

UDC: 616.98:578.834]:005.334
Original scientific paper
Received May 11, 2022.
Accepted: October 15, 2022
Corresponding author: milan.radosavljevic@gmail.com

STRATEGIC MEASURES DURING THE PANDEMIC C-19: SPECIFICS AND CONSEQUENCES

Milan Radosavljević

Faculty of Business Studies and Law,
“Union – Nikola Tesla” University, Belgrade, Serbia
e-mail: milan.radosavljevic@fppsp.edu.rs

Života Radosavljević

Faculty of Business Studies and Law,
“Union – Nikola Tesla” University, Belgrade, Serbia
e-mail: dragana.radosavljevic@fppsp.edu.rs

Suzana Pajić

Faculty of Business Studies and Law,
“Union – Nikola Tesla” University, Belgrade, Serbia
e-mail: suzana.pajic@fppsp.edu.rs

Abstract. *The pandemic is considered one of the most complex challenges that has arisen in the last two decades, and it refers to the mass infection and health endangering of the population on a global level. It has disrupted general social, economic, political, sociological, cultural, religious, mental, customary and other currents. The pandemic has caused death of a large number of people, disrupted the health and quality of life of the population, closed the world economy and disrupted existing supply chains, with little chance of rebuilding broken ties, lowering the quality of education, culture, sports and recreation. Compared to previous health crises, it is believed that the COVID-19 pandemic will produce much greater damage to the global economy, due to the high level of interdependence that exists between individual countries.*

By all parameters, the crisis was a surprise, that is people and organizations at the global level faced the pandemic unprepared, both in terms of material and intellectual resources, and above all in the lack of knowledge and skills. This imposed, and still imposes,

the need to abandon the classic models of crisis management and apply concepts based on new knowledge and concepts, because it has been shown and proven that old knowledge and experience can not solve the pandemic caused by COVID-19. It is an intelligent virus that has the ability to adapt, ie mutate, which means that in a relatively short time it adapts and opposes existing medical or non-medical situations and measures. In this pandemic, we face the problem that we do not know what we do not know and that what we knew and what we know is not enough to prevent this disease, and then to react with its successful suppression.

The population at the global level has realized that medical science has not mastered the strategies for managing mass health crises, ie pandemics. The World Health Organization has proven to be an inadequate, ie sluggish and bureaucratized organization and apparatus. It has largely passivated national public health, to certain actions and non-actions, expecting certain solutions, or recommendations for a more successful fight against the pandemic. WHO decisions were not only inadequate, but were often overdue, and in many elements illogical and controversial.

This imposes the need to create and apply new knowledge, as well as new strategies in the management of knowledge, skills and experience of (non) medical professions. This is necessary because it turns out that the pandemic is a multidisciplinary problem and that it is necessary to apply holistic technology to manage the pandemic, as the highest quality tool in the management of complex phenomena. The relationship between healthcare, ie life and the economy is especially important, and it represents the basis for creating strategies to combat COVID-19. In general, it can be said that it is half a medical and half a non-medical problem. The dilemma is which half belongs to one or the other part. This knowledge is crucial for resolving the dilemma that objectively exists in the strategies for fighting this disease and in crisis headquarters, as well as in the World Health Organization, that the pandemic is exclusively a medical problem and that the pandemic crisis should be managed by medical experts.

This paper aims to present the manifested problems in the crisis management of the COVID 19 pandemic in the period from its inception to the end of 2021 and to suggest the introduction of new strategies in knowledge management. Special attention will be given to the management of the pandemic in the Republic of Serbia, which according to certain parameters had different successes in the fight against this virus, and the so-called post-pandemic pandemics.

Keywords: COVID-19, Pandemic, Specifics of pandemic, Partialization of (non) medical knowledge, non-medical measures.

INTRODUCTION

It has been more than two years since the appearance of the COVID-19 virus. Although the pandemic did not completely disappear, it certainly weakened, which led to a more intensive functioning of the economy and society as a whole. This is enough time to summarize the results and outcomes of the COVID-19 pandemic. Numerous structures

from the government, ie the medical profession, pointed out that during the pandemic there is no time or capacity to analyze the epidemiological situation and that this should be done after it is over. However, the theory of crisis management shows that it is best to perform analysis at the time of certain processes, phenomena or events, since the elements for analysis are visible and at hand; time distance negatively affects the objectivity of research. This concept is applied by military organizations after war campaigns, military exercises, but also by sports clubs, after the end of every game, regardless of whether the team lost or won.

There is also another approach, and that is that the best way to analyze and research is after a certain period of time, ie to do research with a “cold head”, with a relatively higher degree of relaxation, through arranging information and making concrete conclusions and legality. The dilemma in this approach is at what time to analyze the outcome of an event. Another problem is that time is not a good ally for memory, that many things are forgotten, and the biggest problem is forgotten; actually, we forget what we have forgotten. The danger is that the analysis will never take place, which is a problem primarily of political elites, ie the ruling parties. The evidence for this statement is numerous, and some of them are in a crisis of mass infection, such as pandemics.

