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International View at Health: World after Pandemic COVID-19

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B – Data collection;
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Abstract

Background and Aim of Study: *Nowadays the whole human race is undergoing a crisis caused by the COVID-19 pandemic, whose duration and consequences are difficult to forecast. In the face of the real danger we begin redefining conceptual bases of mankind, as well as the role of the state as a guarantor of the health safety of its citizens and the world community. The aim of the study: to explore the influence of different approaches to solving the pandemic problem in Ukraine, Singapore, and China on the indicators of COVID-19 dynamics.*

Material and Methods: *A complex of methods was used: theoretical – factor-criterion analysis, abstraction, comparison, synthesis, systematisation, generalisation; empirical – observational methods (systematic observation); methods of mathematical analysis.*

Results: *The study of the indicators dynamics showed that different approaches to solving the pandemic problem in Ukraine and Singapore had significant differences. Compared to Singapore in Ukraine for 4 months in 2020, the number of COVID-19 cases is 22.5 times higher, the number of recovered is only 6.5 times higher, and the number of deaths is multiple times higher: 2908.5 times. The connection between the dynamics of the COVID-19 pandemic (cases, recovered, deaths) in Ukraine, Singapore, China and the measures taken by the governments of these countries, as well as the personal responsibility of the population, was determined in the study.*

Conclusions: *The infection which appeared in one country can transform into a global world problem in a matter of seconds. Responsible policy and practice instead of manipulation and bureaucracy are able to protect people of the risk group and create favourable conditions for life activity of those who do not belong to this group. Important factors in successfully overcoming the pandemic is the personal responsibility of citizens and health culture of the population.*

Keywords: *COVID-19, pandemic, indicators, dynamics, health culture*

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Introduction

The world which we lived in, has changed for several months of 2020, and will never be the same as before.

Nowadays the whole human race is undergoing a crisis whose duration and consequences are difficult to forecast. Even model developers and computer specialists cannot give precise prognoses of the way further events related to the COVID-19 pandemic will develop.

Science and technologies have turned to be powerless not only in terms of resisting this pandemic but also in terms of foretelling how the events will change. The problem was that model developers did not have any idea of how the virus would behave in natural conditions. Modelling was based on the possibility to control the virus, i. e. control of the man as a virus' master but not of a virus as a virus molecule beyond the master.

Despite an extremely tiny size (there can be tens of millions of virus entities on one square millimetre (Koops, 2020) and a short life of SARS-CoV-2 Coronavirus, this period turned to be enough for its rapid spread around the whole world.

Undoubtedly this spread has been mainly caused by a man's significant role in it. But why have all the measures over people who carry this virus, proved to be low-efficient in confronting this threat? The infection that appeared on the territory of a sub-provincial town Wuhan in the province of Hubei in China, has grown from a local problem into the one of an international scope just for several months.

As we have mentioned China, for fairness' sake I should admit that namely China has demonstrated the highest indices in struggling COVID-19 spread and measures of giving medical assistance to the infected population.

Certainly, strict authoritarian government measures have produced a significant effect on resisting the spread of the COVID-19 pandemic in China. Still, the issues of how it is justified, what its efficiency is for an individual country and the world on the whole, are left to be analysed. Government policies in different states concerning administrative measures (starting with closing borders and finishing with work of national health systems) are necessary to be considered as well.

The aim of the study. To explore the influence of different approaches to solving the pandemic problem in Ukraine, Singapore, and China (from formal government measures to personal responsibility and health culture of the population) on the indicators of COVID-19 dynamics.

Materials and Methods

A complex of methods was used: theoretical – factor-criterion analysis, abstraction, comparison, synthesis, systematisation, generalisation; empirical – observational methods (systematic observation); methods of mathematical analysis.

Results

In the study of the quantity of those who have caught the disease, and recovered after it, and the indices of the death rate to demonstrate different strategies by struggling the COVID-19 pandemic, we based on the official data of Johns Hopkins University, Coronavirus Resource Center (2020).

To analyse the dynamics of the COVID-19 pandemic spread, I have chosen the country that I live in (Ukraine), and the country situated in the list next to Ukraine (Singapore), Tables 1–3.

Table 1. The COVID-19 pandemic indicators (June 28, 2020).

