INTRODUCTION

The coronavirus disease 2019 (COVID-19) pandemic worsened health and social inequalities. Because of the rapid spread of infection in many countries, health systems have reached the limit of their resources. There are four fundamental ethical principles in the practice of healthcare: respect for autonomy, beneficence, nonmaleficence, and justice. These ethical principles are well studied and investigated in non-pandemic living conditions. The change in the ethical value system due to the pandemic is a serious responsibility of the governments.

ABSTRACT

The coronavirus disease 2019 (COVID-19) is the latest life-threatening disease affecting health and economic sectors worldwide. The ethical principles during the COVID-19 pandemic can be shaken because of distributive and social injustice, healthcare collapse, distress among healthcare workers, lack of confidentiality of personal data, development of strategies for exiting pandemics, isolation, mass vaccination and last, but not least, ethical principles of scientific studies during COVID-19. This overview article discusses the ethical issues raised during the COVID-19 global pandemic.

THE OBJECTIVE OF THE STUDY

This overview article aims to explain ethical problems in relation to five different areas:
- distributive and social injustice,
- health care collapse/ patient intake and sorting, disrupt among healthcare workers,
- informed consent and protection of personal data in the developing digital world,
- pandemic exit strategies/ movement restrictions, isolation, mass vaccinations,
- ethics of research studies in pandemic conditions.

MATERIAL AND METHODS

We performed a systematic review of scientific publications in accordance with the recommendations of the Cochrane Collaboration and the Guide to Preferred Elements for Reporting Systematic Reviews and Meta-Analyzes. We conducted an active search for scientific publications using the following keywords: Ethics, COVID-19, Health Care, Medical professionals, in MEDLINE and PubMed databases. The articles were published between January 2020 and June 2021. We found a total of 156 publications. We removed 16 articles because they were published in a language other than English or no abstract was available.

RESULTS

Distributive and social injustice

The ethical distributive and social injustice indirectly affects the quality of life and health of the population. Health indicators vary between countries with high and low living standards. This creates health inequalities, which deepened during the COVID-19 pandemic. The World Economic Forum virtual meetings discuss the collateral damage, in most low-income countries expecting to be greater than the direct impact of COVID-19. Basic social injustice was experienced by some social groups in society. The children’s age group was affected, being placed for a long time in isolation and online learning. The right of children to play free was taken away. Many people of working age stayed at home and experienced mental and physical discomfort and stress because of the uncertainty about advancing pandemic and the abrupt change in the daily rhythm of life. The way of working of a large part of workers changed suddenly, and some of them lost their jobs, especially in countries with lower living standards. Most older people in poorer countries did not receive social assistance during isolation. At the same time, the opportunity to be assisted by their relatives was limited. Tackling health inequalities requires adequate economic and policy measures.

Tackling health inequalities will lead to more stable economies, greater productivity, and better social well-being. Unfortunately, the false dichotomy between public health and the economy is a critical issue.

The health of the population and the economy are intertwined and mutually dependent: the poor health of the population can lead to the collapse of the most stable economies, which became apparent after the spread of COVID-19. Stopping economies in turn can worsen health inequalities and also change previous living conditions of the population.

The collapse of the healthcare system

Admission and triage of patients in medical institutions

The influx of patients in hospitals during pandemic put pressure on health systems. Healthcare professionals have struggled and faced critical decisions. It was necessary to quickly establish criteria for hospitalization, adapted to the rapidly growing needs for free beds in intensive care units. The restructuring of hospital wards and reduction of the number of beds in other clinical departments was necessary, to open new hospital beds for patients with COVID-19. Healthcare workers from clinical and surgical wards quickly had to be mobilized to work in COVID wards. The training of specialists in COVID-19 wards took place simultaneously with their starting work and appointment. The limited number of intensive care beds has changed the criteria for selecting patients. This violates some of the ethical principles of accessibility and timeliness of medical care, especially in countries with limited health resources. The sacrifice of some critically ill patients because of the need for resuscitation beds has shaken the ethical beliefs. Making such decisions of life and death due to the pressure of the constant flow of newly admitted patients took place without a full justification of ethical principles. This has led to the development of guidelines for decision-making, which are constantly revised according to the needs.

Distress among health workers

Caring for patients with limited health resources puts health workers under mental and emotional stress. Anxiety, depression, insomnia, and other psycho-emotional disorders appear. Moral suffering among health professionals has a negative impact on the healing process of patients. Health systems must seek to limit the external factors that lead to distress among health professionals.
violation of basic moral principles in the profession of healthcare workers when making decisions in the process of treating patients can cause moral distress. During COVID-19 pandemic, the health workers were forced to violate basic moral and ethical values by newly introduced standards and principles of work. This generates emotional and mental stress among healthcare professionals. It can also occur in cases where the health workers implement the strategy adopted by the state and hospital, which, however, is different from their own moral and ethical system. Healthcare professionals need to feel supported in making such decisions and provide the necessary reassurance that they are not abandoning their patients or intentionally causing harm, especially in cases where the decisions are life and death. Institutions must clearly communicate the criteria and procedures established for the distribution and sorting of patients. In addition, healthcare professionals need to be confident that the implementation of patients’ allocation policy will not expose them to legal liability and that they have the public’s trust. Finally, health authorities will have to facilitate post-pandemic support for trauma and compensation for injuries or deaths. An additional factor for psycho-emotional disorders among health workers in some countries was overtime. Workload with insufficient rest time and hours with family, especially during a pandemic, can lead to the development of burnout syndrome.

