

Health –determinant factor of quality of life in Romania and in other countries of the European Union. Threats and vulnerabilities.

Summary

Chapter 1

The quality of life of a population is determined by various physical, economic, social, cultural and health aspects. In Romania, the Research Institute for Quality of Life had a remarkable contribution in the development and understanding of the concept. Specialists like Mărginean and Bălașa offered a comprehensive definition of the term, emphasizing the importance of satisfaction and expectative of the population.

Difficult work conditions and stress induced by COVID-19 pandemic affected in a significant manner the medical staff, leading to physical and emotional exhaustion. This stress led to health problems, diminution of the medical care quality and, in some cases, up to suicide or medical errors.

There is an imperative need to better understand the impact that the pandemic had on workers of the health department. Actual studies are limited, and the perspective of the medical team is essential to offer proper solutions. We have proposed a research methodology based on questionnaires and interviews addressed to the medical team from various hospitals. This research will attempt to validate hypothesis concerning the impact of the pandemics on the health system and the quality of life of the medical team.

In this study we have emphasized the importance of interdisciplinary observations and the social and ethical implications of research. The involvement of all interested parties and finding solutions for future crises are essential to prepare and support the healthcare personnel

1.1 The security complex theory, security community and sanitary security

The concept of complex security, introduced by Barry Buzan, Ole Wæver and their colleagues from Copenhagen School in the '90, suggest an approach of security that goes beyond traditional military concerns. This theory considers security as being a dynamic complex, involving several dimensions, like the economic, social, environmental and individual ones. "Extended security" approaches threats and vulnerabilities that exceed the traditional area of military safety, underlying the importance of interaction and cooperation between the involved persons at national and international level.

Karl Deutsch, another theoretician, introduced the concept of "security community", based on the idea that states having tight connections and communicating efficiently have the predisposition to have less conflicts. He states that, in an interconnected world, problems like

climatic changes, poverty or migration can be considered security threats and require global cooperation. This point of view is in contrast with safety's traditional approach, based on the equilibrium of power and deterrence.

The concept of "security community", inspired by Deutsch, states that the safety of a nation is interdependent with the one of other states and regions and is not limited at the defense of own borders. This principle was applied in public health with the name of "sanitary security", emphasizing that people's health is vital for national and international security. Threats to health, like pandemics, might affect the economy and stability of a country, requiring a global cooperation. The World Health Organization promotes such collaboration to fight against cross-border illnesses.

Extending this idea to fields such as economics and the environment shows that modern threats are multifaceted and interconnected, ranging from economic crises to climate change. Thus, is essential a comprehensive and collaborative approach to secure and protect society facing various challenges

Health problems are closely related to the political, economic, social and environmental context, which requires policymakers to address issues such as poverty, hunger and education as an integral part of individual security. Barry Buzan and Karl Deutsch propose a framework where sanitary security is seen as an integrated complex integrated of threats, emphasizing the regional interdependency and communication importance.

This suggests that illnesses like pandemics are interconnected and require responses coordinated at regional level. To promote sanitary security, it is essential the communication between countries and health organizations, formation of communities of sanitary security and involvement of non-statal actors, like WHO and NGOs. In this framework, sanitary security as well as traditional security, has a significant impact on the society. Integrating the approaches of Buzan and Deutsch, sanitary security is conceptualized as a resilient and adaptable system, emphasizing communication, cooperation and the ability to respond to threats.

Security, although it does not have a universally accepted definition, can be understood as the maintenance of an acceptable way of life for a population, without external or internal threats. Researchers from Copenhagen suggests that any existential threat might be considered a security problem. An example is COVID-19 pandemics, which was a significant challenge at global level. When security is analyzed, it should be taken into consideration various sectors, like military, environmental, economic, society and political one. Introduction of health as an analysis sector might extend the security perspective.

By applying security complex theory and the concept of extended security in the health context, can be developed a more integrated and comprehensive approach to health security.

This would take into account factors such as globalization, climatic changes and migration, providing a wider framework for the development of health policy, internationally. In conclusion, combining different theories and concepts can contribute to a more comprehensive and effective approach of threats to public health in the context of global security.

Security, in a general definition, refers to the ability of an entity, as well as a state, to respond to an emergency situation. Although there is no universally accepted definition, one proposed by the National Defense College of Canada emphasizes maintaining a stable way of life and the absence of external or internal threats.

The Copenhagen researchers suggest that any major threat, such as the COVID-19 pandemic, might be seen as a security problem that could require extreme measures. They propose the analysis of security from multiple perspectives: military, environmental, economic, societal and political. We introduced the idea of extending security analysis to health, stating that security complex theory approaches can be applied to health threat management, emphasizing the importance of international cooperation, prevention of threats and participatory involvement in security policy development.

In the research we discussed the way the concepts and approaches of the security complex theory can be applied in the management of threats to public health and in the development of international health policy.

Health, defined by the WHO and adapted in time, can be seen as essential to individual and collective well-being. This emphasizes the necessity to protect health and be prepared for potential emergencies, such as infectious diseases that may progress into epidemics or pandemics.

The COVID-19 pandemic has highlighted the interdependence between public health and other security areas, like economy and society. Therefore, by combining the theory of the security complex with the concept of the security community, I think that a more comprehensive and integrated framework could be created to approach health threats from a global perspective.

The research addresses the connection between the concept of security and the health department, highlighting the need to consider public health as a security issue. This way, are introduced notions such as "medical security" and "sanitary security", both having as purpose the protection of people's health and medical personnel against the risks associated to infectious diseases, aggressions or exposure to dangerous substances.

This underlines the fact that preventive measures, training and equipping of medical personnel in a proper manner and ensuring the quality of medical services are essential for medical security. Also, it emphasizes the connection between security and the quality of medical services, suggesting that medical security represents a form of internal security.

1.2. Infectious illnesses and health systems

Pandemics have set out the history of humanity, and the most notorious are Spanish Flu and Asian Flu.

The Spanish Flu (1918-1920) infected up to one billion persons worldwide, estimating deaths between 17 and 50 million. Contrary to its name, this did not begin in Spain. Spanish press was the first to speak extensively on it, meanwhile other states imposed censorship because of First World War. The origins and spreading of Spanish flu are wrapped in incertitude, but it is considered that battlefields or international transports had a great contribution. The characteristics of this pandemic included a high mortality rate among young and healthy adults and the lack of an effective vaccine or treatment. Despite poor health systems at the time, certain nations adapted their response capacity, demonstrating human resilience and adaptability facing a crisis.

The Asian Flu (1957-1958), provoked 1.1 million deaths, was caused by influenza virus A (H2N2), initially appearing in Hong Kong. The flu pandemics, like this one, have the tendency to be more severe in comparison with seasonal forms, affecting especially young persons and adults. Vaccination was essential to fight against this pandemic. The experience with Asian flu emphasized the importance of rapid surveillance, the increase of production capacity, effective public communication, preparedness for pandemic events and international cooperation.

The paper presents information on the Acquired Immunodeficiency Virus (AIDS), being a grave affection provoked by human immunodeficiency virus (HIV). AIDS was for the first time identified on 1981 in Los Angeles, and since then have been reported millions of cases in the entire world. The virus spreads in contact with blood, fluids of the body and can be transmitted through unprotected sexual relations, use of contaminated syringes or from mother to the child during pregnancy or breast feeding. Even if there is no remedy for AIDS, antiretroviral treatment might prolong the patient's life and keeps the virus under control.

The SARS (Severe Acute Respiratory Syndrome) epidemics in 2003 is presented in the text, starting with its identification in China and fast spreading at global level. SARS is provoked by SARS-CoV coronavirus and causes severe respiratory symptoms. The epidemic had a significant impact on the health systems in the affected countries, putting pressure on the

medical staff and medical resources. As a result of the epidemics, many countries improved training and the testing and treatment capacities of the infectious illnesses.

Lessons learned from the experiences with AIDS and SARS include the importance of transparent communication and international collaboration in the management of public health crises, the need to have proper infectious disease testing and treatment capabilities, the importance of public health crisis preparedness and the need to have access to proper equipment and resources for medical personnel. These lessons contributed to the improve of training for similar events in the future and for the more efficient management of infectious diseases.

Zika epidemic in 2015-2016, provoked by Zika virus, spread rapidly in South and Central America and other regions. The virus is transmitted through the bite of the *Aedes aegypti* mosquito. Symptoms include mild fever, rash and muscular pains. The epidemic has raised concerns about birth complications such as microcephaly in babies. The control measures for the mosquitos and education have been implemented to limit the virus spreading.

Lessons learned from the Zika epidemic include the importance of monitoring cases and virus transmission by the mosquito, the necessity of a multidisciplinary approach, the importance of interruption the cycle of transmission, the integrated approach of health management, prioritizing women's reproductive health and international cooperation. These lessons help effectively preparing and management of the future pandemics.