Without going into further consideration of this problem, we can say that little or no attention was paid to the pandemic crisis and that the analyzes performed were not complete; they were insufficiently processed, and especially did not represent an instrument of organizational learning. The result of the above is that in the crisis of the pandemic in modern conditions, it is treated in almost the same way as it was several centuries ago. In the initial phase, the fight against COVID took place through numerous restrictions and bans, as had been done in the past. In the initial phase, people died, and the dead were buried in metal or double coffins, in hermetically sealed bags, etc. What has not been done is watering the graves with living lime, and the houses or hiding places where people died have not been burned.¹

From the above, it can be concluded that for mass health crises, as well as for other crises, one should prepare in normal times. Every house owner knows this well, always maintaining a certain level of reserves in basic living needs. This is also done by serious countries, which provide and keep funds from various fields through material reserves. This also refers to the provision of medical equipment, spare parts, to the reserve in human resources in case of “disqualification” of (non) medical staff. This is especially true when it comes to experts in epidemiology, virology, immunology as branches of medical specialties who should respond to the challenges of the pandemic.

In the crisis, ie in the fight against the pandemic, all material, intellectual and other potentials should be engaged, which is normal, because complex catastrophes of large scale require a detailed response. The public, private sector, as well as non-profit organizations

1 See more in: Pajic, S. et al. „Definisanje i razgraničenje pojmova“ in the monograph: „Upravljanje pandemijom Corone-19-Nemedicinski pristup, Fakultet za poslovne studije i pravo, Beograd, 2020. str. 29-31.

should work together on a coordinated recovery plan. This is not a situation in which one can choose; everyone needs to participate.” This is especially important for Serbia, where private health care has been excluded or marginalized in the fight against the pandemic, although public health has been burdened and often unable to respond to demands of an increased number of infected and sick.²

Having said this, it should also be borne in mind that pandemics, as a global mass health infection of the population, are occasional and temporary events. Occasional, because they occur in certain time intervals, and temporary, because they last for a certain period. Due to the above, COVID-19 can be compared to the phenomenon of the “black swan”. This term was introduced 15 years ago by Taleb (2007), who defines it as “exceptional”, because it lies outside the realm of regular expectations, because nothing in the past indicated its origin. “According to Taleb, it is in fact an extreme event with extreme influences. Both negatively affect the preparation of the world for the fight against viruses, or other causes of the pandemic, both in terms of material and human resources, ie information and other resources.”³

1. SPECIFICS OF THE COVID-19 PANDEMIC CRISIS

Pandemics are both a medical and a non-medical problem. Medical and non-medical experts of various professional orientations must participate in its prevention or treatment of consequences. Pandemic poses major problems to the political elite in power, ie the governments of each country, ie decision-making institutions. The medical and non-medical professions face the problem of including non-medical professions in the management of crises of mass infection. The political elite in power had to make decisions regarding the opposing views of the health profession and business people. “Therefore, the companies faced a really unique set of circumstances. The government’s decisions regarding the close-down came as a disruptive change for them, and new survival strategies had to be developed quickly.”⁴

Analyzes show that reducing the number of infected people, ie flattening the infection curve, has a positive effect on economic activities. In many countries globally, crisis headquarters, or governments have implemented measures from centuries ago, imposed a state of emergency, closed or restricted business activities. This is the first evidence that the world has faced the problem of lack of knowledge to oppose the COVID-19 virus on a global scale. “The phenomenon of the “black swan” in the crisis COVID-19 has put business strategies in the background, due to lack of knowledge to prevent or quickly

2 Malloy, C.: Case Study: „What Role Should a Company Play in a National Crisis, HBR, Maj-Juni 2021. p. 7.)

3 Taleb, N.N.: „The black swan: The impact of the highly improbable“, London, UK: Penguin Books, 2007.)

4 Alvarez, F., Argente i drugi: „A simple planning problem for Covid-19 lockdown“, Covid economics14. Pp. 1-32)

eliminate the pandemic. In other words, the world, and especially the medical profession, has not learned anything from previous health crises.

Those who made the decisions were deficient in the knowledge and consequences of the virus. Crisis staffs that proposed decisions were under great pressure from politicians who demanded that the measures they would accept be proposed, and they often made decisions different from the suggestions of medical experts. Thus, some countries had come to the situation that ignorance manages knowledge, ie that the incompetent do not respect the suggestions and views of the competent.

The gap between medical and non-medical knowledge is evident. The medical profession does not know enough about the basics of certain sciences without this a successful fight against COVID-19 cannot be imagined. These are: systems theory, organization and reorganization, economics, management, chaos theory, ranks, quantitative qualitative research methods, information systems, artificial intelligence, etc. Without knowledge of these sciences, at least in their basics, it is almost impossible to manage a pandemic crisis.

On the other hand, the non-medical profession engaged in the fight against the pandemic does not know enough about the basics of healthcare, primarily technology, standards, procedures, health economics, health management and organization, all the way to medical ethics, internet technology, etc. We are talking about the basics here. It is difficult to imagine the success of the legal service in a health institution, without knowledge of medical law, or a logistician who would not have knowledge of health logistics, computer scientist who would not know the specifics of information management, storage and distribution rules. That is why there are master studies, such as specializations, which require lawyers to complete master studies in medical law. Furthermore, there should be business managers and administration masters in the field of management, organization in the field of health, economist master in the field of health economics, etc.

The shortcomings of the medical and non-medical profession in successfully counteracting the pandemic are being addressed through teamwork, using the closed group method, where teamwork seeks to shed light on the problem and provide an appropriate diagnosis and therapy to eliminate it. This method gives relatively good results in normal times, but in crises, such as a pandemic, it proved to be insufficiently successful, because in every crisis the fight against time is the biggest challenge, and winning that fight is possible if experts have (non) medical and other knowledge and skills. They should be able to make their own decisions, because in such circumstances it is almost impossible to gather a team to consider a particular situation.