Position	Country	Number of cases	Number of recovered	Number of deaths
34	Singapore	43,246	37,163	26
35	Ukraine	42,932	19,350	1,121

Table 2. The COVID-19 pandemic indicators (July 1, 2020).

Position	Country	Number of cases	Number of recovered	Number of deaths
34	Ukraine	45,924	20,244	1,188
35	Singapore	44,122	39,011	26

Table 3. The COVID-19 pandemic indicators (October 28, 2020).

Position	Country	Number of cases	Number of recovered	Number of deaths
21	Ukraine	374,023	155,028	6,938
66	Singapore	57,987	57,883	28

We use the comparison method to analyse the data. This method assumes the calculation of deviations: relative (based on the growth rate) and absolute. The results of calculating the deviations of indicators in the comparative period (data in Table 1 and Table 3) are presented in Table 4.

Table 4. Results of calculating deviations of indicators in the comparative period.

Country	Growth rate, %			Relative deviation, %			Absolute deviation, people		
	Number of cases	Number of recovered	Number of deaths	Number of cases	Number of recovered	Number of deaths	Number of cases	Number of recovered	Number of deaths
Ukraine	871.2	801.2	618.9	771.2	701.2	518.9	331,091	135,678	5,817
Singapore	134.1	155.8	107.7	34.1	55.8	7.7	14,741	20,720	2

The analysis of the deviations obtained shows that the growth rate of the number of cases over four months was 871.2% in Ukraine and 134.1% in Singapore. The increase in the number of cases by country in absolute and relative terms, accordingly, amounted to 331,091 people or 771.2% (Ukraine) and 14,741 people or 34.1% (Singapore).

The growth rate of the number of recovered people during this period was 801.2% in Ukraine and 155.8% in Singapore. The increase in the number of recovered people by country in absolute and relative terms, accordingly, amounted to 135,678 people or 701.2% (Ukraine) 20,720 people or 55.8% (Singapore).

The growth rate of the number of deaths during this period was 618.9% in Ukraine and 107.7% in Singapore. The increase in the number of deaths in absolute and relative terms across countries, accordingly, amounted to 5,817 people or 518.9% (Ukraine) and 2 people or 7.7%.

Such a tendency indicates that over four months the number of cases in Ukraine is 22.5 times higher than the number of cases in Singapore. At the same time, the number of recovered in Ukraine exceeds Singapore only 6.5 times. And the number of deaths in Ukraine is multiple times higher than that in Singapore: 2908.5 times.

To analyse the overall dynamics of the COVID-19 pandemic in the world in 2020, as well as the comparative characteristics of the spread of infection in individual countries, we add the indicators of the country in which COVID-19 cases were first recorded – China.

Figure 1 shows the general dynamics of the COVID-19 pandemic in the world, Figure 2 – in Ukraine, Figure 3 – in Singapore, Figure 4 – in China, in 2020.

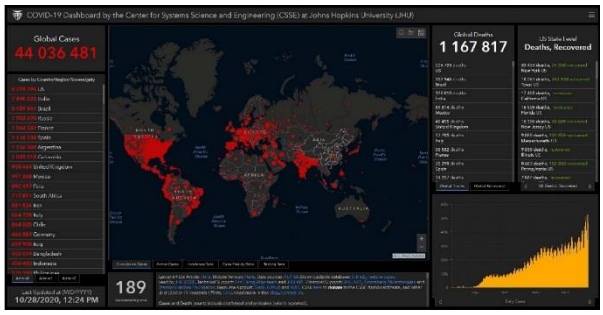

Figure 1. General dynamics of the COVID-19 pandemic in the world (for October 28, 2020). Courtesy: John Hopkins CSSE (https://gisanddata.maps.arcgis.com).

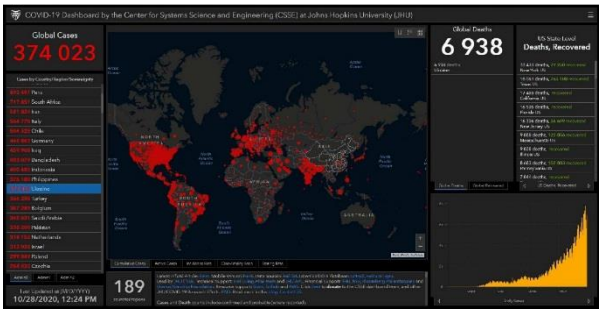

Figure 2. Dynamics of the COVID-19 pandemic in Ukraine (for October 28, 2020). Courtesy: John Hopkins CSSE (https://gisanddata.maps.arcgis.com).