The evolution of the COVID-19 pandemic since 2019, with phases such as initial identification, international spread, peak of the pandemic, vaccination and occurrence of new variants of the virus. It is specified that the number of deaths continues to increase in many countries, and that the impact of the pandemic varies depending on factors such as population density, health infrastructure and government policies. There are highlighted several European Union countries that have managed the pandemic well, such as Denmark, Finland, Germany and Greece, thanks to investments in public health, emergency planning and international collaboration.

Lessons learned from the COVID-19 pandemic include the importance of training for emergency situations, investment in public health and medical research, international collaboration, observance of public health measures, and approaching social and economic inequalities. In addition, the text emphasizes the fact that the impact of the pandemic differs depending on the health systems of the countries, but they should provide universal health coverage and accessibility.

It is important to mention that pandemics are influenced by a series of factors, including demographic, socio-economic and public health policies. The COVID-19 pandemic

indicated the need for adequate training, global cooperation and investment in health to respond to such major threats to public health and society.

1.3. Security concept of global health

The concepts of global health governance, global governance for health and global health governance from the perspective of human rights and social justice are all essential for a complex approach of global health problems. It is important to collaborate between states, international organizations, the private sector, non-governmental organizations and other stakeholders to develop policies and strategies in order to improve the health of population and respond to the threats of pandemics and other health problems.

In the actual context of global interdependence and the increasing risks associated with emerging infectious diseases, the development of a strong and well-coordinated global health governance system is essential in order to prevent, detect and manage threats to public health worldwide. This could involve international cooperation concerning the disease monitoring, distribution of medical resources, development of vaccines and treatments, as well as the coordination of responses in crisis situations.

Lastly, continued support and commitment from the international community and various entities is crucial to realize a resilient global health system and ensure global health security.

Chapter 2

2.1. Threats

The research reviews the complex threats facing global health and health systems. Pandemics, increasing costs, medical staff penury, cyber security, infectious diseases and drug affordability are among the main challenges discussed. Demographic changes and the increase of chronic diseases are identified as significant problems in the context of the European Union. This context emphasizes the importance of permanent security and training to maintain a balance between health and safety.

This chapter examines threats to health systems in the European Union, such as the inequality in access to health care, demographic changes, the increase of chronic diseases, infectious diseases and climatic changes. It is proposed that a common health policy could be the solution to approach these complex issues and ensure more equitable access to health care. These could include measures such as creating an EU-wide Health Council, the development of a health monitoring system, promoting collaboration between Member States, the development of common policies concerning health care and health insurance; investments in research and development and realizing a common fund for health. Although the implementation of a common health policy could face challenges, there are already examples

for health cooperation in the EU, suggesting that such an approach could be feasible and benefic.

In this chapter we analyzed the major problems of the Romanian health system and proposes solutions in order to approach these challenges. These problems include out-of-date medical infrastructure, penury of medical staff, inequality in access to health care, corruption and inefficiency in the health system as well as raising costs. In the European Union, is discussed the importance of closer coordination between member states to reduce gaps in access to medical care.

We extended the discussion concerning a common European Union health care policy, emphasizing the advantages of coordination and collaboration between member states. Also, we added a list of proposed solutions to approach each problem identified: out-of-date medical infrastructure, penury of medical staff, inequality in access to health care, corruption and inefficiency in the health system as well as raising costs. These solutions involve investments in infrastructure and medical education, increase of transparency and responsibility, anti-corruption policies, developing prevention programs and optimizing procurement of medicines and medical equipment.

We continued with the discussion regarding the major threats facing health systems around the world: the increasing costs, penury of medical staff and infectious diseases. It is argued that these issues require a complex and interdisciplinary approach, globally.

Therefore, the research combines the analysis of existing problems in the Romanian health system with specific proposals in order to improve the efficiency, accessibility and quality of medical services, both at the national level as well as in European context.

2.2. Vulnerabilities

The healthcare systems are facing threats and vulnerabilities, especially in terms of informatic security. Although threats and vulnerabilities are different concepts, both are essential for the elaboration of reliable strategy of information security.

Vulnerability refers to shortness in a system that can be exploited by attackers, such as weak passwords or outdated web interfaces. Secondly, threat refers to events or situations that can compromise the functioning of a system or network, such as cyber-attacks or human errors.

The health systems in the European Union have been the target of several vulnerabilities and attacks. Among these can be mentioned the cyber-attacks, unauthorized access by medical staff, outdated security systems and physical attacks.

An objective example is the cyber incident at the University Hospital in Brno, Czech Republic, in 2018, where medical equipment has been compromised due to a phishing email.

Another incident occurred in Lithuania in the year 2021, when the medical data of 300,000 citizens was compromised.

The common vulnerabilities include the lack of software updates, employees susceptible to phishing attacks, exceeding budget limits leading to the use of out-of-date medical equipment, human error and reduced interoperability between systems. To approach these vulnerabilities, it is crucial that healthcare organizations invest in security solutions, training and coherent security procedures.

2.3. Crises versus opportunities

Humanity has faced numerous crises, such as the COVID-19 pandemic, which have caused disruption to economy, society and health. These crises lead to serious economic consequences, such as unemployment and bankruptcies, as well as pressure on the medical system. Notwithstanding, they can stimulate newness, such as the development of vaccines or adaptation to remote work. Companies like Zoom and Amazon have thrived, while airlines and the entertainment industry have suffered. It is extremely important the collaboration and coordination to maximize opportunities and mitigate the impact of crises.

Chapter 3

3.1. Quality of life

Quality of life (QoL) is a multidimensional concept that integrates subjective evaluations of the positive and negative aspects of human existence. Even though it seems easy to understand, it is difficult to evaluate due to the different perceptions of various groups and persons. One of the primary areas associated with QoL is health, which includes physical, mental and social components. Once with the evolution of medicine, the emphasis has shifted not only to prolonging life, but also to improving its quality. In fact, a good health can increase the quality of life, while elements of QoL such as interpersonal relationships are able to affect health. Studies have underlined that a better QoL is connected to better health and ability to manage stress.

The definition of the QoL varies depending on source. For example, WHO sees it as individual perception in cultural context, meanwhile OECD connects it to completion on various dimensions, including material and emotional. Throughout decades, countries like Great Britain, USA, Canada, Japan and France have developed methods for the measurement of the QoL. Moreover, international organizations like UNO and OECD focused themselves on the measurement and improvement of QoL, globally.

Eurostat and the World Health Organization (WHO) develop indicators to measure and evaluate the well-being and quality of life at European and global level. In Romania,

attention for the quality of life and the well-being of the population is increasing. In the year 2017, the Government of Romania launched its first national strategy for sustainable development, incorporating well-being indicators. Also, have been implemented projects to improve living conditions, and significant efforts have been made to improve the health system. Various studies and researches, such as the Public Health Barometer and the Eurobarometer, analyze the quality of life in Romania. Professors such as Roxana Chiriac, Vlad I. Moisescu and Gheorghe Zaman brought major contributions in this sector. A recent approach in measuring well-being is the "8+1 dimensions" concept proposed by the OECD, including eight traditional dimensions of well-being and an additional one related to subjective well-being. The Stiglitz/Sen/Fitoussi Commission report from the year 2009, disposed by French President Nicolas Sarkozy, proposed improvements in the measurement of well-being and quality of life, emphasizing the limitations of traditional economic measurements such as GDP and the need for a multidimensional perspective.

The Quality of life is also an essential instrument in clinical research, as it allows researchers to assess the efficiency and safety of new treatments from the patient's perspective.

One of the main advantages of quality-of-life assessment is that it focuses on the patient's perspective, which can offer a deep understanding of the impact of disease and treatment on people's day-by-day life. This can provide a complete image of the patient's overall well-being, including aspects such as physical health, psychological health, independence level, social relationships, environment and spirituality/religion.

In medical practice, the evaluation of quality of life might offer physicians with valuable information on the condition of their patients and on the way the disease and treatment affect different aspects of their lives. This information can be used to adapt the treatment plan to the specific needs of each patient and to provide appropriate support during treatment.

As a conclusion, the evaluation of the quality of life is an essential health tool that can provide valuable information about the health and well-being of the population and the impact of diseases and treatments on people's day-by-day lives. This information is crucial for the development of effective and patient-centered health policies and programs.

The World Health Organization (WHO) has identified major public health challenges for the 21st century in Europe: the economic crisis, inequalities, grown old population, chronic diseases, migration and urbanization, environmental damage and climate changes. In response to these challenges, the WHO Regional Office for Europe introduced the European Action Plan (EAP) which forms a central pillar of the "Health 2020" framing. This plan suggests 10 essential actions to strengthen public health that countries might adjust with WHO support.

