closed Claims Study between 1990 and 2007 found effects on the respiratory system after extubation in 35 cases out of 522 cases (7%), which included lack of ventilation power, airway obstruction, bronchial spasm and aspiration. The reports obtained that 4-9% of serious respiratory events occur immediately after extubation (Waladani, Mediani, & Anna, 2016). Conditions in Indonesia, based on the report of the Indonesian Critical Care Nurses Association (known as HIPERCCI), the ventilator weaning process, both from the hospital and from HIPERCCI as an association of ICU nurses in Indonesia has not issued a clear protocol on the role of nurses in the ventilator weaning process (Sari et al., 2017).

The current COVID-19 pandemic affects various aspects of life and requires massive and disruptive adjustments in health services. The symptom of the disease caused by COVID-19 is similar to a symptom of influenza, which consist of fever, cough, and shortness of breath and can end in respiratory failure (Acute Respiratory Distress Syndrome) (Medical Education Unit FKUI, 2020). The patient is required to install a ventilator. However, various ethical issues arise, especially in medical ethics, where doctors and nurses must immediately decide when dealing with COVID-19 patients (PERDATIN Indonesia, 2020). What criteria should doctors and nurses use to treat too many COVID-19 patients while doctors and nurses are limited? If there are fewer ventilators than critically ill COVID-19 patients, which patients should the breathing apparatus be given to (Tumanggor, 2020)? Critically ill patients are treated immediately, treatment of seriously ill patients is delayed, and mildly sick patients are treated later. Patients who have no chance of survival receive pure palliative care (Grunau, 2020).

According to data from the Ministry of Health on July 25, 2020, all hospitals in Indonesia have around 3,637 ventilators for critical COVID-19 patients. A total of 1,167 units are installed in ICU (Intensive Care Unit) beds and 1,145 units in negative pressure isolation beds. Then, there are 829 ventilators installed in isolation beds without negative pressure and 496 units in natural air flow isolation beds. However, only some of these

quantities are still available. Around 20-30% of them are being used to treat COVID-19 patients (Lidwina, 2020).

On the one hand, the number of patients due to COVID-19 is increasing. East Java recorded the number of positive COVID-19 patients, as many as 887 people, on January 1, 2021. Thus, the total number of positive cases of COVID-19 reached 85,039 in East Java. The highest number of positive Corona Virus patients was in Blitar Regency, with as many as 175 people. Probolinggo City, 62 people; and Jember Regency, 86 people. Meanwhile, 803 people recovered from COVID-19 in East Java. The total number of patients recovered from COVID-19 reached 72,938 people. The highest number of patients recovered from COVID-19 included 127 people in Jember Regency, 85 people in Blitar Regency, and 46 people in Tulungagung Regency, while in Surabaya City, 18,018 people (Melani, 2021).

If reviewed from the Basic Bioethical Rules (known as KDB), the doctor must make the right decisions to take action related to the patient's life. KDB that is concerned with the issue of critical COVID-19 patients is beneficence, non-maleficence and autonomy. A big dilemma is if the patient or the patient's family, based on KDB autonomy, requests a postponement or discontinuation of using a ventilator as a means of life support. In the non-maleficence rule, this should not be done because it will worsen the patient's condition and is an immoral act. The release of ventilators for COVID-19 patients due to limited ventilators is not following KDB beneficence; namely, doctors must strive for a minimum good life for patients, but special considerations are needed if the purpose of the action is to relieve the patient's suffering. On the other hand, this is contrary to non-maleficence KDB because it puts the patient in danger. Meanwhile, based on KDB autonomy, doctors are obliged to respect the rationality of the patient's family in making decisions about medical actions that the doctor will take next (Suryadi, 2017).

