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Legal Accountability of Medical Personnel in Installation and Removal of Ventilators in Patient Life Support Efforts in the Covid-19 Pandemic

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Abstract

This research was conducted to determine the legal basis for management in the decision-making process for installing and releasing ventilator use in critical patients during the COVID-19 pandemic. In addition, to find out the legal responsibility for installing and removing the use of ventilators in critical patients during the COVID-19 pandemic by medical personnel. The research method used is juridical normative or doctrinal legal research based on a statutory approach and a conceptual approach. This research uses legal material collection techniques based on document studies or library materials. Data collection in this research is done by analyzing it based on data, theory, and other references from the existing literature. The findings show that the legal basis of management in the decision-making process for installing and releasing the use of ventilators in critical patients during the COVID-19 pandemic refers to the provisions of Chapter 3 Articles 14 and 15 of Permenkes No. Chapter 4 Article 16 Permenkes No. 290 of 2008; and Chapter 5 Article 18 Permenkes RI Number 290 of 2008 concerning rejection of medical action, which can be done by a patient and or his / her closest family after receiving an explanation of the medical action to be performed. The legal responsibility for installing and removing ventilators for critical patients during the COVID-19 pandemic by medical personnel is based on the provisions of the Indonesian Medical Council, KODEKI, and the Medical Practice Law that medical actions are carried out without the patient's consent, so they may be subject to sanctions.

Keywords: installation and removal of ventilator use, critical patients, COVID-19 pandemic

Introduction

Strafbaarfeit is a criminal offense term in the Criminal Code (KUHPidana), while the term offense is often used in criminal law literature. Offense is a punishment (criminal) that can be imposed on the perpetrator of an act. ¹ According to Ultrecht, theoretically Strafbaarfeit, the imposition of punishment on perpetrators of violations of norms, whether carried out intentionally or unintentionally with the aim of maintaining

¹ Moeljatno, *Delik-Delik Percobaan Dan Delik-Delik Penyertaan*, Bina Aksara, Jakarta, 2013, h.2.



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and guaranteeing public order and the public interest, is formulated theoretically as de normovertrending (verstoring der rechtsorde) pompe.²

According to Moeljatno, the term Strafbaarfeit as offense as the definition of a criminal act is an act intentionally or unintentionally by someone who violates the law.

The beginning of the occurrence of violations of law and criminal acts is an act that can be punished (stated by law) and which can be accounted for. The other side states that the act (action) is not doing or not doing the act or not doing (passive handing) and or doing or doing (active handing).

According to Bambang Poernomo, a criminal act is only indicated by the nature of the act which is prohibited by a criminal threat. The aim is to transfer the term strafbaar feit, not only to transfer the term but also to transfer its meaning and meaning, because most legal experts have different opinions on this matter, only the transfer of the term or its meaning. ⁵ Based on the opinion above, it can be concluded that an act referred to as an act of crime is an act that violates or is not in accordance with the rule of law by including sanctions for those who do it. So that person is called a criminal offender.

The Covid-19 pandemic requires health services to make adjustments, both massive and disruptive. Symptoms of someone who is indicated to be exposed to Covid-19 in general include fever, cough, shortness of breath and can end in respiratory failure (Acute Respiratory Distress Syndrome, ARDS). ⁶To anticipate the occurrence of respiratory failure, it is necessary to install a ventilator, but the problem is that the number of Covid-19 patients is not proportional to the number of ventilators. ⁷ Ventilators (mechanical ventilation) play an important role in the world of critical nursing, because 90% of critical patients require intubation and ventilator support. The role of the ventilator as a substitute for the ventilation function for patients with impaired

² Lamintang, Dasar-Dasar Hukum Pidana Indonesia, Citra Aditya Bakti, Bandung, 2007, h.1

³ Moeljatno, op cit., h.8.

⁴ Leden Marpaung, Asas Teori Praktik Hukum Pidana, Sinar Grafika, Jakarta, 2005, h. 7.