In times of crisis, such as a pandemic, there is a huge deficit of knowledge and skills in crisis management. This job is mostly done by medical experts who do not have basic knowledge of management, ie crisis management, which is natural, because this area belongs to the sphere of management and organization, which is marginalized in medical studies. Insisting and pointing out that it is wrong to “pull” a top medical professional, such as a surgeon, out of the operating room where he achieves excellent results and appoint him director of a healthcare center, or director of a hospital or clinical center, was confirmed

in the pandemic. The top experts of medical subsystems proved to be inadequate in responding to simple questions posed by the pandemic. Therefore, the solution is to appoint people who have been trained in management and organization as directors of certain healthcare institutions, namely experts in the field of administration, ie managers, or medical experts who have completed master's studies in the field of management and organization.⁵

The COVID-19 pandemic is certainly the most complex crisis, because it deals with saving people's lives and health. In this pandemic the crisis staffs, directors and other managers face the problem of time, lack of resources such as: special rooms, covid clinics and covid hospitals, lack of respirators, medicines, protective equipment, but also reserve personnel in case all medical settings are thrown out of the "function" due to infection. As the crisis progresses, the number of infected people increases, and the existing health capacities, with their capacities, are not able to respond to the increased number of infected people. That is why it is necessary for crises to be managed by professionals who have been trained in crisis management. These are experts who generalize individual experiences from different fields which can be applied to mass health crises. Together with the director of the medical profession and the master of management and the manager for crisis situations, they can successfully manage pandemics.

Therefore, like the functioning of military organizations, in healthcare systems there should be normative acts that regulate the functioning of the system in normal times and the so-called "War (crisis) plan" which is activated in the event of a pandemic. A good example of this is the functioning of air transport where pilots and other staff on the plane are trained to act in emergency situations. Before the departure of each plane there is a review of the actions of passengers in crisis situations. Or, the functioning of cruisers in the tourism industry. It is known that the staff and passengers on this special ship are trained every week; this training indicates the details and actions to be taken in case of an emergency. In that way, the readiness of the system to respond to crisis situations is checked, the risk assessment of certain actions is performed, etc.

Mass health crises expressed through epidemics, pandemics, endemics and other forms, leave especially great negative consequences and impacts on the population, after they end, than it is with other crises: economic, financial, natural disasters (although the health crisis is also a natural phenomenon). This especially refers to the social dimension of the pandemic, because it is related to numerous restrictions, prohibitions, sanctions, etc. in which people, including students, are forbidden to gather and socialize in larger groups, so that these gatherings can be performed according to certain rules from the application of appropriate measures. Economic - financial, or other crises and their consequences after the end are brought back to normal relatively quickly and the consequences are less or less felt for a longer period of time after their end. In a pandemic, the socialization of

5 Radosavljević, Ž. et al., „Nužnost profesionalizacije i redizajniranja menadžmenta zdravstva Srbije“, u „Profesionalizaciji menadžmenta u zdravstvu kao uslov povećanja uspešnosti“ - Tematska monografija, Fakultet za poslovne studije i pravo, Beograd, 2016. str. 9-28)

man and society in general is a more difficult and long-term process, which leads to the conclusion that after the COVID-19 pandemic, the so-called post-pandemic pandemic will occur that will be more complex compared to other crises.⁶

2. PARCIALIZATION OF MEDICAL KNOWLEDGE AS A CAUSE OF INADEQUATE RESPONSE TO A PANDEMIC

It is important for epidemiology to reduce the knowledge gap between individual medical professions. It is known that specialization has increased labor productivity and that the complexity of the system requires the engagement of special experts who can answer specific and special problems. However, the partialization of scientific knowledge is dangerous, because no profession sees a total problem, but only a problem highlighted by its competencies. Accordingly, each specialist provides a solution that eliminates part of the problem related to his profession, which often does not have to correspond to the solution at the level of the whole organism. This is confirmed by the following statement: "Chronic uncertainty that dominates health systems and business organizations today causes a new way of thinking and a probable model for creating solutions in the minds of strategists."⁷

This imposes the need for pandemic managers to "redefine the company's critical dynamic capabilities based on new knowledge structures and knowledge competencies." In this way, it is possible to "reduce overall uncertainties and risks by focusing knowledge dynamics on knowledge sharing, organizational learning, increasing the flow of knowledge online and the flow of knowledge to consumers and patients."⁸

Although it is known what is medical and what is non-medical knowledge, it should be said that non-medical knowledge can also be a problem in the COVID-19 pandemic. For example, the problem of washing medical uniforms of health workers is trivial at first glance, but it shows that there are no unified views on this issue. "A previous study in the UK suggested that 4-32% of nurses did not follow the rules for washing medical equipment, which is a risk in controlling the infection. It is a matter of knowing the duration of washing, the temperature at which it is washed, whether medical equipment is washed in covid hospitals or in the apartments of medical staff, solving the issue of tax relief, drying, etc. The question is why this problem was not solved in normal conditions, so that the medical staff knows the answer to a certain situation."⁹

6 Radosavljević, D. et al.: „Post-Pandemic Pandemics with regard to Serbia“, Internacionalna thematic proceeding: C-19 Pandemic crisis management a non-meical approach, Fakulty for information technology and engineering, Belgrade, 2020. str. 351-352.)

7 Murgatroid, S.: „How to rethink tkhe future, Making use strategic foresight, Alberta, Kanada: Collaborative Media Group Inc, 2015.).