If viewed from the medicolegal aspect, it is intended as a form of health service carried out by medical personnel using medical science and technology based on the authority possessed for legal purposes and to implement applicable regulations (Atmadja & Purwani, 2018). The medicolegal aspect considers that delaying and stopping the ventilator will make the patient vulnerable, although it may be done for the patient's convenience (Afandi, 2018). As stipulated in Article 5 of the Indonesian Medical Code of Ethics (known as KODEKI), any actions or advice that may weaken psychological or physical endurance is only given for the patient's benefit after obtaining the patient's consent. In line with the Regulation of the Minister of Health of the Republic of Indonesia No. 290 of 2008 Chapter 4 Article 16 concerning Approval of Medical Actions in particular situations, namely withdrawing/withholding life support, a patient must obtain the approval of the patient's closest family.

Furthermore, Article 18 emphasizes that the patient or his closest family can refuse medical action after receiving an explanation of the medical action to be carried out (Suryadi, 2017). Therefore, decisions regarding the action of delaying and discontinuing ventilators for critical patients during the COVID-19 pandemic must be made with the consent of the patient's family. The patient's family can request or refuse the action. Life

support therapy that can be discontinued or delayed installation and removal of ventilator use in patients during the COVID-19 pandemic is only therapeutic measures or special treatments, namely ICU care, cardiopulmonary resuscitation, tracheal intubation, mechanical ventilation, as well as other actions specified in the medical service standards. It is explained in Article 7 (d) KODEKI that every doctor needs to study medical, bioethical and medicolegal aspects regarding the installation and removal of the use of ventilators to support patients' life during the COVID-19 pandemic, where a doctor must continue to seek alleviation of the patient's suffering, but not allowed to end the patient's life.

Based on the explanation above, this study aims to analyze the considerations of ethical aspects and the legal basis of procedures in the decision-making process for installing and removing ventilators used in critical patients during the COVID-19 pandemic.

II. Method and Legal Material

This research is normative legal research using a statutory approach (Marzuki, 2017) and a conceptual approach (Achmad, 2009). Normative legal research is legal research conducted based on the norms and rules of the legislation (Ali, 2015).

The source of this research material is legal material, not data or social facts, because the normative legal research studied is legal material that contains normative rules (Nasution, 2008). Legal materials are materials derived from primary legal materials and secondary legal materials that are related to the issues discussed.

- a. Primary legal materials are materials sourced from statutory regulations (main legal materials) such as:
 - 1) The Constitution of 1945;
 - 2) Law Number 29 of 2004 concerning Medical Practice;
 - 3) Law Number 36 of 2009 concerning Health;
 - 4) Law Number 44 of 2009 concerning Hospital;
 - 5) Law Number 36 of 2014 concerning Health Worker;
 - 6) Law Number 38 of 2014 concerning Nursing;
 - 7) Regulation of the Minister of Health Number 290/Menkes/PER/III/2008 concerning Approval of Medical Action;
 - 8) Regulation of the Minister of Health Number 519/Menkes/PER/III/2011 concerning Guidelines for the Implementation of Anesthesiology Services and Intensive Therapy in Hospitals;
 - 9) Decree of the Minister of Health of the Republic of Indonesia Number HK.01.07/MENKES/413/2020 concerning Guidelines for the Prevention and Control of Coronavirus Disease 2019.
- b. Secondary legal material. Legal material that provide an explanation of primary legal materials in the form of literature books written by law scholars, papers, scientific articles, journals, theses that are related and have relevance to the problem being studied.

The procedures for collecting legal materials are carried out by tracing, reviewing and analysing library material, written regulations or other legal material-the processes of finding the rule of law, legal principles and legal doctrine to answer legal issues. Next, choose the articles that contain the rule of law and analyse them. After the legal materials were collected, then they were analysed in an evaluative manner as follows.

- a) Stating the legal rules with it's main tenets;
- b) Listing the common arguments againts these aspects;
- c) Putting forward counter-aguments;
- d) Illustrating the consequences of particular points being accepted or denied.