**Informed consent and protection of personal data in the developing digital world**

The right of patients to be informed was affected during the COVID-19 pandemic, both because of the short deadlines for establishing fully informed consents and the lack of sufficient clinical experience with this type of disease. Ethical issues surrounding patients’ awareness have put healthcare professionals in a difficult position: the dilemma of keeping silence about certain conditions and complications due to insufficient clinical trials or to fully communicate the patient’s condition, with all the consequences of mental and emotional stress for him. The privacy of personal data was also threatened. A relatively secure system has been created in the hospital databases concerning the personal data of the patients. This is not the case in the rest of the digital world. People used digital devices for training, work from home, e-shopping, and medical consultations. The use of personal data for registrations and sales without informed consent led to misuse of personal data. Personal data is not a commodity or means to be used in buying and selling, especially concerning everyday material goods. The collection of personal data poses the need to form a legal basis to ensure the security of people and state. Obligations must be applied to the collection and management of personal data. Data misuse leads to inequality, risks to national security, and threat of democratic governance. People still distrust the collection of personal data and the state must determine the needs and benefits of this action. To what extent can this breach of privacy be perceived as evolution and change of the ethical values system is difficult, but not impossible to impose in the face of a rapidly advancing pandemic.

**Strategies for getting out of a pandemic**

The health systems and governments of the countries have prepared baseline exit strategies for the COVID-19 pandemic. In most countries, an isolation regime has been introduced, that was received controversially by the people. The ethical values system formed so far has not included the imposition of restrictions on the free movement of people.

The second powerful strategy for overcoming the COVID-19 pandemic involved the development and timely administration of vaccines. Key ethical issues related to COVID-19 vaccines include:

- Security and reliability in clinical trials.
- Is emergency vaccination justified?
- Access to vaccines for citizens of all countries around the world.
- Which groups of the population should be vaccinated first?
- Will vaccination against COVID-19 become mandatory?
- Whether human embryonic cell lines are used to make the vaccine.
- How ethical are immunization passports?
- Will immunization passports and vaccination certificates create inequalities?

An exit strategy or a pandemic lifestyle plan cannot be designed and implemented unless certain ethical decisions compromise the ethical values system. From the way exit strategies are currently being implemented, it may seem that it is a matter of technical decisions by governments to take the right steps at the right time, informed by the best scientific bases. In such extreme conditions as a pandemic, the decisions that governments make are usually about sacrificing certain values and principles, regardless of the strategies applied. It will not be possible to make such decisions without determining which values at some point will need to be prioritized and why. This is necessary not only because political decisions must be ethically acceptable (which is imperative), but also because without outlining priority ethical values, it will be difficult to gain people’s trust.
Principles of scientific studies during COVID-19

During COVID-19, unexpected direct and indirect risks of participation in clinical trials occurred. Researchers and institutions have experienced uncertainty in conducting research. The question arose: how should existing guidelines and ethical frameworks be applied for clinical trials in pandemic settings? The COVID-19 pandemic has had a significant impact on clinical research, forcing policymakers and institutions to make difficult decisions to delay, continue, and reopen clinical trials while protecting public health. It is possible to delay clinical research during a pandemic to free up resources and staff for health systems. Delaying a planned clinical study may affect its social value and possible benefits for participants. Some clinical studies have had to restart and others have not stopped being changed according to the adopted health policy under COVID-19. Most researchers need to adjust their procedures and protocols to protect participants, staff, and public health and adhere to COVID-19 institutional policies. The U.S. National Institutes of Health and the U.S. Food and Drug Administration have supported the need for such adjustments\(^\text{30,31}\), which may include televisiting instead of on-site visits, reducing the frequency of visits and limiting how many employees interact with participants, such as risks and benefits for participants or the social value of the trial\(^\text{31}\).

Human Challenge Studies is a powerful scientific method for testing vaccines and therapies among a small group of 25-100 participants. However, these studies may involve an unacceptably high risk for participants. Such studies have been performed with low virulence coronavirus strains\(^\text{32-34}\) and influenza virus H1N1\(^\text{35}\).

Studies of human challenges are usually smaller and cheaper. They propose an effective criteria selection of vaccine candidates for larger studies (e.g. field trails) or vaccination in emergency conditions\(^\text{36}\). Well-designed studies related to human challenges have the potential to improve the effectiveness of vaccine development and thus benefit society in a shorter timeframe. These studies are conducted with a lower number of at-risk subjects when assessing the safety and efficacy of the vaccine\(^\text{37}\).

Ethical dilemmas are particularly problematic in research into human challenges. Such research raises several contradictory and unresolved questions in scientific ethics, since some draft studies may be perceived as associated with high levels of risk for healthy volunteers, risks to third parties (e.g. when the pathogen used to infect participants spreads to other people), and high levels of uncertainty regarding the effects of infection\(^\text{38-41}\). Furthermore, research into epidemics and pandemics can sometimes be controversial due to lower levels of public confidence in research during such crises.

Conclusions

The uncertainty we face during the pandemic has raised fundamental ethical questions. The need to tackle health inequalities and ensure the stability of the economy has been outlined. All healthcare professionals who sacrificed their lives (“Health Martyrs”) are examples of high morality, honesty, and responsibility to the decisions made. The value ethical system requires responsibility to the children of the health professionals who died in the pandemic. Technology during crises may play an important role in promoting public health, but we need to think about privacy and respect for human rights. Only after the passage of COVID-19 pandemic the results analyses will be carried out and the health strategies implemented will be evaluated. Any political differences need to be put aside, to agree on global issues that affect human health, well-being, and survival.

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V.G.B. conceived the original draft preparation. V.B.G. was responsible for conception and design of the review. V.B.G. was responsible for data acquisition, collection and assembly of the articles/published data, and their inclusion and interpretation in this review.

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References

Major ethical issues in the context of COVID-19 pandemic – BOZHIDAROVA GEORGIEVA