⁵ Ibid. h. 10-11

⁶ Medical Education Unit FKUI. *Buku Rancangan Pengajaran Modul Tanggap Pandemi COVID-* 19. Medical Education Unit Fakultas Kedokteran Universitas Indonesia, Jakarta, 2020, h. 12-14.

⁷ PERDATIN Indonesia (Perhimpunan Dokter Anestesi dan Terapi Intensif). *Buku Pedoman : Penanganan Pasien Kritis COVID-19*. PERDATIN, Jakarta, 2020, h. 1



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respiratory function. ⁸ The ventilator maintains alveolar ventilation optimally to meet the patient's metabolic needs, correct hypoxaemia, and maximize oxygen transport. ⁹ The use of a ventilator for a long time can raise many risks, namely death and Ventilator Associated Pneumonia (VAP). There is a risk of overcoming VAP due to the installation of a ventilator, it is necessary to carry out weaning measures. ¹⁰

Judging from the Basic Principles of Bioethics (KDB), doctors must make informed decisions to take actions related to the patient's life. KDB which pays attention to the critical issue of COVID-19 patients are beneficence, non-maleficence and autonomy. An ethical dilemma if the patient or the patient's family, based on KDB autonomy, requests a postponement or discontinuation of the use of a ventilator as a support toolOn the other hand, this is contrary to non-melafficence FPIC because it places the patient in a state of danger. Meanwhile, based on KDB autonomy, doctors are obliged to respect the rationality of the patient's family in making decisions about the medical action that the doctor will take next. ¹¹. The medical and legal aspects review that the act of delaying and stopping the ventilator will make the patient vulnerable, even though it may be done for the patient's comfort. ¹²

Overview of COVID-19 Patients

Covid19 is a disease caused by a new type of coronavirus (SARSCoV-2) at the end of 2019, in December, this outbreak was first detected in Wuhan, Hubei Province, China. Most of these pneumonia patients come from hawkers at the South China market in Wuhan. On January 7, 2020, researchers were able to determine the cause of this pneumonia, a new coronavirus. The first COVID-19 case that spread in Indonesia on March 2 2020, has confirmed 2 patients from Jakarta. On June 15 2020, there were

⁸Rehatta, dkk,. Anestesiologi dan Terapi Intensif: Buku Teks Kati-Perdatin. Gramedia, Jakarta, 2019, h. 23.

⁹ K. Sundana. *Ventilator: Pendekatan Praktis di Unit Perawatan Kritis Edisi Revisi*. Penerbit CICU, Jakarta, 2018, h. 103.

¹⁰ PERDATIN Indonesia, op cit., h. 4.

¹¹ T. Suryadi, Aspek Bioetika-Medikolegal Penundaan dan Penghentian Terapi Bantuan Hidup Pada Perawatan Kritis. *Jurnal Kedokteran Syiah Kuala Volume 17 Nomor 1 April*, 2017, h. 60-64.

¹² D. Afandi. Aspek Medikolegal dan Tata Laksana Persetujuan Tindakan Kedokteran (Medicolegal Aspect and Procedure of Informed Consent). Jurnal Kesehatan Melayu Vol 1, No 2 April, 2018, h. 99-105.



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38,277 confirmed positive cases of COVID-19 and 2,134 confirmed deaths. In East Java, as of June 19, 2020, the number of confirmed cases of COVID-19 was 9,046+209, confirmed cases of recovery were 2,763, and confirmed deaths were 721. The public is expected to follow the recommended health behaviors so that the virus does not spread and there are no more cases of transmission, so that the epidemic will end soon and the situation will improve. back to normal soon. But in reality, not everyone follows the policy of reducing the curve of the virus's spread. On September 20 2020, in Indonesia alone there were 240,687 positive cases and 9,448 deaths. COVID-19 does not only affect adults, but also children and adolescents. The Centers for Disease Control and Prevention (CDC) report shows that children and adolescents are at high risk for complications related to COVID-19. ¹³