III. Results and Discussion

Consideration of ethical aspect regarding the installation and removal of the use of ventilator in life support effort for patients during Covid-19 pandemic

Regarding the explanation of the legal, especially about the relationship between doctor and patient, in following the law on approval of medical action (informed consent), the medicolegal aspect is used as the basis for health services carried out by medical personnel using medical science and technology based on their authority for legal purposes and to implement applicable regulations (Lontoh, 2008). After the issuance of the Medical Practice Law, the medicolegal aspect has become a disciplinary norm and a new thing that needs to be considered and studied. Medicolegal is a specific approach to problems arising from the practice of the medical profession. This approach is different from legal science in general because it is included in consideration of two fields of science, namely medical science and law. Medicolegal focuses on medical jurisprudence. The essence of this medicolegal approach is based on the right to health care, namely the right to self-determination and the right to information (Herkutanto, 2015). Therefore, it can be concluded whether the actions taken by the doctor in carrying out the treatment can be justified. According to Arifinindar, Amelia, & Ismaniar (2019), it is necessary to understand the basic principles of the doctor-patient relationship in terms of a medicolegal approach:

1. Health Service in relation to medical record
This medical record was previously based on an agreement called a therapeutic agreement or therapeutic transaction. There are several important things that underlie the importance of a therapeutic transaction, namely:
 - a. The parties to the agreement (in law there are parties who are unable to act as parties to the agreement).
 - b. Agreement with Hospital (especially in handling health services to the community).
2. The requirement that must be met for the agreement to be valid according to law.
3. The medicolegal aspect of medical records, namely the necessity to be signed by the parties (medical staff and patients).

4. Degree of Health Services as stated or reflected in medical records. Medical records reflect neatness, speed and determination in implementing professional rights and obligations.
5. Function of medical record as legal document. Written medical records are evidence based on the law that are valuable as witness/expert testimony.
6. The parties in the Health Service and their rights and obligations according to ethics and law.
7. Patient right which is the basic right for the foundation of medical law between doctor and patient. The therapeutic transaction has issued reciprocal rights and obligations, and if these rights and obligations are not fulfilled by one of the parties.
8. The Medicolegal aspect of the relationship between the parties in Health Services.

In line with those principles above, in medicolegal cases, there is usually the case of injury, disability or death where an investigation from law enforcement agencies is very important to find out who is responsible for the case, whether the doctor or the patient himself accountable for the injury, disability or death? In other words, a legal matter requires medical expertise in its settlement (Afandi, 2018). Moreover, as stipulated by the Indonesian Medical Council, there is an institution called the Indonesian Medical Discipline Honorary Council, which aims to enforce the discipline of doctors and dentists in the implementation of medical practice in the doctor-patient relationship (Arifinindar et al., 2019).

Medicolegal case in critical patients during the COVID-19 pandemic, especially in the installation and removal of the use of ventilators in life support effort for the patient, is associated with medical ethics and based on morality. Morality is the basis of the emergence of ethics, which every human being will then contemplate in the process of reflection (Herkutanto, 2015). In a doctor's job, before taking action, he must think about "can it" and "will it". After the action occurs, then what is believed to is did it. The question "can it" refers to responsibility, something the doctor has previously held. Doctors should equalize professional standards, learn, and continue to increase their knowledge. The question "will it" refers to professionalism applied when the patient comes. The question "did it" relates to liability, namely the time after the action has been taken against the patient. In the case of critical medicolegal patients who get the installation and removal of the use of a ventilator, malpractice often occurs, including misconduct (which is an intentional error), lack of skill (unintentional error, but lack of doctor skills), and medical negligence (Afandi, 2018). The doctor's mistakes must be accounted for. Patients harmed due to the doctor's negligence during medical actions can claim compensation.

The patient's right to compensation has been regulated in Article 58, paragraph (1) of the Health Law that everyone has the right to claim compensation against a person, health worker, or health provider who causes losses due to errors or negligence in the health services. The legal basis for providing health services by doctors is contained in the Medical Practice Law. As for nurses, the legal basis is contained in Law Number 36

of 2014 concerning Health Workers. Nurses have an obligation to meet patient needs, including bio-psycho-socio and spiritual. It is not owned by a doctor regarding cognitive how to treat and review the patient's condition. A doctor focuses more on treatment and medicine (Suryadi, 2017). To determine the responsibility for installing and removing ventilators for critical patients during the COVID-19 pandemic for medical actions, in assigning subordinates, it is recommended that doctors pay attention to the following.