8 Argote, L: „Organizational learning“, Creating, retaining and transferring knowledge, Njujork, Springer, 2013.).

9 Oven, L. et al: Health care worker knowlwdge and attitudes towards uniform laundering during the COVID-19 pandemic, PubMed.gov., 29. Decembar, 2021.).

3. NON-MEDICAL MEASURES IN THE FIGHT AGAINST THE COVID-19 PANDEMIC

From the beginning of the COVID-19 pandemic crisis to the present day, there is not enough research on the consequences of the pandemic. Existing research on the consequences is limited to a few developed countries, ie those that have a developed information system. Research on the causes of certain pandemics, such as job closures, school closures, restrictions, bans, etc., was particularly lacking. The reasons for this are explained in the first place in the following way: in the pandemic, saving people's lives and health comes first. The research should be done after the end of the crisis, with a "cold head". Many things are better seen from a distance, ie when some time has passed.

Research in developing countries, ie countries in transition, was particularly lacking, and if it exists, it is not available to the public.

The crisis of the COVID-19 pandemic has more or less affected the whole world. The results of the infected, the dead, the sick vary from country to country. Some countries have been successful in preventing death, while others have been less successful. This is conditioned by various government, economic, health and other policies, but also cultural characteristics, in respecting and implementing the prescribed measures. In order to formulate appropriate policies well, it is necessary to have a quality information system. The thirteen metrics used to calculate the index of principle in policy making are the following:¹⁰

- Closure of schools,
- Closing jobs,
- Cancellation of public events,
- Restrictions on public gatherings,
- Closure of public transport,
- Requirements for staying at home,
- Public information campaigns,
- Restrictions on internal movements,
- International travel controls.
- Testing policy,
- Scope of contact tracking,
- Extent of using face masks, and
- Vaccination policy.

The index for any parameter is calculated as the average value of thirteen metrics, each of which has a value between 0 and 100. "A higher result indicates a stricter answer, ie. 100 = the strictest answer. If policies differ at the sub-national level, the index is presented as the level of response of the strictest sub-region. " It is important to note that the mentioned index does not measure or imply the adequacy or effectiveness of the country's

10 Hale, T., Petexerik, A., Kira, B., Angrist, N., Phillips, T., i Vebster, S.: Coronavirus Government Response Tracker, OkCGRT. Kojim upravljaju istraživači sa Blavantik School of Government University in Oxford

response. A higher score does not necessarily mean that a country's response is "better" than others with a lower index."

All indices are simple indicator processes of individual components, and are calculated according to the following formula:

(1)

The values from the above formula are as follows:

- K = Number of component indicators in the index,
- I_j = is the result of a sub-index for an individual indicator

Based on this index, each country can establish its own rank of success in the fight against COVID-19, provided that the data obtained from public health institutions are accurate.¹¹

It is important to state that each of the mentioned measures does not act in isolation, but is in mutual causal relations and relationships. This creates a large number of connections and relationships; it is difficult to determine where one cause or effect begins, where it ends, etc. That is why the measures and restrictions adopted by governments should be viewed from a holistic point of view, ie from the point of view of their relationship within a national community, but also their relationship with the environment in which the country is located. Of these measures, 7 measures that have the greatest impact on the success of the fight against the COVID-19 pandemic will be further addressed.

3.1. "Closing down of schools" as a measure in the fight against the COVID-19 pandemic.

Closure is probably the first measure applied in the past in the fight against mass health infections. In the COVID-19 pandemic, it was applied more or less globally, with different beginnings of this measure, in different time durations and with different outcomes.

In developed countries, the closure of primary and secondary schools was one of the first measures in the fight against the COVID-19 pandemic. For example, Germany, through its health measures of seven measures, which it introduced at the end of February and in March, was a measure of "closing schools". Namely, "schools and institutions have been closed, and the government has issued recommendations for social distancing."

The closure of primary and secondary schools in developed countries lasted 7-8 weeks. Some countries had postponed this measure, or introduced extended weekends, holidays, etc. in order to reduce the concentration of students in schools. The measures that were adopted were not consistent, ie clear, because it was often claimed that masks should be worn in all situations, while others assumed that they should be worn indoors, ie at events with a larger number of people, etc. According to research on learning outcomes in primary and secondary schools, it was determined that the pandemic had a negative impact on the results of the teaching process, especially when it comes to mathematics, which is expected, because mathematics requires mentoring and guidance of students by

11 Riči, H. et al: „Policy Responses to the Coronaviruy Pandemic“

teachers. The transition to distance learning makes mentoring in this subject impossible, which was largely the responsibility of parents, who could not provide adequate assistance to students in the upper grades of primary and secondary schools.

The crisis of the pandemic in the closure of primary and secondary schools has shown a special negative outcome on the socialization of schools, ie students, teachers and the reduction, ie the difficulty of communication with parents. This is likely to have a negative impact even after the pandemic crisis is over.¹²

3.2. Job closure as an indicator of the success of the fight against COVID-19

Job closures as a measure to combat COVID-19 have been applied differently. Some countries have introduced it in all areas of work, while others have applied selective measures, or prescribed special protection measures in the workplace and in the organization in general. For example, “two countries have different intervention strategies and control goals. “China has adopted a blockade strategy, while Germany has won a restriction and then a blockade strategy.” This stemmed from the different goals set by both countries. While China has set the goal of eliminating the virus through its policies and strategies, Germany has set the goal of protecting high-risk groups. Common to the measures of both countries was the view that “severe blockades were a key means of controlling the source of infection, and improving the ability of the medical response is an important way to reduce the mortality rate.”¹³

Countries and organizations that decided to close sought a balance between business and sustainability and protection of life and health of employees, with numerous problems and reactions of employees, but also legal threats from employers, and often from the state, through inconsistent and often inappropriate ordinances, laws, decisions, recommendations, etc. In other words, in some countries, when the intensity of the virus reached its peak, liberal measures were adopted, ie the smallest job closures. And vice versa.¹⁴

It is evident that the closure of jobs during the COVID-19 pandemic from March 31, 2020 to March 31, 2022, was different and was diversified into: No measures, Recommended, Required for some, Required for all but key workers. It should be borne in mind that mandatory closure means if at least some of the national regions had to be put under closure.