The resolution that was adopted by the Regional Office emphasizes the importance of an integrated approach to public health, including aspects such as environment, lifestyle,

education and socio-economic context. The decision-making foundation was based on specific evidence, including assessments of public health capacities in most Member States.

The concept of health-related quality of life has improved over the years, providing a more holistic perspective on health. This considers health as being more than the absence of disease, but a state of complete well-being status. Morris and Sheridan were among the first researchers to connect health to the quality of life, including physical, social, and psychological aspects. Ulterior, the World Health Organization and other institutions, such as the Centers for Disease Control, developed and refined this concept, emphasizing the importance of perceiving physical and mental health at an individual as well as at a community level. This approach allows for interdisciplinary involvement in health policy release and encourages an extended vision of health in society.

3.2. Definitions of quality

3.2.1. Quality concept

Quality, initially focused on industrial production, has no universally accepted definition. However, it has evolved from conformity to specifications, in order to focus on satisfying the needs of the customer.

Joseph M. Juran, "the world quality senior", was instrumental in passing from quality control to quality management. He was the one defining quality as "corresponding for use " and underlined the importance of the investments in quality to reduce costs associated to non-conformities.

Total Quality Management (TQM) appeared in the 80's in USA, inspired by Japanese methods. TQM emphasizes the involvement of all members of the organization in the continuous improvement and customer's satisfaction, based on three main principles and six complementary elements.

David A. Garvin has identified eight dimensions of products' quality, meanwhile L.L. Berry extended these dimensions for services, with ten distinctive elements, relevant especially in the service field.

3.2.2. Quality management

This chapter approaches the concepts of quality management and quality assurance in the healthcare field. Quality management refers to all activities that determine quality policy and its accomplishment, having as purpose improving customer, product and service satisfaction. On the other hand, the management quality has as purpose improving the satisfaction of all parties involved. The importance is on the need to focus more on the quality

of management, especially in health. Quality in the health department has as purpose improving the results of medical activities and the well-being of patients.

There are presented different definitions of quality, emphasizing that the vision upon quality is variable and influenced by the various expectative of patients. Quality measurement tools in the medical field are essential for evaluating and improving services. These include quality indicators, patient satisfaction questionnaires, evaluation of clinical results, safety and accessibility indicators.

We have ended this chapter with some internationally recognized definitions concerning the quality in health services and emphasizes the importance of the continuous process of quality improvement, illustrated with Edwards Deming's method.

The quality measurement is essential for its effective development in the medical field. Changes in medical care must be applied at all levels in order to be effective, both individually and at group level.

Quality development supposes both the management of the organization as well as the technology and processes used in medical care, with the final goal of satisfying the patients' needs. The health system can learn from industry concerning quality assurance and development, using similar methods and principles. It is essential to constantly evaluate whether requirements are being met effectively. There are two approaches concerning quality development: reactive and preventive improvement.

In medical care, it is very important to be understood the needs of patients in order to improve services. According to Donabedian, medical care can be divided into three components: structure, process and result, each with its own role in measuring and developing quality. It is necessary to periodically review and evaluate medical care processes in order to improve their efficiency. The result of the medical care depends on several factors, including the general health of the patient and also external factors.

To improve the quality of medical care, it is essential to be in possess of accurate and detailed clinical data. One of the biggest obstacles in ensuring quality is the ability to validly measure results. A crucial phase regarding for this development is the identification and approach of standards non-compliance and unsatisfactory results. Quality in health sector is essential to build a healthy society, defined as being a community where members live in physical, mental and social equilibrium. In order to create such a society, there are s interventions in the fields of public health, education, environment, social and economic policy. WHO emphasizes the importance of a healthy lifestyle and effective public health interventions. A healthy environment, equal access to quality health services and involvement of communities are also essential. The quality of medical care and the concept of a healthy society are interdependent. An optimal health system emphasizes the integration of services,

the involvement of the patients and the provision of accessible and equitable services. Essentially, an integrated and multidimensional approach to the quality of health care is essential to build a healthy society.

Chapter 4

4.1. EU Health Policy

The public management in Romania has deficiencies and inconsistencies, bringing it closer to a feudal system based on personal relationships than to a modern and efficient one. Although modern theories, like Max Weber's emphasize the importance of rational-legal authority, in Romanian practice it can be observed an interlacing of personal and political interests with the management of public institutions. The problem is specially visible in the health sector. Public management is often defined through the ability to satisfy the public interest through process and well-structured relationships, however, in Romania, these seem to be affected by politics and power games. An intelligent governance and implementing the evaluation indicators might improve the system, but the ideological approaches of the left and the right offer contradictory visions. It is necessary a long-term view, also taking into account Romania's affiliation to the European Union.

The health policy of the European Union (EU) suffered significant modifications starting with its creation in the 1993. The main phases include:

- The Maastricht Treaty (1993): Introduced the health policy in the UE area of competence, facilitating coordination between member states and promoting cooperation in medical research.
 - The EU Public Health Strategy (2000-2006): Aiming the improvement of European citizens' health, the strategy promoted a healthy lifestyle and coordinated disease surveillance and control efforts.
 - The Europe 2020 Strategy: Established targets for improving health, such as reducing premature mortality, increasing healthy life expectancy and the reduction of alcohol and tobacco consumption.
 - Patients' Rights Directive (2011): It allowed patients to receive medical care in other member states and claim reimbursement of costs, promoting the principle of "patient priority".
- The UE Health Program (2014-2020): Aiming promoting health and illnesses prevention, this program financed research projects and innovation in the health field.
- The Treaty of Lisbon: Pointed out the directions of public health of UE, underlying the improvement of health and prevention of illnesses.

Concerning the COVID-19 pandemic, it not only affected the EU's health system, but also the economic and internal security. The crisis has emphasized the vulnerabilities of the health system, putting pressure on the economy and influenced cross-border criminality and migration. As a response, the EU acted to strengthen crisis response capacity and introduced plans like NextGenerationEU for economic support.

The COVID-19 pandemic had significant repercussions on the security of EU borders, influencing illegal migration, drugs and people-trafficking. The causes of these challenges are various:

- Fragmented ability: Health is mainly the responsibility of member states, this was UE having a secondary role in coordination.
- Absence of political structures: EU was not ready, from the structural point of view, to manage a pandemic.
- The economic and social impact: COVID-19 has seriously influenced national economy and created internal tension in the EU.
- Internal tensions: The differences between member states have been emphasized in pandemic, affecting cohesion.

As a response for these challenges, are proposed:

- Consolidation of public health sector of EU for efficient management of health crises
- Health research development for treatments and vaccines.
- Improvement of security capacities for facing internal and external threats.
- Approach consolidation in regard to climatic changes and other global threats.

The pandemic also brought other threats such as misinformation, the increase of extremism, the vulnerability of supply chains and cyber threats. In the context of these challenges, the EU has adapted and improved policies, like increasing health security, encouraging cooperation between member states, consolidation of cyber security and developing crisis management capabilities.

After the COVID-19 pandemic, the European Union (EU) introduced significant measures to improve its capacity of response to public health threats. Among these are:

- The European Pharmaceutical Package (2021): Consolidation of the medicines and vaccines production in Europe, improved access to treatments and fight against the penury of essential medicines.
- HERA initiative: Consolidation of the capacity of vaccines production in EU and support for the development of the therapies and vaccines for future pandemics.

- Green digital certificate: Easing travelling between UE member states during the pandemics.
- The strategy "A Strong European Health Union: Ready for Future Health Threats" (2021): Focuses on the consolidation of UE capacities in preparation and response to crisis, health promotion and illnesses prevention, consolidation of production of medicines and international cooperation in health.

Other proposals include improvement of the access to treatment for rare illnesses, increase of the food security and issuing a strategy for mental health.

In comparison, China had a fast and centralized response to the pandemic, with strict containment measures, extended testing capacity and the mobilization of medical resources. The EU, having a diversity of member states, had a more varied response, with challenges in the coordination of the actions and securing the necessary resources. Although both entities have different approaches and contexts, it is difficult to determine with accuracy which one handled the situation in a more efficient manner.

Lessons that EU might learn from China's experience in the management of pandemics, includes:

- A fast and centralized response: China had a fast, centralized approach, meanwhile EU might benefit of a tighter coordination at block's level for a more integrated response.
- Improved testing capacities and health infrastructure: China invested massively in these fields, and UE should assign several resources for the development of the sanitary infrastructure and testing capacity.
- Efficient communication and citizens involvement: China emphasized on informing citizens, which suggests that EU should prioritize a more efficient communication and encourage citizen's active participation.
- International cooperation: China's collaboration with global organizations underlines the importance of international coordination in managing pandemics.

It is important to observe that China's approach reflects its cultural and political context, so the EU should adapt these lessons to its own framework. The comparison, as Tocqueville suggests, is essential to understanding, so the EU can compare public health management between member states to provide a more objective perspective. A common problem in the health sector globally is insufficient funding.