1. Doctor only carry out diagnosis, therapy, and medical instructions.
2. Assignment of medical action should only be done if the doctor believes in the ability of his staff, so that the patient gets treatment that does not endanger his life. This assignment must be done in writing, with clear instructions on how to do the instructions and the possible complications that can occur and how to handle them.
3. Doctor must always monitors the patients progress both during and after receiving medical treatment (treatment measures) and doctor always ready if at any time he must be present to treat patients directly.
4. Patient who undergoes medical actions that is not carried out by the doctor themselves (there is a delegation of authority). A patient has the right to refuse or accept (Suryadi, 2017).

Furthermore, to save the patient's life or prevent disability, approval of medical action is not required in an emergency situation. As previously explained, approval of medical action as information provided must be vital information. In this case, how clear the information must be given to the patient. If in an emergency situation were accompanied by the closest family, then approval can be requested from the next of kin in the following order: legal husband/wife, biological child, biological father or mother, sibling or guardian (Sundana, 2018). Approval of medical action as a form of accountability for the installation and release of ventilator use in critical patients during the COVID-19 pandemic for doctors' medical actions can be seen from 3 standards, namely:

1. Reasonable physician standard
That the obligation to provide information and the criteria for the accuracy of information is determined by how it is usually carried out in the medical community, this standard refers to the values that exist in the medical community, regardless of the curiosity and understanding ability of the individual who is expected to receive the information.
2. Subjective standard
That the decision must be based on the values held by the patient personally so that the information provided must be sufficient for the patient to make a decision, this standard is complicated to implement or almost impossible. Impossible is meant for medical personnel to understand the values that patients individually hold.
3. Reasonable patient standard
This standard is the result of a compromise from the two previous standards, which is considered sufficient if the information provided has met the needs of ordinary people in general (Busro, 2018).

The ethical aspect of installing and removing ventilators is related to 4 basic moral principles: autonomy, beneficence, non-maleficence and justice. Autonomy means that every medical action must obtain the consent of the patient (or his closest family, if he cannot give his consent), beneficence means that every medical action must be for the good of the patient, non-maleficence means that every medical action must not worsen the patient's condition. Justice implies that medical attitudes or actions must be fair – especially from a distributive-justice perspective. A moral dilemma may still occur if the moral principle of autonomy is confronted with other ethical principles or if the principle of beneficence is confronted with non-maleficence, for example, if the patient's wishes (autonomy) are contrary to the principles of charity or non-maleficence, and if an action contains beneficence and non-maleficence simultaneously as in the rule of double effect.

The ethical consideration that must be known in determining the installation and removal of the ventilator is when, where, and under what conditions the doctor conveys this to the patient's family. Firstly, a doctor must respect the dignity of patients (patient autonomy). In this condition, the patient and his family must have the autonomy to receive relevant information about the disease. The doctor must determine whether the patient, family or relatives understand the latest health condition of the patient. The most crucial thing in determining when to install and remove a ventilator is when a medical procedure has changed from ordinary to extraordinary.

The ordinary measures are all medical, surgical or medicinal procedures that offer a reasonable expectation of "improvement of the condition", which can be obtained or performed without the high cost, pain/effort or other inconvenience. Meanwhile, the extraordinary measures are all medical, surgical, or drug procedures that cannot be obtained/performed without the high cost, effort or inconvenience, or which, if performed, do not offer a reasonable hope of "improvement of the situation". Determining which is ordinary or extraordinary is very important so that doctors and nurses believe that their professional actions do not violate ethics or law.

Legal Basis for procedures in the Decision-Making Process of Installing and Removing Ventilator for Critical Patients during COVID-19 Pandemic

Regarding the medicolegal aspect, critically ill patients in the installation and removal of the ventilator are used as indications for determining the action of withdrawing life support or withholding life support. In simple terms, withholding means no longer doing resuscitation. On the contrary, withdrawal means that once the patient is withdrawn or withdrawn, the patient's ventilator and inotropes, even if severe. Usually, withdrawal appears as a decision as the ultimate solution to life expectancy for patients (Atmadja & Purwani, 2018). Withholding and withdrawing life support adhere to the basic moral principles, namely autonomy, beneficence, non-maleficence, and justice. These four rules can be used by medical personnel to make decisions before installing and removing ventilators in critical patients (Sundana, 2018).