12 See more in: Anđelković, M. et al.: Upravljanje pandemijom CORONA-19, Fakultet za poslovne studije i pravo, Beograd, monografija, 2020. 60-63).

13 Varga, Z. et al.: „Endothelial cell infection and endotheliitis in COVID-19, Lancet, 2020, p.395.).

14 See more in: „Oxford COVID-19 Government Response Tracker, Blavatnik School of Government, University of Oxford – je zatvaranje radnih mesta tokom pandemije COVID-Last update 31. mart 2022. 9.12. (London time).

3.3. Cancellation of public events and restriction of public gatherings

Events are understood as gatherings of people of different types and numbers of people, and they refer to: sports, cultural, recreational, scientific to religious and other gatherings of people. Depending on the number of people, we talk about: mega events such as the Olympic Games, world, continental, or regional events, medium or micro events, such as local and others. During the crisis of the COVID-19 pandemic, some countries banned these gatherings, based on the theory that gatherings of people are risky places to become infected. Due to the above, a large number of even mega events were postponed, while others were held in controlled conditions. For example, out of seven intervention policies, Germany adopted a measure of postponing or canceling public events and gatherings as early as the end of February 2020, i.e. from March to early April, “nearly 10 major fairs have been canceled or postponed, religious groups have banned worship, and many professional sporting events have been canceled.”¹⁵

Thus, different countries had different attitudes towards public gatherings, which is expressed through their health policies. To measure the limitations of public gatherings, the parameters of the size of public gatherings are used, namely: limitations of gatherings above 1,000 people, gatherings between 500-1000, Gatherings between 100-500, gatherings between 10-100 and gatherings of up to 10 people. There are countries that did not have restrictions on public gatherings. The fact is that although the rallies were controlled, the ban was not consistently respected, which partly politicized the pandemic and largely influenced the emergence of the anti-vaccination lobby, as people wondered how it was possible to hold concerts in the presence of several thousand people and ban work of small business in the field: catering, crafts, hotels, mini bars, bookmakers, etc.

In the Republic of Serbia, the measures of the crisis headquarters showed illogicality and inconsistency in prohibitions and restrictions. Some gatherings, although restricted or banned, have been shown to be held, such as sports competitions, election campaigns, recreational, cultural and other events. The problem is that the citizens did not adhere to these restrictions, which indicates the need to adopt those restrictions that can be implemented and controlled, and work on creating a national culture that will respect the measures of restrictions in the pandemic, brought by crisis and other headquarters.

3.4. Closure, restrictions and prohibitions related to houses and apartments

One of the least logical measures prescribed by the crisis headquarters are the restrictions on the movement of citizens and the ban on leaving the house, ie the ban on walking, even with those who live in the same residential area. Here, the measurement can be established according to the following parameters: without restrictions and prohibitions,

15 Džang, J.et al., „Policy disparities in response to the first wave of Covid-19 between China and Germany“, BMC-International review for Equity in Health, 20, 25. May 2021. Article number 86 (2021)-„Seven non-drug interventional policies in Germany“, Table 2.

recommendations not to leave the house, necessary exits, prohibition to leave the house or apartment. Within the above, it is possible to measure the time of imprisonment and prohibitions: for seven days, fifteen and more than fifteen days. A review of the world map shows that most of the world in the pandemic did not introduce bans on leaving the house, ie on movement.¹⁶

3.5. Usage of face masks

The first measure introduced by the countries where the pandemic occurred was the use of masks and protection of the face, ie respiratory organs, so that the virus would not find its way to the organism. Some countries have adopted measures through crisis headquarters measures: without a policy regarding wearing masks, recommended measure, mandatory measure in certain areas and situations, obligatory in all situations outside the home where there is a grouping of a large number of people and obligatory outside the home in each moment.¹⁷

This measure of crisis headquarters is problematic, because it cannot be effectively controlled, especially in countries with a high level of democracy which do not have a culture of acting according to the measures prescribed by the crisis headquarters. However, it turns out that countries, as the pandemic intensified, changed their attitude towards masks in the direction that people used and still use masks, when it is not obligatory. Nevertheless, a linear measure of wearing a mask is not justified, because it should be mandatory for the elderly and people with associated diseases, while younger people with low transmission of the virus should not be prescribed, or may be at the level of recommendations. It is evident that Asian countries use masks and that it has become a part of their culture, that is, a part of their clothes, because Asians wear masks outside the pandemic, in order to protect themselves from excessive pollution. In other words, Asians wear masks in Europe, in healthy environments, on vacation, etc. which is a mitigating circumstance that the prescribed measures of the crisis headquarters are respected.

3.6. Public transport and crisis headquarters measures

One of the more controversial issues regarding the place of infection is public transport. It is marked as potentially the largest place of infection in Serbia. Therefore, restrictive measures have been taken regarding the number of passengers who can be on the bus, the measure to keep every other seat free in order to make a physical distance, to use masks in buses, disinfect them, etc.