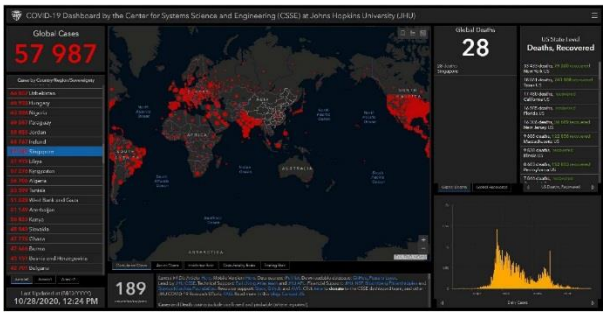

Figure 3. Dynamics of the COVID-19 pandemic in Singapore (for October 28, 2020). Courtesy: John Hopkins CSSE (https://gisanddata.maps.arcgis.com).

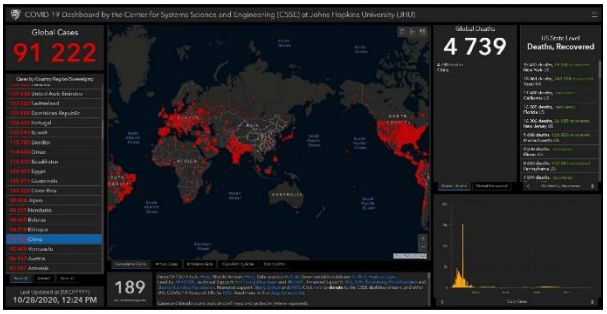

Figure 4. Dynamics of the COVID-19 pandemic in China (for October 28, 2020). Courtesy: John Hopkins CSSE (https://gisanddata.maps.arcgis.com).

The comparative analysis of graphs showing dynamics of the COVID-19 pandemic in Ukraine and Singapore, as well as China, gives us an idea about instability of this process (Figure 5).

The dynamics of indicators (the number of cases, recovered, deaths from COVID-19) in these three countries dated October 28, 2020, is presented in Figure 6.

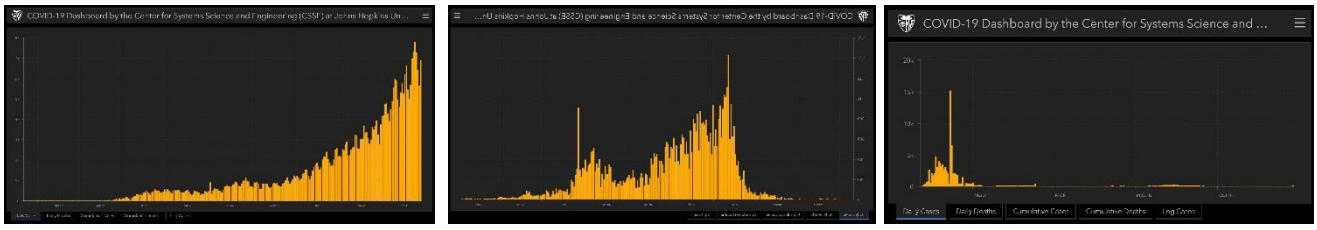

Figure 5. Dynamics of the COVID-19 pandemic (a – Ukraine, b – Singapore, c – China (for October 28, 2020). Courtesy: John Hopkins CSSE (https://gisanddata.maps.arcgis.com).