Beneficence is used as a medical action aimed at the patient's good. For example, if removing the ventilator is for the patient's convenience, with a note that there is no longer

any benefit in installing a ventilator, this is understandable. This principle is described as a self-evident tool and is widely accepted as an appropriate medical goal. Implementing the beneficence principle is essential in morality because it takes action for the patient's good. This is not the only principle that must be considered, but one of several other principles must also be considered. This principle is limited to the balance of benefits, risks, and costs (as a result of the action) and does not determine the achievement of all obligations. The criticism that often arises against applying this principle is that the public interest is placed above personal interest. For example, in medical research, procedures that harm individual research subjects are allowed based on benefit for the public interest. In fact, we should also consider other principles.

The principle of beneficence must be applied to both the individual good of the patient and the good of society as a whole. Because of the broad scope of goodness, many provisions in practice (medical) arise from the principle of beneficence. The following are some forms of application of the beneficence principle, they are:

1. Protecting and safeguarding the rights of others.
2. Preventing harm that can befall others.
3. Eliminating conditions that can harm others.
4. Helping people with various limitations (disability).
5. Helping people in danger

Non-maleficence allows patients, their guardians and health workers to accept or reject an action or therapy after analyzing the benefit and obstacles in a particular situation or condition. This principle relates to the Hippocratic phrase: "I will use therapy to help sick people based on my abilities and opinions, but I will never use it to harm them." The principle of non-maleficence is often discussed in the medical field, especially for controversial cases related to cases of terminal illness, severe illness and serious injury. This principle plays an essential role in making-decision to maintain or end life. Its application can be carried out on a competent and incompetent patient.

The principle of non-maleficence is an integral part of the principle of beneficence (prioritizing action for the patient's good). However, many also distinguish them. The considerations include the idea that the obligation not to harm the patient is undoubtedly different from the obligation to help the patient, even though both are for the patient's good. Furthermore, if the ventilator is stopped, symptoms of severe sedation will appear, and death will soon occur, so this action is against this rule. Therefore, it is very important to know the natural course of the disease, not to decide to hasten death and end life.

Autonomy, namely, the doctor must determine whether the patient, family or relatives understand the latest health condition of the patient. For example, if the patient or family decides to postpone or stop using the ventilator, the doctor must follow the patient's decision. The central meaning of individual autonomy is a personal or individual rule that comes from oneself or is free from interference from others or from limitations that can hinder the right choice. Initially, autonomy was associated with a territory with self-rule, self-government, or self-law. However, autonomy is also used in an individual condition with various meanings such as self-government, the right to be free, personal

choice, freedom of will and being oneself. The important thing in applying the principle of autonomy is assessing the patient's competence. One acceptable definition of patient competence is "the ability to carry out or perform a task or command."

There are several ways to apply the principle of autonomy, especially in medical practice.

1. Tell the truth or real news
2. Respect the privacy of others
3. Protect confidential information
4. Obtain consent for interventions with patients
5. Help others make important decisions (If they ask)

Justice means that medical attitudes or actions must be fair, especially in distributive justice (Atmadja & Purwani, 2018). The principle of justice comes from an awareness that the number of goods and services is limited, while those in need often exceed the limit. A justice situation is someone who gets benefits or burdens according to their rights or conditions. An unfair situation is a negligent act such as negating a benefit to someone with rights or unequal distribution of responsibilities. There are several criteria in the application of the principle of justice, including:

1. for each person there is an equal share
2. for each person based on need
3. for each person based on his effort
4. for each person based on his contribution
5. for each person based on the benefits or uses (merit)
6. for each person based on free-market exchange (Suryadi, 2017).