4.2. Health systems in the European Union

A. Health system in Holland:

- Basis: principles of solidarity and universal accessibility.

- Evolution: From a private and voluntary system in the 19th century to a mandatory health system in the year 1987.
- Financing: Mixed system between the state budget and insured contributions.
- Structure: Decentralized, with responsibilities divided between the central government, local authorities and insurance companies.

B. German health system:

- Characteristics: Efficacy, high quality, mandatory insurance, various services.
- Evolution: The first mandatory insurance system introduced in the year 1883, with significant responses in the years 1970, 1980 and 1990.
- Financing: Mandatory contributions to health insurances by the employers and employees.
- Post-pandemic modifications: Increase of the financing, extension of the testing and vaccination capacities, adopting technology.

C. Health system in Finland:

- Basic: Health universal insurance system financed through taxes and social contributions.
- Access: Equal for all citizens.
- Financing: Through taxes and social contributions.
- Evolution: From a system in development process at the beginning of the 20th century to one advanced and efficient, nowadays:
 - It is divided into five regions.
 - Focuses on prevention and promoting a healthy life style.
 - Has public as well as private hospitals.
 - Is recognized for quality and access to medical services.

Generally, all three health systems, in the Netherlands, Germany and Finland, have evolved over time and are based on the principles of accessibility and high quality of the services that they provide. Each country had different approaches in the development and financing of their system, but all are recognized for the efficiency and quality of the provided medical services.

D. Health system in Greece:

- Is a mixt system with public and private sector.
- Has been under pressure due to the economic crisis.
- Had reforms for improvement and extension.
- Managed efficiently the COVID-19 pandemic due to the proactive approach and proper preparation.
- Has experience with previous pandemics, like SARS, H1N1 flu and West Nile.

E. Health system in Romania:

- Was created in the communist period.
- Is largely financed from public funds.
- Faces problems like limited access to services, lack of resources and emigration of the medical staff.
- The access is very limited for patients in the rural areas or with small incomes.
- The medical infrastructure is often overloaded and insufficient.

The health system in Romania is mainly based on financing from public funds. Although, funding is often insufficient and contributions and taxes are sometimes unsatisfactory, affecting funding. Another crucial aspect is the massive emigration of doctors and medical specialists, which led to staff scarcity and to an overburdening of the ones that remained

In the year 2019, the system was facing underfunding, disparities in access to services and a high percentage of population without health insurance. The chronic diseases were widespread and general health indicators were below the European average. In the year 2020, the COVID-19 pandemic added immense pressure to the system, highlighting the acute need for investment and adaptation.

In the year 2021, the focus was on mass vaccination and efforts for public information and education. However, the Romanian authorities continue to struggle with the challenges of the pandemic, emphasized by the deaths of medical staff and the increasing needs of the health infrastructure.

By contrast, Poland's healthcare system is a mix of public and private funding, with the National Health Insurance Fund (NFZ) covering the majority of the population. After the post-communist changes, the Polish healthcare system underwent a series of major reforms in the 1990s and 2000s, focusing on the involvement of the private sector and the increase of the access to health insurances. However, there are still underfunding and problems with the quality of services.

The Polish authorities continue to invest and to reform the system in order to improve access and quality of medical care.

The health systems in Romania and Poland face significant challenges, especially in terms of funding and resources. These difficulties were accentuated during the COVID-19 pandemic, when hospitals were overburdened and medical staff were put under enormous pressure.

Both countries face underfunding, deficiencies in medical equipment and a lack of specialized personnel, struggling to cope with the pandemic. Furthermore, many medical

professionals from these countries have chosen to work abroad due to uncompetitive salaries and working conditions.

In this context, the European Union has been a crucial source of support, providing personal protection equipment, financing researches into the field of COVID-19 and ensuring access to vaccines through a joint procurement mechanism. The EU has also provided financial assistance to modernize health systems and offered support to economies affected by the pandemic.

Despite the challenges, there are also common points between health systems in different countries: universal coverage, emphasis on prevention and promotion of health, investments in medical technology and infrastructure, as well as the development of telemedicine and home care services.

These similarities indicate that despite the problems, there is a shared commitment to improving public health and access to quality healthcare across the continent.

Chapter 5

Study concerning the quality of life of the medical staff

The concept of quality of life has developed over time, beginning with the idea of utility in the 18th century and progressing into a multidimensional perspective that includes aspects such as health, the environment, and interpersonal relationships. In the 20th century, organizations such as the UN introduced indicators to assess living standards, while new perspectives such as Maslow's emphasized the importance of human needs.

In the actual context, there is an increase in the recognition of the need to improve the quality of life, considering the impact of medical interventions on the well-being of the population. Medical interventions can range from prevention and treatment to palliative care and counseling. The mentioned study offer an analyze of the degree of awareness and satisfaction related to the quality of life in hospitals in four counties of Romania: Olt, Dolj, Vâlcea and Argeş. These counties have different characteristics in terms of population and financial resources, but all have the capacity to allocate resources to improve conditions in the health sector.

The results indicated that physicians in the United States of America have significantly higher levels of profession burnout compared to the general population. Also, their satisfaction with work-life balance was significantly lower. This study emphasized the need for preventive and supportive measures for physicians to prevent burnout and improve their quality of life.

As a conclusion, the quality of life of medical staff is a key factor in ensuring the supply of quality medical services. The care and support of medical staff, especially in the

context of risk situations, are not only a moral obligation, but also a strategic investment in the health system. A good quality of life is reflected not only in professional satisfaction and individual well-being, but also in the ability to provide quality care and realize healthy relationships with patients.

It is essential that decision makers, healthcare leaders and society as a whole recognize and address the needs of the healthcare workforce. Implementing strategies and policies that promote well-being, recognition, appropriate training and emotional support can have a significant impact on the quality of medical services provided and, by implication, on the health and well-being of the community as a whole.

The USA study:

- Physicians in the USA have high levels of exhaustion and are less satisfied with the equilibrium between the professional and personal life than general population.
- This is due to profession specific pressures, like the work volume and increased responsibilities.

Study of the United Kingdom ("Quality of Life among Healthcare Workers: A Systematic Review"):

- Examined the life quality of the medical staff in the UK, identifying the factors influencing their wellbeing.
- Key factors including work satisfaction, work conditions, social support and professional recognition.

Study from South Africa ("Factors influencing the quality of life of healthcare professionals in rural areas"):

- Explored the factors influencing the medical staff life in rural areas.
- Challenges include limited access to medical services, precarious infrastructure and social-economic and cultural factors specific to rural areas.

The Italy study ("Quality of life and burnout levels among primary healthcare workers: A cross-sectional study"):

- Evaluated the quality of life and levels of professional exhaustion in the primary care system.
- High levels of exhaustion have been associated with a low quality of life.

Study of Canada ("Worklife experiences and mental health of nursing assistants in Ontario, Canada"):

- Analyzed the work experiences and mental health of nursing assistants.
- Challenges include big work volume, high physical and emotional requirements and absence of social support.

Study of Australia ("The consequences of nursing workforce dynamics: Evidence from Australia"):

- Investigated the consequences of nursing workforce dynamics
- Problems include work excess, increased duties, tiredness and stress.

These studies, from various countries, emphasize the complexity and challenges faced by healthcare professionals in relation to quality of life, exhaustion and job satisfaction. Solutions such as providing support, adapting to work conditions and recognizing their efforts are crucial to approach these issues.

Studies have put an accent on the importance of workforce management in medical care, emphasizing strategic planning, human resources and policies that support staff well-being. A comparison was realized between studies from the USA, UK, South Africa, Italy and Canada in respect of the quality of life of medical staff. The main observations are:

- There are high levels of professional exhaustion and problems with equilibrium between professional and personal life in most of countries.
- Factors like work conditions, social support and access to resources influence the quality of life.
- Recommendations include: stress management, promoting equilibrium between professional and personal life and creating a healthy working environment.
- Various countries have implemented measures to approach these problems, like problems for reduction of professional exhaustion, flexibility in work program and support programs for the medical staff.
- It is radical to recognize the value of the personal staff and to promote their health and well-being to ensure an efficient and qualitative care.

Basically to ensure quality medical care, it is vital to improve the quality of life of medical staff through various measures adapted to the context of each country and to take into account the importance of work-life balance.

5.1. Description of the hospital participating in the study

Craiova Emergency County Clinical Hospital (SCJUC):

- Is a second category hospital, under the control of the Ministry of Health.
- Was inaugurated in 1971.