WHO declared COVID-19 on 12 March 2020 a pandemic. The number of cases in Indonesia continues to increase rapidly, until June 2020 there were 31,186 confirmed cases and 1851 deaths. The highest cases occurred in DKI Jakarta Province, with 7,623 confirmed cases and 523 (6.9%) death cases. WHO issued six priority strategies that must be carried out by the government in dealing with the COVID-19 pandemic on March 26, which consist of Expanding, training, and placing health care workers; Implementing a system for alleged cases; Increase test production and improve healthcare; Identification of facilities that can be turned into coronavirus health centers; Develop a plan to quarantine cases; and Refocus government steps to suppress the virus.¹⁴

Indonesia is the largest archipelagic country in the world, with a population of more than 240 million people. Indonesia also includes an economic status that is middle to lower income. With the occurrence of the Covid-19 pandemic, the economic impact was felt by Indonesia because confirmed cases continued to increase. ¹⁵

¹³ Analysis Of Adolescent Compliance Factors Implementing The Covid-19 Health Protocol In North Ternate High School In 2021. Oleh Mirnawati Hi.Hamjahl), Pradnya Paramita2), Tati Nuryati3) 1,2,3 Universitas Muhammadiyah Prof. Dr. Hamka. Jurnal Inovasi Penelitian. h. 2647

Ririn Noviyanti Putri, Indonesia dalam Menghadapi Pandemi COVID-19, Jurnal Ilmiah Universitas Batanghari Jambi, 20(2), Juli, 2020, h. 705-709

¹⁵ *Ibid*, h. h. 705-709



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According to the publication of data from the Ministry of Health (Kemenkes), as of July 25 2020 all hospitals in Indonesia have around 3,637 ventilators for critical COVID-19 patients. A total of 1,167 of them 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, not all of these amounts are still available. Some of them, around 20-30%, are being used to treat COVID-19 patients. ¹⁶

On the one hand, additional patients due to COVID-19 have increased. East Java recorded an additional 887 positive COVID-19 patients on 1 January 2021. Thus, the total positive cases of COVID-19 reached 85,039 in East Java. The most additional positive patients for Corona COVID-19 were in Blitar Regency with 175 people, Probolinggo City with 62 people, and Jember Regency with 86 people. Meanwhile, patients recovering from COVID-19 increased by 803 people in East Java. The total number of recovered patients from COVID-19 reached 72,938 people. The most additional patients recovering from COVID-19 included 127 people in Jember Regency, 85 people in Blitar Regency, and 46 people in Tulungagung Regency, while in the City of Surabaya 18,018 people.¹⁷

Legal Basis for Doctor-Patient Relationship and Legal Consent to Medical Action (Informed Consent)

The main sources of this ethical pillar are the Indonesian Hospital Code of Ethics (KODERSI) and the Indonesian Medical Code of Ethics (KODEKI). The Indonesian Hospital Code of Ethics (KODERSI) is a moral obligation that must be obeyed by every hospital (as an institution) in carrying out the task of providing health services to the people in Indonesia. Consent to Medical Action or Consent to Medical Action (Informed Consent) is the consent given by the patient or his family for certain media actions after receiving a complete explanation from the doctor. ¹⁸

¹⁶ R. O. Tumanggor. *Op cit.*, diakses pada 2 Februari 2023.

¹⁷ *Ibid*,. diakses pada 2 Februari 2023.

¹⁸ A. Busro. Aspek Hukum Persetujuan Tindakan Medis (Inform Consent) dalam Pelayanan Kesehatan. Law & Justice Journal, November Vol 1, No 1, 2018, h. 1-18



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The legal basis for approval for medical action is the Regulation of the Minister of Health of the Republic of Indonesia Number 290/MENKES/PER/III/2008 concerning Approval for Medical Action. Approval of Medical Actions aims to be a means of effective and efficient communication between doctors and patients, doctors explain the actions to be taken on patients. Consent for Medical Action or Consent for Medical Action (Informed Consent) no only in the form of written permission for high-risk actions but prioritizing dialogue and agreement between the two. According to Article 1320 of the Civil Code, valid agreements are recognized and given legal consequences or also called legally concluded contracts. The agreement can be canceled if the conditions in this article are not fulfilled which results in the inapplicability of the provisions of the Civil Code. 21

Management of the Decision Making Process for Inserting and Removing the Use of Ventilators in Critical Patients

Basic guidelines (management) for making decisions as a final solution for life expectancy for critical patients according to The American Medical Association.