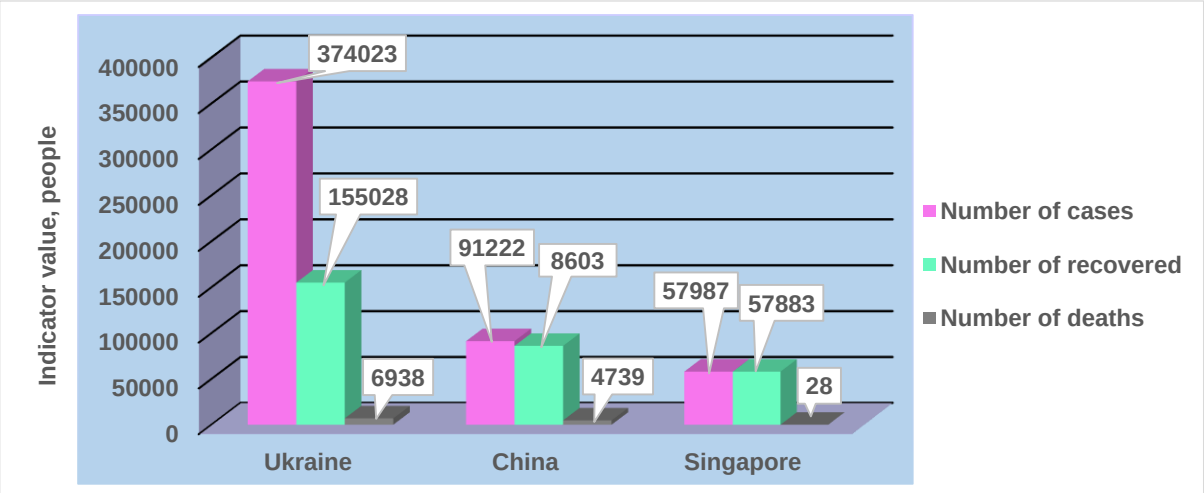

Figure 6. Dynamics of the COVID-19 by indicators: Number of cases, Number of recovered, Number of death in Ukraine, China, and Singapore (for October 28, 2020).

In Ukraine, the number of cases was 374,023 people; the number of recovered was 155,028 people, which in relative terms corresponds to 41.45%; the number of deaths reached 6,938 people or 1.85% of the total number of cases.

In China, the number of cases was 91,222 people; the number of recovered was 86,031 people, which in relative terms corresponds to 94.31%; the number of deaths reached 4,739 people or 5.20% of the total number of cases.

In Singapore, the number of cases was 57,987 people; the number of recovered was 57,883 people, which in relative terms corresponds to 99.82%; the number of deaths reached 28 people or 0.05% of the total number of cases.

Summing up, Ukraine has the largest number of COVID-19 cases (more than 4 times in comparison with China and more than 6 times in comparison with Singapore). As a result, we can assume a significant increase in the number of deaths among the sick population. In China, the factors influencing the pandemic are under control, despite the average level of recovered and the higher level of deaths among these countries. In Singapore, the factors influencing the pandemic are being kept under control to the greatest extent, which is characterized by the highest number of recovered, the lowest number of cases and the lowest number of deaths.

To determine the influence for the main factors on the number of recovered and deaths of the population with COVID-19 in 2020, we draw a diagram of the ratio of these indicators for three countries (Figure 7).