However, in a pandemic, crisis headquarters should reduce the need to use public transport, which is otherwise burdened by the number of passengers in large urban

16 Oxford COVID-19 Government Response Tracker, Blavatnik School of Government, Univrsity in Oxford, 2. april, 2022.).

17 Anđelković, A. et al.: Iskustva pojedinih zemalja u borbi sa COVIDOM-19^e, Fakultet za poslovne studije i pravo, Beograd, monografija, 2020. str. 167-189.).

areas. Anyhow the public transport is obsolete and depreciated to such an extent that it is not safe for passenger transport under normal conditions. It turns out that during the pandemic, the state, through financial and tax legal frameworks, required citizens to use public transport to and from work, and that they must prove it in order to collect these costs from employers. Those who could not document that they used public transport could not even charge these costs.

It is clear that the state and crisis headquarters should discourage the use of public transport and direct arrival and / or departure from work on foot, use of scooters, bicycles, roller skates and other alternative means of transport, and that employers pay their transportation costs without proving these costs. Multiple benefits would be achieved here. The first is that the need to use public transport would be reduced. The second is that citizens would spend more time in the air. The third benefit is that the citizens, ie employees, would use their mentioned alternative methods to strengthen their fitness and resistance to the virus. The fourth benefit is that by reducing public or city transport, air pollution is reduced, which increases the risk of weakening the body's resistance, and thus a greater possibility of infection with the COVID-19 virus.

3.7. Medical response to the COVID-19 pandemic

At the time of the pandemic, the medical profession had improved its ability to fight the COVID-19 virus. It is shown that the success of the medical profession, especially the epidemiological infrastructure, was successful to the extent that the non-medical profession was more successful in preventing infection, which would reduce the pressure on health systems, ie the medical profession. In China, 16 mobile hospitals have been built in a relatively short time in three-series cabins that offer over 13,000 beds and receive more than 12,000 patients in the city of Wuhan.¹⁸

The medical response to the COVID-19 pandemic crisis can be seen relatively well through two elements: a testing policy to diagnose the patient's condition and determine whether he is infected, and a vaccination policy as a medical tool in the treatment and cure of COVID-19 virus infection.

3.7.1. The testing policy

Testing policies showed the least differences between countries, meaning that countries at the global level generally agreed on the need to test citizens to determine the symptoms of COVID-19 infection. It is evident that the countries, ie crisis staffs, applied four basic policies, ie measures, as follows:

- No testing policy,
- Testing only for those suspected of being infected,

18 Vuhan 16 square cabin hospital all rest cabin“, <https://doi.org/101002/brb3.1745.>), Pristupljeno 10.03. 2022.

- Obligation to test all,
- Public testing, available to asymptomatic individuals.

The testing showed different approaches, in terms of location, methods, testing obligations, use of testing tools, etc. Crisis staffs used various tests based on the decisions of national public health institutions, in order to determine the infection as soon as possible and take appropriate measures. Electronic sending of test results, electronic calling, establishment of a single information system on the time of testing, revaccination, etc. have made the job of testing easier. However, there is an obvious lack of application of modern technologies that can be used to determine the degree of infection of individuals and warnings through sound signals that someone is infected and that they should not be approached. This software solution should be prepared in normal conditions, in order to be activated in case of need and thus reduce the burden on the health system in this regard.

3.7.2. vaccination as a measure to combat the pandemic

One of the most effective measures prescribed by the crisis headquarters was the obligation to vaccinate the population. Almost all countries in the world have seen a way out in the fight against viruses and pandemics in vaccines. The problem turned out to be that there is no cure for the COVID-19 virus, so in the initial stages, the method used from several centuries ago was applied, ie. isolations, prohibitions, restrictions, etc.

When the vaccine was found, the problem was the (in) ability to procure it, either due to lack of financial resources, or because economically stronger countries managed to get vaccines by paying for them even more, ie by advancing purchases. On the other hand, poor countries were not able to get the vaccine at all, or they arrived with a long delay. Here, global solidarity “failed” the test, because each country tried to provide vaccines, as well as respirators, often procuring larger quantities of vaccines than it was initially needed. Some countries had surpluses, which they later destroyed, instead of ceding to other countries.

The discovery of the vaccine also led to anti-vaccine movements, which challenged the reliability of vaccines, claiming that they were found quickly, that they were not tested on a sufficient number of patients, and often claimed that they were commercial goods in which the pharmaceutical industry sought to make a profit rather than it is an effective drug against the COVID-19 virus. It turned out that there are grounds for such suspicions, because pharmaceutical companies recorded a sudden increase in their turnover, ie profit, during the pandemic. Associated with medical lobbies, the pharmaceutical industry did not deliver vaccines to poor countries, or did so with great delay.

Regardless of the above, the fact that the doubt in the reliability of the vaccine as a drug against COVID-19 is not justified, because science has advanced to such an extent that the most complex drugs, and consequently the vaccine can be found, tested, verified and recommended for use in a much shorter period than in the past, when the vaccine took a decade.

Accordingly, countries at the global level in terms of vaccine availability have been diversified into several groups:

- Countries that did not have vaccines available,
- Availability of vaccines for at-risk groups: the elderly, the sick, clinical workers, old people's homes,
- Availability of another vaccine for at-risk groups,
- Availability for all citizens by priorities,
- Universal, ie accessibility to all citizens.