Based on the ethical aspect, this can actually be seen from two sides, namely: on the one hand, the act is immoral because it causes the loss of a person's life, but on the other hand, it can be considered a noble act because it intends not to prolong the suffering experienced by the patient. The American Medical Association makes basic guidelines (procedures) for making decisions as the ultimate life expectancy solution for critically ill patients.

1. Can a doctor legally request all possible life-sustaining therapies? No, the patient has the right to refuse medical treatment including life-sustaining therapies such as mechanical ventilation, or artificial hydration and nutrition.
2. Is withholding and withdrawing life support same as euthanasia? No, withholding and withdrawing life support aims at general consensus to follow the natural course of the disease not to make a decision to hasten death and end life. While active euthanasia makes decisions to hasten death and end life.
3. Does the doctor "kill" the patient if he removes the ventilator? No, if the purpose of removing the ventilator is for the patient's comfort (or because the installation of a ventilator is no longer beneficial) not death (Sundana, 2018).

Based on the three guidelines above, the most important thing in determining when to take withholding and withdrawing life support is when a medical action has changed from ordinary to extraordinary. Choosing which is standard or extraordinary is essential

so that doctors and nurses believe their professional actions do not violate ethics or law. Ordinary action is performed on all medical, surgical or medicinal procedures that offer a reasonable expectation of “improvement of the condition”, which can be obtained or performed without high cost, pain or effort or other inconvenience. Meanwhile, extraordinary measure is performed on all medical, surgical or drug procedures that cannot be obtained or performed without high cost, effort or inconvenience or do not offer a reasonable hope of “improvement of the situation”. If the patient has died, it can only be done by a team of doctors and must be made in the ICU. The examination must be under the procedures and requirements to diagnose the patient’s death (Sundana, 2018).

Furthermore, the handling of critically ill patients is carried out in the ICU to provide titrated and continuous medical services as stipulated in the provisions of Article 1 Point 3 of the Regulation of the Minister of Health Number 37 of 2014 that “an institution in a hospital with special staff and special equipment intended for observation, care and therapy of patients suffering from acute illness, injury or life-threatening or potentially life-threatening complications with an expected prognosis that is still reversible”.

In line with the quote above, patients in the ICU with critical to terminal conditions receive medical services, including life support therapy. Life support therapy is like doing mechanical ventilation. Mechanical ventilation is a method of breathing support given to a patient unable to maintain spontaneous (adequate) ventilation and oxygenation. Mechanical ventilation is achieved through the insertion of an artificial airway (e.g. ET or tracheostomy), which is then connected to a positive-pressure mechanical ventilator whose pressure, timing and volume are regulated. Life support therapy, such as mechanical ventilation in terminal state patients, has a dependency effect because, without the device, the patient cannot survive. Therefore, the question is how long the patient is given treatment or life support while the doctor’s actions cannot improve the patient’s condition.

As for medical treatment for cessation or release of the ventilator, as explained by Firmansyah & Lubis (2004), if the hemodynamic function has been going well, oxygenation has been adequate, the patient is conscious, and the ventilator is ready to be released. Then, the ventilator can be stopped or terminated. The following are procedures for ventilator discontinuation.

1. If the partial pressure of oxygen (PaO_2) in the blood is normal and the chest X-ray does not show hyperinflation or pulmonary atelectasis;
2. If the fraction of inhaled oxygen (FiO_2) to optimize gas exchange in the patient is 60%, then the patient's positive end-expiratory pressure (PEEP) needs to be discontinued;
3. If the partial pressure of carbon dioxide (PaCO_2) dissolved in the blood has fallen to normal, then the amplitude is stopped;
4. When the amplitude reaches the lowest limit (10 ml), normal breathing can be started

During the discontinuation of ventilator use, it is necessary to monitor electrolytes, calcium, glucose, urea, and creatinine because metabolic disorders will affect the process

of stopping the ventilator. Patients fasted for 4 hours before extubation or food was given via a nasogastric tube. Marrelli (2008) argued that it is the same with Do Not Resuscitation (DNR), namely the order not to resuscitate the patient. Health workers do not perform or provide relief measures in the form of CPR (cardiopulmonary resuscitation) if there is an emergency problem with the patient's heart, or the patient stops breathing. Instead, the patient is allowed to die for medical reasons, and the patient's family has agreed to this action.