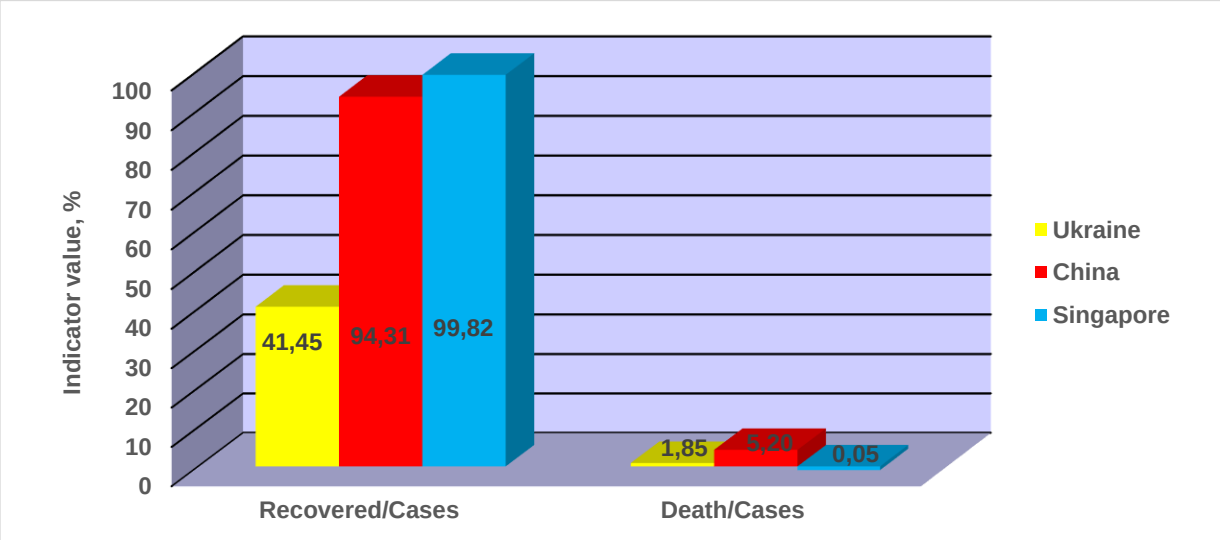

Figure 7. The ratio of the Number of Recovered to the Number of Cases, and the Number of Deaths from COVID-19 to the Number of Cases in Ukraine, China, and Singapore (for October 28, 2020).

It testifies the possibility to influence the speed of the COVID-19 pandemic spread.

In my opinion, there have been the following main factors: government measures, orientation at confronting COVID-19 spread, resources of the national health system as well as responsibility of the population of the country for prophylaxis and counteraction to the disease spread.

Discussion

In the face of the real danger we begin redefining conceptual bases of mankind, nation, state, family, individuum in dialectics: democracy – authoritarianism, technocracy – humanism, freedom of movement – observation, good health – disease etc.

In this regard, I would like to note the work by Kummitha (2020), who compared the Chinese government "techno-driven approach" to the Western governments "human-driven approach" used to control the COVID-19 pandemic. The author noted that Western governments were using technologies to inform, persuade and attain consensus instead of using them to discipline citizens.

Pirtle's work (2020) deserves attention, in which racial and socioeconomic inequities within the COVID-19 pandemic in the United States have been studied. In this regard, it should be noted the action of some officials, who, realizing the need for urgent action, sign Executive Order to protect immigrant and refugee communities during COVID-19 (Executive Order, 2020). In this case, we see an example of urgent and adequate measures by the US city authorities caused by COVID-19 in relation to the most vulnerable part of the population. As practice has shown, immigrants and refugees are a high risk group, and ethnic minorities "are a third" of patients infected with COVID-19 (Butcher & Massey, 2020; Croxford, 2020). Jon (2020) studied the issues of social justice and the different approaches of governments and city authorities to migrant workers, foreign students, and others. Public health policy and opportunities for older people in Italian nursing homes was described in the publication by Trabucchi and De Leo (2020). Wenham, Smith, and Morgan (2020) explored policies and public health efforts, as well as gender characteristics of vulnerability and mortality from COVID-19.

An important factor and an adequate response is the creation of target groups under the governments of countries prone to the pandemic, as well as women's representation in national and global COVID-19 policy spaces, such as in the White House Coronavirus Task Force (Press Trust of India, 2020).

I believe that we will still have to get deep reconsideration over the measures that have been taken or must be taken by the governments of different countries while fighting the pandemic spread, both on the territory of a certain country and in the world scope, as well as personal responsibility of the population to defend themselves and their surrounding from catching COVID-19.

October 4, 2020, scientists Kulldorff, Gupta, and Bhattacharya (2020) released "The Great Barrington Declaration", that assumed the so-called "Focused Protection". The authors criticized the current lockdown policies, which in their opinion: "… are producing devastating effects on short and long-term public health". Scientists claim that "The most compassionate approach that balances the risks and benefits of reaching herd immunity, is to allow those who are at minimal risk of death to live their lives normally to build up immunity to the virus through natural infection, while better protecting those who are at highest risk" (Kulldorff, Gupta, & Bhattacharya, 2020). We can discuss for a long while the human nature of this declaration, norms of social responsibility etc. But the undeniable fact is that the world has appeared to be not ready to new conditions. All countries have suffered: both with a high and low economy. Health systems of many countries have experienced a serious trial concerning efficiency of their activity, whose performance is indicated by the death rate of the population.

I have not made it a point of this article to research and substantiate statistically the data about COVID-19 spread in different countries, but instead have limited purposefully the methodology of this publication by the complex of theoretical and empirical methods for studying indicators for the dynamics of the COVID-19 pandemic in Ukraine, China, and Singapore. Nevertheless, it was enough to identify without any difficulty the difference in indices of infection, recovery and death of the population provoked by COVID-19 in these countries for 4 months of the year 2020.