- 1. Doctors cannot carry out all therapies as large as possible to preserve life because patients have the right to refuse medical treatment including life-sustaining therapies such as hydration, artificial nutrition or mechanical ventilation.
- 2. Withholding and withdrawing life support is not the same as euthanasia because active euthanasia makes decisions to hasten death and end life, while in withholding and withdrawing life support there are stages following the patient's medical history, not merely the decision to end life.
- 3. Doctors cannot be said to "kill" if they remove the ventilator because it is to make the patient comfortable or the installation of the ventilator is no longer useful. ²²If a patient (a person) has died it can only be done by a team of doctors and must be made in the

¹⁹ D. D. Lontoh, Pelaksanaan Perjanjian Terapeutik dalam Persetujuan Tindakan Medis Pada Kondisi Pasien dalam Keadaan Tidak Mampu di Rumah Sakit Telogorejo Semarang. *Tesis Prodi Magister Kenotariatan Universitas Diponegoro Semarang*. 2008, h. 23.

²⁰ A. Busro., op cit., h. 1-18

²¹ Medical Education Unit FKUI., op cit., h. 12-14

²² K. Sundana, op cit., h. 104.



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ICU room and the examination carried out must be in accordance with the procedures and requirements to determine the diagnosis of the patient's death. ²³

Legal Responsibility in Installing and Discharging Ventilators in Critical Patients during the Covid-19 Pandemic.

The team of doctors treating the patient after consulting the team of doctors appointed by the Medical Committee or the Ethics Committee can determine the patient's condition in this case the decision to postpone or stop life support therapy. ²⁴

The action plan for discontinuing or delaying life support therapy must be informed and obtain approval from the patient's family or the patient's representative. According to Suryadi, some of the criteria for patients who receive life support for installing and removing the use of ventilators are:

- 1. Life support therapy that cannot be stopped or postponed includes oxygen, enteral nutrition and crystalliy fluids. In the event that the patient's condition worsens, i.e. ends in death, then all life support therapy must be stopped immediately. If the patient or the patient's family requests termination or refuses life support, in this case a ventilator, the doctor must respect the patient's decision.
 - 2. Deterioration of the patient's worst condition, which ends in death.

The determination of a person having brain stem death can only be made by a team of doctors consisting of 3 (three) competent doctors and a diagnosis of brain stem death must be made in the intensive care unit (Intensive Care Unit) and the examinations carried out must be in accordance with the procedures and requirements for determine the diagnosis of brain stem death. Based on Permenkes Number 37 of 2014, this can be done using clinical/conventional death diagnostic criteria or brain stem death diagnostic criteria. Based on Article 8-13 Permenkes 34/2014, namely clinical/conventional death diagnostic criteria as referred to in Article 7 is based on the proven permanent cessation of the function of the heart circulation system and respiratory system.

As explained in the previous chapter, doctors can be categorized as business actors in the field of health services. The relationship between consumers and business actors

²³ K. Sundana, op cit., h. 105-110.

²⁴ S. Al-Mochdar, Tanggung Jawab Hukum Dokter Terhadap Pelepasan Alat Bantu Nafas Pasien Mati Batang Otak. *Tesis Hukum Unika Soegijapranata Semarang*, 2012, h.40



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in Indonesia is regulated in Law No. 8 of 1999. Criminal sanctions, in which medical actions carried out by doctors without the patient's consent can be considered as violating the provisions of the Criminal Code article 351 regarding abuse. Touching or performing actions on patients without consent can be categorized as "assault".

