

Bioethical aspects of telemedicine

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Abstract

Since the spread of the Coronavirus disease (COVID-19) all over the world, many countries have tried to develop telemedicine as an alternative to medication. However, the practice of medicine requires the involvement of bioethical aspects. This research aimed to elaborate on the bioethical aspects of the implementation of telemedicine. This research is qualitative research using secondary data.

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Introduction

Medical treatment requires that the patient be present before the physician in order for the physician to examine the current state of the patient, including the physical and mental conditions of the patient. The physician will conduct an anamnesis on the patient to obtain any information and find out about the diseases suffered by the patient. By doing so the physician can examine and diagnose the patient diseases and further provide the patient with the right medication or treatment. That correct information can only be done when the patient meets face-to-face with the physician. During the session, the physician can directly examine the patient's condition. It requires that the patient is in good health condition, physically and mentally that the patient can think and act normally [1].

During the anamnesis process and the medical treatment, the physician and patient are required to be honest. The patient is required to explain and tell the physician about all aspects that the patient feels to provide sufficient information to the physician to diagnose and make the right decision for the pa-

tient. On the other hand, the physician is also required to explain and inform the patient of all consequences, probabilities, and possible alternatives to treatment or medication available that the patient can decide for himself [2]. The process requires the implementation of four medical ethics or bioethics principles in physician-patient relations, including all health workers-patient relations [3].

Nowadays, especially during the COVID-19 pandemic, it cannot be denied that direct face-to-face meetings between patients and physicians are almost impossible. Social distancing phenomena during the COVID-19 pandemic require people not to stay close and in any possible circumstances remain to keep distance one from the other. Therefore, as can be seen, some clinics and hospitals open communication through a wireless system such as teleconsultation by phone or even using robots as the vehicle for more intensive communication between the physician and the patient. The robot is equipped with a monitor and camera that allows the physician to directly see the conditions of the patient [4].

The term telemedicine was introduced widely. Almost any medical activity and effort that involves a physician and a patient that uses wireless communication is called telemedicine. This research aims to elaborate on the concept of telemedicine and explain that during the practice of telemedicine, bioethical principles are still used.

The research is conducted using secondary data, which are data available to be used. These data are data that belong to the public and can be accessed by everybody from anywhere, especially when the data are available online. The analysis will be conducted using the qualitative method, which relies on the critical thinking of the researcher using a deductive method of thinking.

The four bioethical principles

Some scholars said that the terminology of bioethics was first used in the script written by F. Jahr in 1926 when he talked about biological research [5-7]. The term was further used by Potter in the United States in 1970 [8-10].

From the perspective of etymology, bioethics came from bios and ethos. Bios means life, meanwhile, ethos means behaviours. So, in simple, bioethics means ethics or behaviours applied to (human) life. Concerning the statement of those two above-mentioned researchers, bioethics can be seen as ethics mostly related to human being research, which means research that involves human life. However nowadays, bioethics is used for any kind of intervention related to human life, including in the process of medical treatment [11].

Four principles in bioethics must be applied. They consist of:

a) "Autonomy" which provides the autonomy to the patient to decide and determine the best options that the patient can take by giving consent to the physician on medical treatment or intervention to be provided by the physician based on the information given by the physician [12-14]. Such information must be given in a correct manner, which may include among others the best alternatives by comparison with other alternatives, including the benefits, risks, costs, results, the possibility of failure, and in some circumstances the worst things that will be suffered by the patient, including the death that may or may not happen. The principle of autonomy respects the decision made by the patient. Physicians shall not, in any way, persuade or moreover force the patient to make a decision or consent without a real understanding of the reasons that become based for the decision. The patient even can refuse to accept any medical treatment or intervention recommended by the physician. It can be found in Article 3 Points. In the Convention of Persons with Disabilities and Article 5 of the Universal Declaration of Human Rights.

b) "Beneficence" which means "do as much good as you can". It implies that any intervention that is supposed to be taken shall benefit the patient. This principle relates very much to the third principle below.

c) "Non-maleficence" means "first do no harm", which provides the minimum standards for the medical treatment or intervention, that they shall not in any way cause harm, injury, or loss in any form to the patient [15].

d) "Justice" reflects the facts that any kind of medical treatment or intervention given to every patient must be equal with no discrimination. With the limited source of treatment and a bigger number of patients that need the treatment, jus-

tice must also be seen in its equity not only equality [16]. It sometimes will become a difficult choice when a physician or even a hospital must choose and decide on the effectiveness, utility, and benefit that must be sacrificed from several available alternatives. The same may also apply to the patient. It is very nice if the information given for making the decision or consent can be as objective as possible.

Telemedicine and bioethics

Today, it is easy for people to find a lot of Apps that provide medical services. Some of the Apps will require direct communication, either in writing or oral communication, for a person to get help. Meanwhile, others do not require any communication at all. The question which may further arise is "What is telemedicine?" "Are Apps telemedicine?". These are the critical questions that must be answered to know how telemedicine works.

Telemedicine consists of tele and medicine. Tele means remote, a certain distance, while medicine refers to the process of medication. Therefore, it can be said that telemedicine is simply a remote delivery of medical services. However, Sood, et al. Found that the terms of telemedicine are not as simple as they looked. From the research, they concluded that there are at least four main keywords when scholars refer to telemedicine. They are a) medical; b) technology; c) spatial; and d) benefit [17].

Sood (2001) in one of his other papers, defined telemedicine as "... the use of audio, video, and other telecommunications and electronic information processing technologies to provide health services or assist health care personnel at distant sites." [18] White (2010) in a Conference mentioned that "Telemedicine is the application of communications networks for delivery of healthcare services and medical education from one geographical location to another" [19].