During the pandemic, developed countries provided the required amount of the first and second and third vaccines, respectively, which were mostly used.

The Republic of Serbia, ie the crisis headquarters, provided sufficient quantities of vaccines and other medical equipment in the first phase of the pandemic, which had a positive effect on reducing the number of infected, dead and sick. The problem that objectively appeared was the price at which the vaccine was procured, and the transparency of those procurements. However, it should be borne in mind that in a situation where each country is trying to get vaccines as soon as possible in order to put them into operation as soon as possible, the price and transparency of procurement has a secondary place. However, after the end of the pandemic, this should be made more transparent, and even if it was procured at high prices, it should be understood that life is still the most expensive and that the price and other payment conditions cannot be higher than human life and health.

4. CONSEQUENCES OF “CLOSURE” DURING THE COVID-19 PANDEMIC CRISIS

Previous analysis has shown that “closing” jobs, organizations, restrictions and bans has been one of the most effective ways to prevent the spread of health infections. This is the result of centuries of neglect of the pandemic as a danger to human civilization.

Although “closure” as a preventive non-medical measure saved a large number of lives, diseases and more, it has left and will continue to leave great negative consequences for the economy, but also for the social dimension of people and psychological diseases that will be treated for a long time, at the same time negatively affecting the productive capacity of the nation, bringing the national and world economy into a state of serious contraction. This is confirmed by the relevant world institutions. According to World Bank forecasts, the global economy will shrink by 5.2% this year (2020), the deepest recession since World War II, with most of the economy experiencing a decline in output per capita since 1870. and that per capita income will decline in all regions, according to the World Bank in its June 2020 Global Economic Prosperity.¹⁹

It should be borne in mind that these forecasts are based on the situation regarding the pandemic in the first half of 2020, when it was calculated that the pandemic would

19 COVID-19 to plunge Global Economy into Worst Recession since World War II, Press Release, The World Bank, 8.06. 2020.).

be completed by the end of 2020. Recent forecasts suggest that the recession as a result of the pandemic will be even greater and that it will last longer than predicted. It turns out that today, instead of covid hospitals and other pandemic infrastructure, hospitals for the treatment of mental illness should be built with professional staff who will be able to cope with the consequences of the COVID-19 pandemic.

It is estimated that the negative results will be different in individual countries. The biggest blow of the pandemic to social and economic flows will be felt by the countries that were most affected by the pandemic, ie “closures” and where the countries relied on the tourism and hotel industry, foreign trade, transport, air transport, ie the so-called vulnerable branches in each crisis, and consequently in the health crisis.

Thus, the pandemic killed millions of people and reduced their working ability of hundreds of millions. Millions of people lost their jobs due to the closure, and thus without the opportunity to meet their basic needs. Everything says that in the future, crises of different types will be more frequent and bigger. Democracy and solidarity are threatened around the world, especially in countries with a strong tradition and democratic potential.

The other side of the negative consequences that the crisis of the COVID - 19 pandemic will leave is on mental health, ie on the human psyche. Research shows that by reducing the intensity of the pandemic, a post-pandemic pandemic occurs, which refers to an increase in the anxiety of the population, even in developed countries, with a stable and strong health system. “According to a February poll by the American Psychological Association, nearly half of Americans said they had been feeling anxious for the past two weeks.” This is confirmed by the findings of several published books on the consequences of the pandemic, which “offer guidelines for re-examining the problem of anxiety and testing new strategies to reduce it, ie to put anxiety for productive purposes.”²⁰

The question that justifiably arises is whether the world has learned anything from the crisis of the COVID-19 pandemic, that is, whether medical and economic science has come to certain scientifically confirmed knowledge from this crisis?

It should be borne in mind that economic, social, mental, moral and other problems produced by the pandemic will not be solved by themselves. These problems will not be solved by individuals, not even the pharmaceutical and medical industry, but by the integrated world on a global level. Science, both medical-pharmaceutical and non-medical sciences, together with the World Health Organization, as well as national public health must cooperate.

RESUME

The fact is that the world was unprepared for the pandemic, both in material and human, informational, financial and other potentials. The reason for this is that pandemics are understood as occasional and temporary crises, ie that they have occurred in the past at ten-year intervals. That is why not only investments in health covid infrastructure

²⁰ Gavett, G.: Anxiety When There is a Lot to be Anxious About“, HBR, Maj-Jun, 2021. p.2).

were lacking, but also in the education of narrow medical specialties that would respond to the challenges imposed by mass health infections. The legal framework governing this type of crisis in most countries has been inadequate, outdated, and controversial in many countries. If we add to that the inertia of the World Health Organization, and its decades-long non-functional activities, as well as inadequate public health institutions for public health, we get a clear picture of the circumstances in which the world faced the COVID-19 pandemic.

From the above, it can be concluded that non-medical measures in the fight against the COVID-19 pandemic are not only effective, but also represent preventive measures in preventing mass health infections. Different countries have applied different non-medical or non-pharmaceutical measures, such as closing down and shutting down organizations, banning schools and switching to remote work in various forms, banning or restricting public gatherings, postponing or canceling events, prescribing measures when using public transport, etc. These and other measures do not work in isolation, but each of them more or less affects the others, which creates a large number of interdependent and causal relationships and links.

This paper analyzed 7 non-medical measures that are mainly taken as metrics in assessing the effectiveness of their use in the fight against the COVID-19 pandemic, as well as two medical measures, ie testing and vaccination that were supposed to reduce mortality, but whose success is largely was conditioned by the effectiveness of non-medical measures. The problem of partialization of medical knowledge, lack of epidemiology and close specializations (virologists, immunologists, etc.) was also pointed out, as well as the need to have universal knowledge in crisis management of mass health infections.