1. The legal responsibility of the hospital manager

The 2001 Indonesian Hospital Code of Ethics (KODERSI 2001) emphasized that what is meant by hospital responsibility includes general responsibility and special responsibility. Hospital legal responsibilities regulated in the construction of civil law are contained in the provisions of article 1366 juncto article 1367 of the Civil Code applies to the relationship between the head or director of the hospital and the parties related to health services with patients as consumers of health services.

2. Patient's legal responsibility and protection

The relationship between patients and doctors and hospitals in law is a legal subject, if it is related to health aspects then everyone has the right and obligation to be involved in health maintenance both personally. As a legal subject in aspects of patient health, they must understand their position that patients have a legal responsibility to ensure order and order in human life. The Health Law has included several patient rights, but until now more detailed implementing regulations have not been made, except for a number of regulations regulated in the form of ministerial regulations.

Juridically, the legal responsibilities of patients and their protection are closely related to individual interests, namely the protection of life which is a basic right of every human being. The act of euthanasia which involves life is regulated in Article 344 of the Criminal Code Chapter XIX concerning crimes against life. To be able to claim compensation (civil) due to negligence, the plaintiff must prove the presence of 4 (four) of the following elements:

- 1. There is an obligation for doctors to patients.
- 2. Doctors have violated medical service standards that are commonly used.
- 3. The plaintiff has suffered a loss for which compensation can be requested.

The Civil Code regulates sanctions for someone who commits an unlawful act either intentionally or unintentionally and causes harm to other people, namely in Article 1365 and Article 1366 of the Civil Code.



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Conclusion

- 1. The legal basis for management in the process of making decisions about installing and removing the use of ventilators in critical patients during the COVID-19 pandemic refers to the provisions of Chapter 3 Articles 14 and 15 of the Minister of Health Regulation Number 37 of 2014 concerning Termination or Postponement of Life Assistance Therapy regarding Termination or Postponement of Therapy Life Support; Chapter 4 Article 16 Permenkes No. 290 of 2008 Approval of Medical Actions in Special 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, namely that it can be performed by the patient and/or his/her closest family after receiving an explanation regarding the medical action to be performed.
- 2. Legal responsibility in installing and removing the use of ventilators in critical patients during the COVID-19 pandemic carried out by medical personnel is based on the provisions of the Indonesian Medical Council, KODEKI, and the Medical Practice Law that medical action is carried out without the patient's consent, so that sanctions can be imposed penalty. Sanctions are intended as a form of accountability for medical personnel, where there are 3 (three) forms of accountability, namely civil legal liability, criminal legal responsibility, administrative legal responsibility (dismissal/revocation of license to practice).



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Bibliography

Achmad, Mukti Fajardan Yulianto. *Dualisme Penelitian Hukum Normatif dan Empiris*, Yogyakarta: Pustaka Pelajar, 2009.

Amirudin dan Zainal Asikin, *Pengantar Metode Penelitian Hukum*, Jakarta: Rajagrafindo Persada, 2014.

Chazawi, Adami. Pelajaran Hukum Pidana, Stelsel Pidana: Teori-Teori Pemidanaan & Batas Berlakunya Hukum Pidana Bagian 1, Rajagrafindo, Jakarta, 2012.

Hamzah, Andi. Asas-Asas Hukum Pidana, Rineka Cipta, Jakarta, 2008.

Kusuma, I. B. & I. N. Atmajaya. *Penyapihan Ventilasi Mekanik*. Bagian/SMF Bedah Fakultas Kedokteran Universitas Udayana dan RSUP Sanglah Denpasar, 2020.

Lamintang, Dasar-Dasar Hukum Pidana Indonesia, Citra Aditya Bakti, Bandung, 2007.

Marpaung, Leden. Asas Teori Praktik Hukum Pidana, Sinar Grafika, Jakarta, 2005.

Marzuki, Peter Mahmud. *Penelitian Hukum*, Kencana, Jakarta, 2017.

Medical Education Unit FKUI. *Buku Rancangan Pengajaran Modul Tanggap Pandemi COVID-19*. Medical Education Unit Fakultas Kedokteran Universitas Indonesia, Jakarta, 2020, h. 12-14.