In order to understand the reasons of such dynamics let us consider this situation in one of the cities of Ukraine – Kharkiv. On the 31st of October, 2020 the number of those who caught the disease in the city of Kharkiv, constituted 36,297 people. The quarantine of the maximum level was officially introduced in the city at that time. Medical establishments are working at the pick of their capacities, city hospitals are overloaded with the infected people by COVID-19.

The situation of COVID-19 spread is even worsened by recklessness of the municipal authorities, that not only are holding general local elections for the authority bodies at this time, but also clean the city streets, squares and parks using air-sweepers (Figures 8, 9).

Figure 8. Ukraine, Kharkiv, the city's central square (October 31, 2020): a – Cleaning of sidewalks and lawns; b – Pedestrians with a child in a stroller. Photo by the author.

Figure 9. Ukraine, Kharkiv, the city's central park (October 31, 2020): a – Cleaning of park alleys by a communal service worker; b – Pedestrians; c – Child. Photo by the author.

At the same time the majority of citizens do not follow the mask regime; visit catering establishments, parks, play-grounds; children of a primary school age are allowed to attend classes at school.

Let us remember the events in the town of Wuhan (China) at the beginning of 2020 for preventing COVID-19 spread, in order to make a clear comparison. There were built specialized hospitals (Figure 10) in a matter of days, special technical equipment, mist cannon trucks and street sprinklers (Figure 11) were used for disinfection of the city streets, the population was informed etc.

Figure 10. China, Wuhan, the Huoshenshan Hospital (February 2, 2020). Courtesy: XinhuaNews (http://www.xinhuanet.com).

Figure 11. China, Wuhan, operations on public areas with mist cannon trucks and street sprinklers (February 3, 2020). Courtesy: (http://www.xinhuanet.com).

Returning to Singapore, I should note that issues of responsibility of the population for prophylaxis of infectious diseases have been regulated for many years in the country at the legislative level. It is forbidden there not only to throw litter in the streets but also to spit and feed birds. The latter prohibition seems to be inhumane and even absurd at first glimpse. But it is stipulated by the fact that while pigeons are being fed, they can pick up dust by their wings at squares (Figure 12).

Figure 12. Information notice on prohibiting activities in Singapore. Courtesy: https://www.reddit.com

In my opinion blowing dust at squares and in the streets of the city which is overloaded with infected people is not the best idea for cleaning it. Hopefully it is just a stupid action of utility services. Still I have not been allowed by a moderator to publish my electronic petition on the site of the municipal authorities, concerning prohibition of such kind of cleaning squares and play-grounds for over six months. Thus since Ukraine is not Singapore and spits on the street sidewalks are considered to be ordinary matters, it is difficult to imagine how many people could be infected by workers of the utility services who were blowing leaves, litter and dust around the city.

So different approaches in policies, health system resources as well as responsibility of the population of the country in the period of the pandemic, give quite different results. On account of this we cannot state that for example the death rate from COVID-19 constitutes 1-3%. It is the same as to speak about an average temperature of patients in hospital. Thus, for one country the number of those who have died, constitutes 1.85% from the total number of people infected by COVID-19 (Ukraine), but for the other country it makes 0.05% (Singapore), that demonstrates the death rate which is by 37 times higher in Ukraine than in Singapore (see Table 3). These data also indicate the possibility to reduce the number of fatal cases from COVID-19.

We should learn our lesson from the current situation, become stronger and wiser. Now people have realised better the importance of the social health and individual health culture as an effective security measure from COVID-19.

I researched social health as an integral part of a personality health culture 16 years ago by describing the phenomenon of "Health culture", having substantiated theoretical, methodological and methodic aspects of the phenomenon "Health culture" (Melnyk, 2004; 2005). At that time some sceptics considered this idea to be artificial as they still restricted their theories by health components: physical, mental, spiritual. It may seem sad but namely the situation with COVID-19 has shown an important role of social health, as for an individual person in his connection with the surrounding world and the mankind on the whole.

For already many years (Melnyk, 2002; 2007; 2010; 2012; 2017; Melnyk & Sviachena, 2000) I have been stuck to the viewpoint that the most efficient means of preserving and improving health of the population is

formation of health culture by children starting with a primary school.