Perednia and Allen (1995) stated in their writing that "Telemedicine can be broadly defined as the use of telecommunications technologies to provide medical information and services." According to them, there were two main aspects of telemedicine. They consist of "technologies and clinical applications." Telemedicine can be used for a) diagnostic and therapeutic consultation; b) medical education; and c) case management or documentation including medical record management [20].

Based on the given information, the layman may assume that in any medical consultation for diagnostic or therapeutic purposes, any medical services that are provided or given using technology for its remoteness can be referred to as telemedicine. However, it must be noted, that in medical services and health care services in general, consent must be sought and obtained from the patient, and in some conditions or circumstances consent must be given in writing. In order to obtain consent, "detailed" significant and important information must reach and be understood by the patient. It is very rare that a patient will be able to conduct the anamnesis by himself and follow each instruction given by the physician or any health workers remotely.

Sridhar et al. (2010) conducted a case study to explain the working process and interactions that shall take place during telemedicine activities for which patient examination will be conducted remotely. The simulation requires that the patient must be accompanied by a general practitioner medical doctor during the remote examination. The patient and the doctor

shall explain all the situation and conditions of the patient to the specialist medical doctor. The examination was conducted through a video teleconference. During the examination, the patient and physician explained the patient's condition to the specialist, the specialist may conduct a Q&A session and further recommend a diagnosis to the general practitioner for further recommendation to the patient, or if required the patient shall meet the specialist for further diagnosis. The technicians, software developers, and IT experts will make the best possibilities with affordable costs for the patients and hospitals so that telemedicine activities can take place effectively and efficiently without breaching any rules, regulations, and ethical issues, including the four pillars of bioethics [21].

From the above simulation, it can be said that:

a) Telemedicine requires at least two physicians, one of them must be an expert to be consulted.

b) Anamnesis must be conducted by a physician, or in certain circumstances can be conducted by a health worker with competency as granted by the regulation. The patient must never be allowed to do his own anamnesis, and therefore during the process of anamnesis, during the teleconsultation with the expert, the physician who conducts the anamnesis to the patient must apply the four principles of bioethics, which at the same time also applied to the expert. Assuming that the patient knows how to conduct anamnesis, even if the patient is a physician, is a violation of the concept of "informed consent" and "autonomy" that the patient must provide consent based on the information provided by the physician after the physician does the anamnesis and diagnosis, not because the patient knows how to do it. Further, it may raise issues of legal responsibility and liability when something happens to the patient while or after doing his own anamnesis that causes injury, harm, or loss to the patient.

c) Both the physician, either the one who seeks advice through teleconsultation, and the expert shall prepare and make his own medical record with respect to the patient's personal information and data, including the medical condition and every medical treatment or intervention that has been taken or consulted.

d) Technology used in telemedicine is only the tool that supports the best telemedicine process and shall not in any way interfere with the medical protocol during medical treatment. In diagnostic and therapeutic direct (life) consultation, the technology shall be able to provide real-time audio-visual teleconference between the patient, the assisted physician, and the expert physician, which allows the flow of information and communication to take place effectively. This kind of telemedicine is known as real-time telemedicine. This will allow a patient in a remote area seeks direct online consultation from an expert through healthcare facilities in his area with the assistance of other available physician or healthcare workers in his area. While there is also store-and-forward telemedicine that makes it possible for patients to obtain a second opinion on their therapy on the available and possible medical treatment. For this kind of telemedicine, the involvement of technology may not be as sophisticated and expensive as real-time telemedicine. The store-and-forward telemedicine can also be used for medical education and medical documentation, including supporting documents in the preparation of a medical record.

It is clear that in the telemedicine process:

The patient remains the person who makes a decision over the medical treatment, by giving informed consent, to which the principle of autonomy applies. During telemedicine activities, the flow of information and communication including the anamnesis, diagnosis, and recommendation must be made only for the benefit of the patient and shall not harm the patient. This means that the principles of beneficence and non-maleficence also apply. The telemedicine process shall be able to be copied, which allows the application of the same standard for every patient. By doing this, the principle of justice through equality can be achieved.

In Indonesia, the implementation of telemedicine can be found in the:

a) "Minister of Health of the Republic of Indonesia Decree No.HK.02.02/Menkes/409/2016 regarding Trial Hospital for Videoconference and Teleradiology-Based Telemedicine Services Program."

b) "Minister of Health of the Republic of Indonesia Decree No.HK.01.07/Menkes/650/2017 regarding Hospital and Community Health Center Implementing Trials of Telemedicine Services Program."

c) "Minister of Health of the Republic of Indonesia Regulation No.20 of 2019 regarding the Implementation of Telemedicine Services between Healthcare Facilities (State Gazette of the Republic of Indonesia of 2019 No.890.)"

The two decrees and one regulation issued by the Minister of Health of the Republic of Indonesia show that telemedicine can be conducted in healthcare facilities, which therefore involved physicians from each healthcare facility, and is not something that can be conducted by patients themselves directly with a physician without the involvement of another physician.

The explanation above is in line with the manuscript written by Widjaja and Rahayu (2022). Under Indonesian regulations, a physician can only practice in a registered and accredited healthcare facility with a License to Practice. Apps are not considered healthcare facilities or institutions, and therefore no physician can practice through the Apps. Physicians that provide teleconsultation through the Apps shall be punished.

Conclusion

From the discussion given above it can be concluded that telemedicine is one of several ways to obtain medical treatment. By using telemedicine, patients from remote areas or patients having distance problems can be treated accordingly. Telemedicine is never meant to exclude the implementation of bioethical principles in the medical treatment and intervention of human beings.

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