Moeljatno, *Delik-Delik Percobaan Dan Delik-Delik Penyertaan*, Bina Aksara, Jakarta, 2013.

PERDATIN Indonesia (Perhimpunan Dokter Anestesi dan Terapi Intensif). *Buku Pedoman: Penanganan Pasien Kritis COVID-19*. PERDATIN, Jakarta, 2020.

Rehatta, dkk,. *Anestesiologi dan Terapi Intensif: Buku Teks Kati-Perdatin*. Gramedia, Jakarta, 2019.

Soekanto, Soerjono. *Pengantar Penelitian Hukum*, Penerbit Universitas Indonesia Press, Jakarta, 1986.

Sundana, K., Ventilator: *Pendekatan Praktis di Unit Perawatan Kritis Edisi Revisi*. Penerbit CICU, Jakarta, 2018.

Waluyo, Bambang. Penelitian Hukum Dalam Praktek, Sinar Grafika, Jakarta, 2002.

Legislation

Undang Undang Dasar 1945;

Undang Undang Dasar 1945;

Undang-Undang Nomor 29 Tahun 2004 tentang Praktik Kedokteran;

Undang-Undang Nomor 36 tahun 2009 tentang Kesehatan;

Undang-Undang Nomor 44 Tahun 2009 tentang Rumah Sakit;

Undang-Undang Nomor 36 Tahun 2014 tentang Tenaga Kesehatan;

Undang-Undang Nomor 38 Tahun 2014 tentang Keperawatan;

Peraturan Menteri Kesehatan Nomor 290/Menkes/PER/III/2008 tentang Persetujuan Tindakan Kedokteran;

Peraturan Menteri Kesehatan Nomor 519/Menkes/PER/III/2011 tentang Pedoman Penyelenggaraan Pelayanan Anestesiologi dan Terapi Intensif di Rumah Sakit;

Keputusan Menteri Kesehatan Republik Indonesia Nomor HK.01.07/MENKES/413/2020 Tentang Pedoman Pencegahan dan Pengendalian *Coronavirus Disease* 2019 (COVID-19).

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- Afandi, D. Aspek Medikolegal dan Tata Laksana Persetujuan Tindakan Kedokteran (Medicolegal Aspect and Procedure of Informed Consent). Jurnal Kesehatan Melayu Vol 1, No 2 April, 2018.
- Al-Mochdar, S., Tanggung Jawab Hukum Dokter Terhadap Pelepasan Alat Bantu Nafas Pasien Mati Batang Otak. Tesis Hukum Unika Soegijapranata Semarang, 2012.
- Busro, A. Aspek Hukum Persetujuan Tindakan Medis (Inform Consent) dalam Pelayanan Kesehatan. Law & Justice Journal, November Vol 1, No 1, 2018.
- Lontoh, D. D., Pelaksanaan Perjanjian Terapeutik dalam Persetujuan Tindakan Medis Pada Kondisi Pasien dalam Keadaan Tidak Mampu di Rumah Sakit Telogorejo Semarang. Tesis Prodi Magister Kenotariatan Universitas Diponegoro Semarang. 2008.
- Sari, A. R. C. F. Wisudarti, & U. Widodo, Perbandingan Kegagalan Penyapihan Ventilasi Mekanik Antara T-PIECE dan CPAP. Jurnal Komplikasi Anestesi Volume 4 Nomor 3, Agustus, 2017.
- Suryadi, T. Aspek Bioetika-Medikolegal Penundaan dan Penghentian Terapi Bantuan Hidup Pada Perawatan Kritis. Jurnal Kedokteran Syiah Kuala Volume 17 Nomor 1 April, 2017.

Internet

R. O. Tumanggor. Problematika Etis dalam Penanganan Virus Corona Covid-19, Kompas.com:https://www.kompas.com/sains/read/2020/04/28/193000623/prob lematika-etis-dalam-penanganan-virus-corona-covid-19?page=all, diakses pada 2 Februari 2023