- Is the greatest medical unit in the South-West region, serving over 600,000 inhabitants
- It has 1,518 beds and 30 sections in 27 specialties.
- Due to COVID-19 pandemics was adopted the structure to treat patients with SARS COV-2.
- The financing is from various sources, including Dolj Health Insurance Fund and donations

Slatina Emergency County Hospital:

- It is a third category hospital
- Has two external locations in Scornicești and Slatina.
- Most of the patients are from Olt County .
- It registered o budgetary deficit in 2019, but had positive financial results in the year 2020 and 2021.
- It was affected by COVID-19 pandemic, being observed a decrease in many indicators and an increase of the intra-hospital mortality.

Clinical Hospital Filantropia Craiova:

- Is a sanitary unit subordinated to the Local Council of Craiova municipality.
- It was transferred to Local Council on the ground of a ordinance in 2008.
- It is classified at level IV of competence.
- It has 525 approved beds

Pitești Emergency County Hospital:

- It is in Pitești municipality, Argeș County.
- Offers an extended range of medical services and has multiple specialized sections.
- Has emergency unit and skilled medical personnel.
- Collaborates with other units for research and development in the medical sector.

Vâlcea Emeregency County Hospital:

- Is in Râmnicu Vâlcea municipality, Vâlcea county.
- Offers varied medical services with 1353 beds disposed on numerous specialties
- Equipped with laboratories and modern investigation equipment.

Caracal Municipal Hospital:

- Has 440 beds and 5 day hospital beds
- Serves a population of 31,000 inhabitants.
- Offers a large scale of medical services and applies the health policy of Ministry of Health in Romania.

Schitu Greci Psychiatry Hospital Chronic persons:

- Hospital specialized in psychiatry in Olt County.
- Classified in category V with limited competence level
- Has 160 beds for continuous hospitalization with 2 sections of psychiatry chronic persons.
- Offers specialty services for chronic patients and collaborations for medical investigations with Slatina County Emergency Hospital.

5.2. Research methodology

The quality-of-life study used the monitoring questionnaire, applied between August 2021 and March 2022, to a sample of 1300 people in the medical sector. The WHO-QoL BREF test, developed by the World Health Organization, was used to evaluate the quality of life in four domains: physical health, mental health, social relationships and environment. This instrument is valid, reliable and adaptable to various cultural contexts. The test has been used in numerous international studies to analyze the quality of life of medical personnel, including in specific contexts such as the COVID-19 pandemic. For the recent study, the questionnaires were distributed in the hospitals after providing the necessary instructions, with a response rate of 13.82% of the total medical staff employed in the hospitals selected for the research.

The WHO-QoL Brief test, applied to evaluate the quality of life in various fields, presents variable levels of internal consistency, depending on the specific field.

- Domain 1 (physical health) has a satisfying level of consistency, having Cronbach's alpha coefficient close to 0,7. This suggests that items in this field measure in a cohesive manner aspects connected to physical health.
- Domain 2 (psychical health) has a smaller Cronbach's alpha coefficient, of 0,603, suggesting that the items can be little more diversified concerning the measurement of psychical health.
- Domain 3 (social relations) has a Cronbach's alpha coefficient of 0,646, indicating a moderate internal consistency.
- Domain 4 (the relation with the environment) is emphasized with the highest Cronbach's alpha coefficient of 0,739, indicating a good internal consistency in the measurement of the relation of the individual with his environment.

As a conclusion, the WHO-QoL Brief seems to offer a coherent and consistent measure of quality of life in the domains of physical health and relationship with the environment, while items in the domains of mental health and social relationships might take advantage of further revision to improve internal consistency. Cronbach's alpha coefficient and Guttman L3 and L4 coefficients are metrics used to measure the internal consistency of a set of items (questions) in a questionnaire. A coefficient closer to 1 indicates a greater consistency, while a coefficient closer to 0 indicates a reduced consistency.

From a practical point of view, if a measurement tool is consistent, it means that it is reliable and that we can trust its results. If it is not consistent, the results may be affected by random errors and may be less reliable.

Table No. 37 - Comparative analysis of the perception of quality of life based on demographic characteristics and health status.

Nr	Intrebarea	Sex	Age >45	Level of education	Status marital	Actualmente sunteti bolnav
1	Cum ati aprecia calitatea vietii dvs	0.0022	0.0010	0.0001	0.0001	0.0001
2	Cat de satisfacut sunteti de sanatatea dumneavoastra	0.0001	0.0001	0.0001	0.0009	0.0001
3	Cat de tare ati simtit ca durerea v-a impiedicat sa faceti ce era nevoie sa faceti	0.0019	0.0001	0.0001	0.0046	0.0001
4	Cat de mult aveti nevoie de vreun tratament medical ca sa va duceti viata de zi cu zi?	0.0029	0.0001	0.0001	0.0003	0.0001
5	Cat de mult va bucurati de viata?	0.1485	0.0008	0.7149	0.0001	0.0001
6	Cat de mult simtiti ca viata Dvs este importanta?	0.0546	0.3682	0.5077	0.0173	0.0128
7	Cat de bine va puteti concentra?	0.0001	0.0002	0.0145	0.0071	0.0001
8	Cat de sigur va simtit in viata de zi cu zi?	0.0093	0.0411	0.4786	0.0167	0.0001
9	Cat de sanatoasa este ambianta Dvs fizica?	0.0002	0.0017	0.0101	0.0795	0.0001
10	Ati avut suficienta energie pentruviata de zi cu zi?	0.0413	0.0047	0.2737	0.0100	0.0001
11	Ati acceptat infatisarea Dvs exterioara?	0.6722	0.0112	0.0126	0.0438	0.0009
12	Ati avut suficieni bani pentru nevoile Dvs?	0.0034	0.0088	0.0001	0.0229	0.0821
13	Cat de accesibila este informatia de careaveti nevoie in viata de zi cu zi?	0.0791	0.4370	0.0027	0.1834	0.0026
14	Cat de tare ati avut ocazia sa va recreati?	0.0002	0.0084	0.0262	0.0091	0.3868
15	Cat de bine ati putut sa va deplasati?	0.1038	0.2269	0.0001	0.1057	0.0001
16	Cat de satisfacut sunteti desomnul Dvs?	0.0001	0.2292	0.0139	0.1593	0.0015
17	Cat de statisfacut sunteti de capaci-tatea Dvs de a indeplini activitatile vietii de zi cu zi?	0.0001	0.7261	0.0001	0.0001	0.0001
18	Cat de satisfacut sunteti de randa-mentul Dvs de munca?	0.0101	0.4857	0.0234	0.0001	0.0001
19	Cat de satisfacut sunteti de Dvsinsiva?	0.0001	0.0765	0.0001	0.0001	0.0001
20	Cat de satisfacut sunteti de relatiileDvs personale?	0.0011	0.0061	0.0069	0.0001	0.0001
21	Cat de satisfacut sunteti de viata Dvs sexuala?	0.0047	0.0019	0.0001	0.0001	0.0001
22	Cat de satisfacut sunteti de sprijinul pe care-l aveti de la prietenii Dvs?	0.0088	0.0509	0.2252	0.0078	0.0334
23	Cat de statisfacut sunteti delocul unde locuiti?	0.1454	0.5790	0.5063	0.9902	0.6263
24	Cat de satisfacut sunteti de accesibilitatea la serviciile de sanatate?	0.1093	0.3672	0.4219	0.5328	0.2122
25	Cat de satisfacut sunteti de modul Dvs de transport?	0.7360	0.5316	0.0012	0.1385	0.1689
26	Cat de des ati trait sentimente negative precum tristete, disperare, teama, nefericire?	0.0058	0.0040	0.0228	0.0324	0.1098

Chart no. 37 presents p values (probabilities) for various questions connected to the quality of life and satisfaction in various fields of life, in relation to varied demographic and health variables: Sex, age (>45 or not), Level of studies, Marital status and if the person is or not ill currently.

In descriptive statistics, a p value represents the probability that an observation or a result be due to hazard. Generally, a value p less than 0,5 is considered statistically significant, suggesting that the result is not due simple to hazard.

At the question:

- how would you appreciate the quality of your life.

There are significant differences depending on all variables (Sex, age, level of studies, Marital status, health status),as all p values are <0,05.

-How much do you enjoy life?

Here we can see a significant difference depending on sex, age and marital status. The level of studies and health status does not seem to have a significant impact on this question.

From my point of view, it can be observed that for most of the questions, the health status („Currently you are ill”) has a significant impact (values p are less than 0,05). This suggests that the current health status of an individual influences a lot the way he perceives the quality of his life and satisfaction in various fields.

Also, other variables like Sex, Age, Level of studies and Marital status, have an influence, in a significant manner on the perception of the quality of life, but their impact varies depending on the specific question.

Table No. 38 - Results of the WHO-QoL Brief test on the quality of life of medical workers in Romanian hospitals based on various demographic and professional variables.