Thus, the decision to install and remove the use of ventilators in critically ill patients is in line with the euthanasia measure, for which clear regulations regarding the action have not yet been established. Euthanasia is intentionally ending the life of a creature (person or pet) who is seriously ill or seriously injured with a quiet and easy death on humanitarian grounds. According to the Indonesian Medical Code of Ethics, the word euthanasia is used in three meanings, namely:

1. Moving to the afterlife quietly and safely without suffering and for those who believe with the name of Allah on the lips.
2. The time of life will end. The patient's suffering is alleviated by giving sedatives.
3. Ending the suffering and life of the patient intentionally at the request of the patient himself and his family.

The rules in Article 1 paragraph (1) Regulation of the Minister of Health no. 37 of 2014 concerning the determination of death and utilization of donor organs, it is stated that the termination of life support therapy (withdrawing live support) is to stop some or all of the life support therapy that has been given to the patient. Death by means of euthanasia, especially passive euthanasia in terminal patients for the patient's benefit, not for the convenience of those closest to the patient, such as the patient's family, medical staff, or even other parties. Implementation must take place voluntarily. That is after a request has been made expressly and repeatedly by the person concerned for their interests. It can also occur in critically ill patients who have been in a coma for months and survive only with a breathing apparatus (ventilator); euthanasia is the only way to stop the suffering experienced by patients in a terminal state.

IV. Conclusion

To sum up, the ethical aspect refers to 4 basic moral principles: autonomy, beneficence, non-maleficence, and justice. Autonomy means that every medical action must obtain the consent of the patient or nearest neighbour (if the patient cannot give his consent), beneficence means that every medical action must be aimed at the good of the patient, non-maleficence means that every medical action must not be in the condition of the patient's condition. Justice means that medical attitudes or actions must be fair, especially in distributive justice. A moral dilemma is still possible if ethical principles are confronted with other moral principles or if the principle of beneficence is confronted with non-maleficence, for example, if the patient's wishes (autonomy) are contrary to the principle of beneficence non-maleficence, and if an action contains beneficence and non-

maleficence simultaneously as in the rule of double effect. The ethical consideration that must be analysed in determining the installation and removal of a ventilator is when, where, and under what conditions the doctor conveys the patient's conditions to his family. First, a doctor must respect the patient's dignity (patient autonomy). In this condition, the patient and his family must have the autonomy to receive relevant information about his illness. The doctor must determine whether the patient, family or relatives are aware of the patient's current health condition. The most crucial thing in determining when to install and remove the use of a ventilator is when a medical procedure has changed from ordinary to extraordinary. Determining which is ordinary or extraordinary is very important so that doctors and nurses believe that their professional actions do not violate ethics or law.

Then, referring to the provisions of the Minister of Health Number 37 of 2014 Chapter 3 Articles 14 and 15 concerning Termination or Postponement of Life Support Therapy; Chapter 4 Article 16 Permenkes No. 290 of 2008 concerning Approval of Medical Actions in particular situations; and Chapter 5 Article 18 of the Minister of Health of the Republic of Indonesia number 290 of 2008 concerning Refusal of Medical Actions, which patients and or their closest family can carry out. The legal basis refers to the medicolegal aspect in critical patients in the installation and removal of the ventilator as an indication for determining the action of withdrawing or withholding life support. All actions taken by the doctor in a non-emergency situation or the patient is aware need the patient's consent. Meanwhile, in the case of the patient requesting the termination of life support, the doctor does not speed up or kill the patient but respects the patient's decision and restores the natural state of the patient's disease course. In addition to adjusting the conditions for the validity of an agreement according to the Civil Code as stipulated in Article 1320, doctors must ensure that they truly understand the therapeutic agreement, both from the preparation of the agreement and the legal consequences, to comply with the existing legal rules, so that doctors can initiate to be able to understand a patient in the preparation and legal implications of this agreement.

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