The examples of China, the country where the COVID-19 virus first appeared, but also the example of Germany in the first wave of the crisis have shown that they have different goals and that they have formulated different health policies and strategies, ie measures. What both countries have in common is that they had similar measures in the initial phase of the fight against COVID-19: blockades and restrictions, and improvement and increase of the capacity for treatment of patients, in order to reduce the mortality rate.

The Republic of Serbia, like other countries, has taken appropriate measures to combat the dangerous pathogen. In the first days of the appearance and detection of the virus, Serbia responded relatively well to the crisis, with the introduction of non-medical and medical measures. This paper focuses on the crisis headquarters in Serbia that managed the pandemic crisis, ie its number, structure, methods of work, because numerous irregularities have appeared on these issues. It turns out that the crisis headquarters in the management of the pandemic had the least medical professions, ie that the number did not exceed 20% of the total number of members of the crisis staff. We also analyze the competence of the crisis staff, the way of working and methods of making crisis decisions, meeting time, preparation for work and functioning of the crisis staff, etc. Finally, neither the number nor the structure of the crisis headquarters is important, but whether and to what extent it participates in making epidemiological and other decisions. In the case

of the Republic of Serbia, the headquarters most often confirmed decisions already made outside the crisis headquarters, which is known in autocratic management as a way of making decisions.

The conclusions and established laws in the crisis management of the COVID-19 pandemic can be applied to the management of other crises, which gives them a universal characteristic, which is logical, because each crisis has some specific, but also common characteristics. In each crisis, and especially in mass health crises, the most important thing is to know what is most important, and that is to prevent the crisis, and when it fails, to end it as soon as possible, ie to turn possible threats and dangers into opportunities.

REFERENCES

1. Alvarez, F., Argente i drugi: „A simple planning problem for Covid-19 lockdown“, Covid economics14. Pp. 1-32)
2. Anđelković, A. et al.,: Iskustva pojedinih zemalja u borbi sa COVIDOM-19“, Fakultet za poslovne studije i pravo, Beograd, monografija, 2020. str. 167-189.).
3. Anđelković, M. et al.,: Upravljanje pandemijom CORONA-19, Fakultet za poslovne studije i pravo, Beograd, monografija, 2020. 60-63).
4. Argote, L: „Organizational learning“, Creating, retaining and transferring knowledge, Njujork, Springer, 2013.).
5. COVID-19 to plunge Global Economy into Worst Recession since World War II, Press Release, The World Bank, 8.06. 2020.).
6. Džang, J.et al., „Policy disparities in response to the first wawe of Covid-19 between China and Germany“, BMC-International review for Equity in Health, 20, 25. May 2021. Article number 86 (2021)-„Seven non-drug interventional policies in Germany“, Table 2.Oxford COVID-19 Government Response Tracker, Blavatnik School of Government, Univrsity in Oxford, 2. april, 2022.).
7. Gavett, G.: Anxiety When There is a Lot to be Anxious About“, HBR, Maj-Jun, 2021. p.2).
8. Hale, T., Petexerik, A., Kira, B., Angrist, N., Phillips, T., i Vebster, S.: Coronavirus Government Response Tracker, OkCGRT. Kojim upravljaju istraživači sa Blavantik School of Government University in Oxford
9. Malloy, C.: Case Study: „What Role Should a Company Play in a National Crisis, HBR, Maj-Juni 2021. p. 7.)
10. Murgatroid, S.: „How to rethink tkhe future, Making use strategic foresight, Alberta, Kanada: Collaborative Media Group Inc, 2015.).
11. Oven, L. et al: Health care worker knowlwdge and attitudes towards uniform laundering during the COVID-19 pandemic, PubMed.gov., 29. Decembar, 2021.).
12. Pajic, S. et al. „Definisanje i razgraničenje pojmova“ in the monograph: „Upravljanje pandemijom Corone-19-Nemedicinski pristup, Fakultet za poslovne studije i pravo, Beograd, 2020. str. 29-31.

13. Radosavljević, D. et al.,: „Post-Pandemic Pandemics with regard to Serbia“, Internationalna thematic proceeding: C-19 Pandemic crisis management a non-meical approach, Fakulty for information tehnology and engineering, Belgrade, 2020. str. 351-352.)
14. Radosavljević, Ž. et al., „Nužnost profesionalizacije i redizajniranja menadžmenta zdravstva Srbije“, u „Profesionalizaciji menadžmenta u zdravstvu kao uslov povećanja uspešnosti“ - Tematska monografija, Fakultet za poslovne studije i pravo, Beograd, 2016. str. 9-28)
15. Riči, H. el al: „Policy Responses to the Coronaviruy Pandemic“
16. Taleb, N.N.: „The black swan: The impact of the highly improbable“, London, UK: Penguin Books, 2007.)
17. Varga, Z. et al.,: „Endothelial cell infection and endotheliitis in COVID-19, Lancet, 2020, p.395.).
18. Vuhan 16 square cabin hospital all rest cabin“, [https://doi.org/101002/brb3.1745.](https://doi.org/101002/brb3.1745)), Pristupljeno 10.03. 2022.
19. „Oxford COVID-19 Government Response Tracker, Blavatnik School of Government, University of Oxford – je zatvaranje radnih mesta tokom pandemije COVID-Last update 31. mart 2022. 9.12. (London time).