Variable	physical	mental	social	environmental	q1	q2	over
Sex	0.0091	0.5064	0.3906	0.0151	0.0850	< 0.0001	< 0.0001
F	26.77 ± 4.02	24.34 ± 3.05	12.04 ± 1.81	29.56 ± 4.39	4.00 ± 0.66	3.41 ± 0.74	7.41 ± 1.24
M	27.48 ± 4.81	24.41 ± 3.54	12.12 ± 2.14	30.39 ± 5.21	4.08 ± 0.73	3.76 ± 0.87	7.83 ± 1.45
Age	< 0.0001	< 0.0001	< 0.0001	0.0025	< 0.0001	< 0.0001	< 0.0001
Age≤45	27.43 ± 4.09	24.56 ± 24.56	12.22 ± 12.22	29.97 ± 29.97	4.09 ± 0.67	3.61 ± 3.61	7.71 ± 7.71
Age>45	26.41 ± 4.15	24.08 ± 24.08	11.88 ± 11.88	29.41 ± 29.41	3.94 ± 0.68	3.36 ± 3.36	7.30 ± 7.30
N/A	28.62 ± 4.14	26.13 ± 2.59	12.78 ± 1.76	31.07 ± 4.41	4.31 ± 0.57	3.75 ± 0.73	8.05 ± 1.16
Age Group	< 0.0001	< 0.0001	< 0.0001	0.0172	< 0.0001	< 0.0001	< 0.0001
20-29	30.08 ± 3.54	26.00 ± 3.05	12.62 ± 1.63	31.69 ± 4.97	4.38 ± 0.50	4.12 ± 0.77	8.50 ± 1.14
30-39	27.60 ± 4.07	24.49 ± 3.27	12.30 ± 1.90	30.02 ± 4.63	4.09 ± 0.71	3.71 ± 0.84	7.80 ± 1.36
40-49	26.86 ± 4.05	24.42 ± 3.02	12.10 ± 1.91	29.70 ± 4.51	4.01 ± 0.67	3.44 ± 0.78	7.45 ± 1.28
50-59	26.37 ± 4.15	24.08 ± 3.20	11.85 ± 1.80	29.29 ± 4.54	3.95 ± 0.66	3.35 ± 0.72	7.30 ± 1.23
60-69	25.55 ± 4.48	22.84 ± 2.82	11.28 ± 1.68	29.29 ± 4.13	3.84 ± 0.68	3.28 ± 0.59	7.12 ± 1.11
N/A	28.62 ± 4.14	26.13 ± 2.59	12.78 ± 1.76	31.07 ± 4.41	4.31 ± 0.57	3.75 ± 0.73	8.05 ± 1.16
Graduated school	< 0.0001	0.0606	0.0014	0.0001	< 0.0001	< 0.0001	< 0.0001
8 years of schooling	25.89 ± 4.31	23.44 ± 2.96	12.00 ± 2.00	30.11 ± 4.04	4.00 ± 0.50	3.33 ± 0.50	7.33 ± 0.87
College	27.48 ± 4.12	24.60 ± 3.14	12.19 ± 1.85	30.35 ± 4.45	4.12 ± 0.67	3.62 ± 0.79	7.74 ± 1.31
High school	26.89 ± 4.05	24.31 ± 3.16	12.14 ± 1.78	29.61 ± 4.77	4.00 ± 0.63	3.50 ± 0.78	7.50 ± 1.24
Vocational school after high school	26.51 ± 4.06	24.21 ± 3.05	11.93 ± 1.88	29.13 ± 4.36	3.93 ± 0.66	3.31 ± 0.71	7.25 ± 1.18
Elementary school	27.67 ± 3.51	23.67 ± 2.52	12.00 ± 1.73	27.67 ± 3.51	3.67 ± 0.58	3.33 ± 0.58	7.00 ± 1.00
Trade school	22.71 ± 4.82	22.84 ± 4.02	10.55 ± 2.29	27.45 ± 5.64	3.45 ± 0.93	3.06 ± 0.89	6.52 ± 1.69
Educational level	< 0.0001	0.0080	0.0015	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Others	23.83 ± 4.73	23.04 ± 3.55	11.04 ± 2.19	28.11 ± 5.06	3.60 ± 0.83	3.13 ± 0.77	6.72 ± 1.47
High school	26.89 ± 4.05	24.31 ± 3.16	12.14 ± 1.78	29.61 ± 4.77	4.00 ± 0.63	3.50 ± 0.78	7.50 ± 1.24
Vocational school after high school	26.51 ± 4.06	24.21 ± 3.05	11.93 ± 1.88	29.13 ± 4.36	3.93 ± 0.66	3.31 ± 0.71	7.25 ± 1.18
College	27.48 ± 4.12	24.60 ± 3.14	12.19 ± 1.85	30.35 ± 4.45	4.12 ± 0.67	3.62 ± 0.79	7.74 ± 1.31
Marital status	< 0.0001	< 0.0001	< 0.0001	0.2574	< 0.0001	0.0003	< 0.0001

Married	27.08 ± 4.04	24.48 ± 3.06	12.24 ± 1.72	29.77 ± 4.48	4.03 ± 0.66	3.47 ± 0.77	7.50 ± 1.26
LIVING TOGETHER	27.36 ± 4.04	24.56 ± 3.31	12.08 ± 1.69	29.33 ± 4.25	4.00 ± 0.69	3.59 ± 0.68	7.59 ± 1.21
Divorced	25.78 ± 4.14	23.59 ± 3.41	11.35 ± 2.17	29.17 ± 4.82	3.90 ± 0.73	3.28 ± 0.78	7.19 ± 1.29
Separated	23.77 ± 4.70	22.65 ± 4.14	10.38 ± 2.56	27.77 ± 5.50	3.65 ± 0.75	3.31 ± 0.79	6.96 ± 1.46
Single	27.56 ± 3.99	24.68 ± 2.99	11.79 ± 2.11	30.32 ± 4.91	4.12 ± 0.73	3.75 ± 0.85	7.86 ± 1.44
WIDOWED	23.69 ± 5.44	22.23 ± 3.08	10.14 ± 2.20	28.77 ± 3.81	3.57 ± 0.61	3.23 ± 0.55	6.80 ± 0.99
Health	< 0.0001	< 0.0001	< 0.0001	0.0004	< 0.0001	< 0.0001	< 0.0001
Yes	23.90 ± 4.44	23.36 ± 3.56	11.46 ± 2.07	28.72 ± 4.48	3.79 ± 0.68	3.12 ± 0.77	6.79 ± 1.26
Not	27.57 ± 3.79	24.57 ± 2.99	12.18 ± 1.80	29.92 ± 4.53	4.02 ± 0.66	4.00 ± 0.75	5.38 ± 1.25

Table No. 39 - Comparative Analysis of the Quality of Life of Medical Workers Based on Various Demographic Variables and Workplace, Using the WHO-QoL Brief Test.

Variable	dom1	dom2	dom3	dom4	f1	f2	overall
Sex	0.0091	0.5064	0.3906	0.0151	0.0850	< 0.0001	< 0.0001
F	70.62 ± 14.35	76.40 ± 12.72	75.29 ± 15.12	67.36 ± 13.71	74.98 ± 16.57	60.37 ± 18.57	67.68 ± 15.45
M	73.15 ± 17.19	76.70 ± 14.75	75.99 ± 17.81	69.97 ± 16.29	76.95 ± 18.25	68.92 ± 21.74	72.94 ± 18.12
Age	< 0.0001	< 0.0001	< 0.0001	0.0025	< 0.0001	< 0.0001	< 0.0001
Age≤45	72.98 ± 72.98	77.32 ± 77.32	76.85 ± 76.85	68.66 ± 68.66	77.32 ± 77.32	65.32 ± 65.32	71.32 ± 71.32
Age>45	69.31 ± 69.31	75.33 ± 75.33	74.01 ± 74.01	66.92 ± 66.92	73.43 ± 73.43	58.98 ± 58.98	66.20 ± 66.20
N/A	77.21 ± 14.80	83.86 ± 10.79	81.52 ± 14.67	72.10 ± 13.79	82.73 ± 14.33	68.64 ± 18.14	75.68 ± 14.52
Age Group	< 0.0001	< 0.0001	< 0.0001	0.0172	< 0.0001	< 0.0001	< 0.0001
20-29	82.42 ± 12.65	83.33 ± 12.69	80.13 ± 13.56	74.04 ± 15.53	84.62 ± 12.40	77.88 ± 19.14	81.25 ± 14.25
30-39	73.58 ± 14.55	77.06 ± 13.63	77.48 ± 15.84	68.80 ± 14.48	77.27 ± 17.67	67.80 ± 20.97	72.54 ± 17.02
40-49	70.94 ± 14.48	76.76 ± 12.57	75.85 ± 15.95	67.80 ± 14.11	75.18 ± 16.82	61.07 ± 19.44	68.12 ± 15.96
50-59	69.19 ± 14.82	75.35 ± 13.34	73.76 ± 14.98	66.54 ± 14.19	73.64 ± 16.58	58.75 ± 18.05	66.19 ± 15.32
60-69	66.25 ± 16.00	70.17 ± 11.76	68.96 ± 13.99	66.53 ± 12.92	71.01 ± 16.95	56.88 ± 14.78	63.95 ± 13.82
N/A	77.21 ± 14.80	83.86 ± 10.79	81.52 ± 14.67	72.10 ± 13.79	82.73 ± 14.33	68.64 ± 18.14	75.68 ± 14.52
Graduated school	< 0.0001	0.0606	0.0014	0.0001	< 0.0001	< 0.0001	< 0.0001