By forming children's health culture, we form the grounds for a cultural and healthy way of life, including the ability to resist the threats from infectious diseases. A number of psychic, social, demographic and other problems which exist in the society, could be eliminated by propaedeutic of health culture at a primary school.

The situation provoked by the COVID-19 pandemic has given us the possibility to trace our weak points and mistakes in the systems of education, health care and other fields, as well as to reconsider the role of the state and society at this difficult time.

It may seem to be a paradox, but healthy people and those who are beyond the risk groups, have become prisoners of the situation and thus have been punished for it. They have been forced to social distancing, isolation, various taboos and obligations, such as wearing masks, restrictions in public transport, prohibitions on attending educational institutions, as well as establishments providing social services and defense, catering places, sports and play-grounds etc.

Figures 13–14 illustrate measures that were taken by the government during the quarantine (from partial restriction to full prohibition on certain actions), and also dynamics of their cancel on the territory of Ukraine in 2020.

Figure 13. Measures of Confronting COVID-19 Spread on Territory of Ukraine (introduced since April 6, 2020). Courtesy: https://en.hromadske.ua

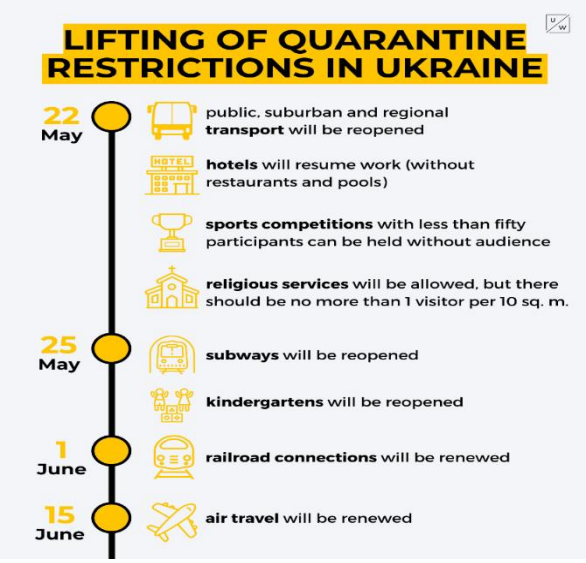

Figure 14. Stages of cancelling quarantine restrictions on territory of Ukraine (May–June, 2020). Courtesy: UkraineWorld (https://ukraineworld.org).

The restrictions were even more considerable in a number of EU countries: from curfew time (Italy, Spain, the Czech Republic, Hungary and others) to a work stoppage of the majority of enterprises (Italy, Spain).

One of the problems of the pandemic policy is that, as a rule, it is based not on evidence, but fear for a worse course of events. In such a situation the measures taken by the government or municipal authorities can do more harm than good.

A culturally healthy person should not suffer in this situation not least because he/she is the one who is able to act in this situation and change it for the better. The government policy should serve for the people's sake as the highest value, but not as a tool for manipulating social opinion through mass media. Let us not forget that the mankind has experienced catastrophes during the whole history and has successfully overcome them.

Conclusions

Infectious diseases do not differentiate people by their age, gender, race or nation. In the epoch of globalisation it is not relevant any more to flaunt with slogans about the national health, today health is becoming international.

The infection which appeared in one country can transform into a global world problem in a matter of seconds. Neither closing borders, nor blocking, nor distancing, nor masking can produce any resistance effect on the virus spread globally.

Scientists-enthusiasts are proposing their pacts and declarations to the world community, while governments are developing their state and national programmes that can be applied only locally or in a low-efficient way, taking into account the international level of the problem. The general policy of governments remains uncertain in case of future emergencies such as pandemics or global catastrophes.

Hopefully the current pandemic is not a predecessor of even more far-reaching future worldly crises, for example related to a climate change, food or energy problems, migration...

That is why it is extremely important to pay attention to national and global policies, development of cooperative international programmes of coordination in emergencies and restoration after them.

Responsible policy and practice instead of manipulation and bureaucracy are able to protect people of the risk group and create favourable conditions for life activity of those who do not belong to this group.

State governments that do not take into account all factors of the spread of infections and do not take adequate countermeasures endanger the health of their citizens and are responsible for the safety of the world community.

The modern civilisation is capable of overcoming this difficult period in its history. The only question left is at what cost it will be done and what conclusion we will make.

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