8 years of schooling	67.46 ± 15.41	72.69 ± 12.34	75.00 ± 16.67	69.10 ± 12.64	75.00 ± 12.50	58.33 ± 12.50	66.67 ± 10.83
College	73.15 ± 14.71	77.50 ± 13.08	76.60 ± 15.41	69.86 ± 13.90	78.01 ± 16.72	65.60 ± 19.82	71.81 ± 16.36
High school	71.03 ± 14.47	76.30 ± 13.15	76.15 ± 14.87	67.52 ± 14.91	75.00 ± 15.84	62.40 ± 19.59	68.70 ± 15.55
Vocational school after high school	69.68 ± 14.50	75.86 ± 12.69	74.43 ± 15.65	66.03 ± 13.63	73.34 ± 16.55	57.84 ± 17.74	65.59 ± 14.74
Elementary school	73.81 ± 12.54	73.61 ± 10.49	75.00 ± 14.43	61.46 ± 10.97	66.67 ± 14.43	58.33 ± 14.43	62.50 ± 12.50
Trade school	56.11 ± 17.23	70.16 ± 16.74	62.90 ± 19.10	60.79 ± 17.64	61.29 ± 23.13	51.61 ± 22.30	56.45 ± 21.13
Educational level	< 0.0001	< 0.0080	< 0.0015	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Others	60.11 ± 16.89	71.01 ± 14.79	67.02 ± 18.22	62.83 ± 15.80	64.89 ± 20.63	53.19 ± 19.24	59.04 ± 18.38
High school	71.03 ± 14.47	76.30 ± 13.15	76.15 ± 14.87	67.52 ± 14.91	75.00 ± 15.84	62.40 ± 19.59	68.70 ± 15.55
Vocational school after high school	69.68 ± 14.50	75.86 ± 12.69	74.43 ± 15.65	66.03 ± 13.63	73.34 ± 16.55	57.84 ± 17.74	65.59 ± 14.74
College	73.15 ± 14.71	77.50 ± 13.08	76.60 ± 15.41	69.86 ± 13.90	78.01 ± 16.72	65.60 ± 19.82	71.81 ± 16.36
Marital status	< 0.0001	< 0.0001	< 0.0001	0.2574	< 0.0001	0.0003	< 0.0001
Married	71.72 ± 14.44	77.01 ± 12.73	77.02 ± 14.30	68.02 ± 13.99	75.87 ± 16.40	61.65 ± 19.24	68.76 ± 15.72
Living together	72.71 ± 14.41	77.35 ± 13.81	75.64 ± 14.10	66.67 ± 13.28	75.00 ± 17.21	64.74 ± 16.93	69.87 ± 15.10
Divorced	67.06 ± 14.77	73.30 ± 14.19	69.55 ± 18.12	66.17 ± 15.07	72.53 ± 18.37	57.10 ± 19.46	64.81 ± 16.07
Separated	59.89 ± 16.79	69.39 ± 17.24	61.54 ± 21.35	61.78 ± 17.19	66.35 ± 18.63	57.69 ± 19.71	62.02 ± 18.19
Single	73.44 ± 14.23	77.84 ± 12.44	73.26 ± 17.56	69.74 ± 15.34	77.95 ± 18.15	68.64 ± 21.27	73.30 ± 17.96
Widowed	59.59 ± 19.42	67.62 ± 12.83	59.52 ± 18.32	64.91 ± 11.91	64.29 ± 15.20	55.71 ± 13.67	60.00 ± 12.43
Health	< 0.0001	< 0.0001	< 0.0001	0.0004	< 0.0001	< 0.0001	< 0.0001
Yes	60.79 ± 15.85	71.53 ± 14.82	70.20 ± 17.21	62.92 ± 14.01	67.61 ± 17.11	50.52 ± 19.23	59.07 ± 15.71
Not	74.41 ± 13.53	69.03 ± 12.47	72.24 ± 15.00	40.30 ± 14.16	38.10 ± 16.59	32.30 ± 18.78	35.21 ± 15.65

In charts 38 and 39 we have various variables and their relation with certain fields (physical, psychic, social, environmental, q1, q2, over). The values are presented as averages and standard deviations and, in some cases, we have also p values, indicating the statistical significance of the groups.

Offering an interpretation to the information in this chart depending on:

Sex:

- There are significant differences between sexes regarding the psychological and social dimensions, q1, q2 and over. This is indicated by small p values ($< 0,05$).
- Women (F) and men (M) have values close to the majority of the domains, but there are still some differences. For example, men have a greater value for q2 in comparison with women.

2. Age:

- There are significant differences between age groups in all domains.
- Persons having more than 45 years have values slightly smaller than the ones with the age less than 45 years for the majority of the dimensions.

3. Age group:

- significant differences between age groups for all dimensions
- We observe a decreasing trend of the values while increasing age, except for the category N/A.

4. Graduated school / Level of studies:

- There are significant differences depending on individual's level of education.
- The ones having graduated faculty have values slightly superior in comparison with the ones having a lower education level, in most of the fields.

5. Marital status:

- There are significant differences between marital groups for all domains, except the environmental.
- The married ones and the ones that are alone have similar values, meanwhile the separated, divorced and widow ones have lower values.

6. Ill persons:

- There are significant differences between the ill persons and the health ones
- The ill persons have values that are smaller to the healthy ones in all fields.

7. Hospital type:

- significant differences between hospital types, especially in physical, social and environmental dimensions, q1, q2 and over.
- SCJU has higher values in comparison with the other hospital types in most dimensions.

As a conclusion, presented charts represent the result of a statistic analyze examining the influence of different variables (sex, age, level of education, marital status, health, hospital type) on various fields of interests. Significant p values suggest that there are important differences between groups for those fields. Charts 40 and 41 present statistic data on different variables and their impact on various fields (dom1, dom2, dom3, dom4, f1, f2, overall). The values are average scores \pm standard deviations.

Table No. 40 - regarding health status

No.	Question	Not at all		A little		Moderately		Very much		Extremely	
		B	S	B	S	B	S	B	S	B	S
1	How much did you feel the pain prevented you from doing what you needed to do?	8.7	25.4	16.3	27.2	41.3	36.1	26.6	8.1	6.1	3.1
2	How much do you need any medical treatment to go about your daily life?	4.6	43.1	16.8	27.8	32.7	19.4	28.6	7.0	17.3	2.7
3	Did you have enough energy for daily life?	0.5	0.1	8.2	2.9	31.6	21.9	49.0	53.5	10.7	21.5
4	How well could you move around?	1.5	0.9	16.3	8.7	36.2	22.9	26.5	33.5	19.4	34.1

No.	Question	Very dissatisfied		Dissatisfied		Neither satisfied nor dissatisfied		Satisfied		Very satisfied	
		B	S	B	S	B	S	B	S	B	S
1	How satisfied are you with your sleep?	4.6	1.9	11.2	7.3	26.5	21.0	42.3	51.5	15.3	18.3
2	How satisfied are you with your ability to perform daily life activities?	0.5	0.4	5.1	1.1	24.0	12.2	58.2	63.2	12.2	23.1
3	How satisfied are you with your work performance?	0	0.3	6.1	0.3	19.4	8.2	55.6	63.2	18.9	27.8

Table No. 41 - regarding health status

No.	Question	Not at all		A little		Moderately		Very much		Extremely		No response	
		B	S	B	S	B	S	B	S	B	S	B	S
1	How much do you enjoy life?	1.0	0.2	7.7	2.6	33.2	21.6	32.7	43.9	25.5	31.6	0	0.1
2	How much do you feel your life is important?"	0.5	0.3	1.5	1.3	12.8	6.5	39.8	38.4	44.4	53.3	0	0.1

3	"How well can you concentrate?"	0.5	0.2	4.1	1.2	36.2	23.5	45.9	57.4	13.3	17.6	0	0
4	Have you accepted your outward appearance?"	0	0.4	2.0	1.3	25.0	13.6	38.3	43.2	34.7	41.6	0	0

No.	Question	Very dissatisfied		Dissatisfied		Neither satisfied nor dissatisfied		Satisfied		Very satisfied	
		B	S	B	S	B	S	B	S	B	S
1	How satisfied are you with yourself?	1.0	0.2	3.6	0.7	21.9	9.1	48.0	55.7	25.5	34.3

No.	Question	Never		Rarely		Somewhat often		Very often		Always	
		B	S	B	S	B	S	B	S	B	S
1	How often have you experienced negative feelings such as sadness, despair, fear, unhappiness?	10.2	11.4	56.6	63.5	19.4	14.4	12.2	9.6	1.5	1.5

- Sex: men seem to have higher scores than women in most of the fields, especially in f2 and overall.
- Age: There are significant differences in scores depending on age. Persons in the age group 20-29 years have the highest scores, meanwhile persons in the age group 60-69 years have the lowest scores.
- Graduated school & Level of studies: Persons having graduated from faculty have higher general scores in respect to the other categories, meanwhile persons ending vocational school have the lowest scores.
- Marital status: Single persons and the ones cohabiting have higher scores than the other categories, meanwhile widowers or the separated persons have smaller scores.
- Ill persons: The persons that are not ill have higher scores than the ill persons in all fields.
- Hospital type: There are significant differences in scores depending on the type of the hospital. SCJU has the highest scores in all fields, meanwhile Spsi has the lowest scores, especially in dom4, f1 and overall.

As a conclusion, the realized analyze examined the influence of various variables on groups on the perception of the quality of life and health status:

- Sex: Men have higher scores than women, indicating a better perception of the quality of life and health.
- Age: Persons aged 20-29 years have a more positive perception than the ones over 45 years. The higher the age, the lower the scores
- Graduated school: The ones with superior studies have higher scores in comparison with the others.
- Level of studies: Persons with higher education have a better perception than those with less education.
- Marital status: Married or cohabiting persons have a better perception, while single and widowed persons have a poorer perception.
- Health status: Healthy persons have higher scores than the ill ones.

Generally, all these variables significantly influence the perception of quality of life and of the health status. When there are significant differences between the categories of a variable, these categories are classified into different groups, as concerning the example given with education level. It is fundamental that these differences are taken into account in policies and strategies to improve health and quality of life.

The medical staff in Romania is of major importance in the context of medical crises, and it is essential to offer them optimal working conditions. The 2021 WHO study emphasized the connection between the quality of life of medical staff and the quality of patient care. To support these needs, the following measures are essential

- Improving Human Resources: The increase of the number of medical staff, ensuring a healthy and safe working environment and promoting continuous training.
- Protection and Psychological Support: Proper protective equipment and psychological support for employees are necessary to reduce stress and exhaustion among staff.
- Reasonable Compensation and Benefits: Competitive salaries, proper benefits, and a sound health insurance and pension system are essential to attract and retain medical staff.
- The modernization of the infrastructure: Investments in medical technology and infrastructure are crucial for efficiency and reducing risks to staff.
- Stimulating Research: Financing the research and promoting collaboration between the public and private sectors can significantly improve the quality of health care.
- Involvement of Medical Staff: Effective communication and collaboration among members of the medical staff is vital to quality care.

As a conclusion, Romania needs significant investments and a well-defined strategy in order to offer support to the medical staff and improve its health system, especially in the

context of risk situations. As a result, we proposed the following measures in order to improve the medical system in Romania:

1.The protection of the medical staff:

- Implementing safety measures in risk situations, like pandemics.
- Supply individual protective equipment (EPI) and proper training.

2.The management of the risk situations:

- Creating plans and protocols to give an efficient answer to pandemics and epidemics.
- The investment in preventive measures, like surveillance and vaccination.

3.Professional development:

- Offering opportunities of continuous training and education.
- Supporting research and innovation in medical sector.

4.Mental health of the medical staff:

- Supply mental health services and psychological support
- Evaluating the efforts of the personal staff.

5.Consolidation of the health insurance system:

- Major investments in the health system.
- The development of a robust system of medical insurance.

6.Professional-personal equilibrium:

- Politics for the management of the work time and promoting flexibility.
- Support for family responsibilities of the medical staff.

7.ValORIZATION of the medical profession:

- Campaigns for education and public awareness on the importance of the medical profession.
- Incentives for the recruitment and retention of the medical team

8.Work and protection conditions:

- Ensuring access to proper protection equipment.
- Creating a safe and healthy work environment.

9.Personal staff involvement:

- Including personal staff in decision making processes.
- Offering incentives for medical staff taking care of risky situations.

10. Ensuring proper resources for medical staff:

- The government should increase financing in health, including compensatory wages, modern equipment and research.
- It is necessary support for mental health of the medical staff, taking into account the stress level that they face.

11. Encouraging research and innovation:

- The Government should invest in medical research and promote disruptive technologies.

12. Improvement of the access to continuous formation and education:

- The government should finance continuous training programs for the medical staff and encourage international collaboration.

13. Implementing some politics and programs specific in Romania:

- The Government of Romania should develop health system focused on patient and implement a system to monitor disasters.

14. Improvement of the work conditions and protection of the personal staff in Romania:

- The Government of Romania should increase wages and ensure proper personal protection equipment.

As a conclusion, medical professionals are essential in crisis situations. The improvement of their quality of life is vital to supporting pandemic management efforts and providing quality health care. Ensuring the right work environment and support can prevent exhaustion, attract new talent and retain valuable professionals in the system.

Conclusions

Taught lessons

The COVID-19 pandemic has imposed a number of major challenges for public health and communication management. The following are the conclusions drawn regarding the management of this pandemic:

I. The management of the pandemics and online communication:

- Online communication has been crucial in the fight against the pandemic, helping to reduce the spread of the virus.

- WHO has an important role in providing correct information.
- Platforms like Twitter and Facebook fought against disinformation.
- New Zealand was praised for the way it communicated, relying on transparency, strong leadership, collaboration and clear and consistent communication.

II. Centralization of medical information

- The centralization of medical data was essential, facilitating epidemiological analyses.
- The GISAIID Platform and the ONE Health Platform were significant initiatives in this sense.
- The "One Health" approach emphasizes the interdependence between human health, animal health and ecosystems.
- The PREDICT program monitored zoonotic viruses with pandemic potential, promoting international collaboration and response ability.

III. The lack of resources in a pandemic emergency:

- Health systems in many countries faced a lack of resources, leading to enormous pressure on health staff.
- Planning and proper allocation of resources are essential in such crises

IV. Lack of timely action to limit damages in pandemic:

- Fast intervention is crucial for the limitation of the spread of the virus.
- Delays in taking appropriate actions can have devastating consequences for the population and health systems

The World Health Organization has emphasized the importance of strengthening surveillance abilities and fast action in the event of a pathogen outbreak. In light of the COVID-19 pandemic, the need for international collaboration to monitor pathogens has been recognized, with reference to the Paris Agreement. We proposed:

1. Surveillance system:

- Epidemiological surveillance for the fast detection of viruses.
- Animal disease surveillance, given the fact that many viruses are zoonotic.
- Surveillance of the viral genome to better understand the characteristics of the virus and identify new variants.
- Use of modern technologies for rapid data collection and exchange of information.
- International cooperation and exchange of information, especially with the WHO, to facilitate a rapid response to viral threats.

2.Laboratories surveillance:

- The standardization of biological security practices globally.
- Creating communication networks between laboratories.
- Increasing transparency in research with dual security potential.
- Carrying out independent audits and inspections to ensure the fact that standards are respected.
- Use of technology to monitor laboratories.

3.Other measures:

- Promotion of in-depth studies in the field of virology and public health.
- Implementation of telecommunications and contact tracing applications.
- Collaboration between different stakeholders and adapting measures to the specific context of each community is vital.

The COVID-19 pandemic has highlighted the vulnerabilities of global health systems and emphasized the importance of training and investment in the sector. International cooperation, providing accurate information and fighting against misinformation are essential to deal with future pandemics.

This crisis provided an opportunity to learn and better prepare for similar situations in the future.

Proposal

In the context of the COVID-19 pandemic, the quality of life of medical staff and the care they provide has received increased importance, given the stress, fatigue and risk of infection they face.

The study shows significant variations in this quality according to variables such as gender, age, educational level and marital status, underlining the need for adapted health policies to support this segment.

The two action directions that are proposed, are:

Continuation of research in the field of quality of life of medical staff, through methods such as longitudinal studies, causal analyses, international comparisons, development of specific measurement tools and interdisciplinary collaboration.

The development of a health policy model adapted to the Romanian context. This pattern should promote the equilibrium between professional and personal life, development

of stress management skills and psychological support. Among the recommended measures there are flexible working hours, ensuring a safe work environment, facilitating access to psychological support services and promoting education in the field of stress management.

Finally, I emphasize the importance of adapting and personalizing policies according to the Romania specific, with the objective of improving the well-being of medical staff and, consequently, the quality of care provided to patients in risk situations.