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GEOGRAPHICAL AND TOURIST ASPECTS OF THE COVID-19 PANDEMIC

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Abstract. The COVID-19 pandemic is a global geographical issue, therefore, the measures to address it should be developed based on spatial analysis methods as such analysis can help in finding patterns in the planetary spread of the coronavirus. The article reveals the geographical features of the consistent spread of the coronavirus during the period from January 2020 to May 2021. Particular attention is paid to the geography of outbreaks of infections in countries and regions. The geography of the pandemic is studied in the article in the context of its impact on the global tourism industry. The pandemic has affected all aspects of society, and tourism turned out to be one of the most sensitive and reactive industries and activities. Moreover, tourism was among the factors that most influenced the rapid spread of the coronavirus around the world, so the geography of tourism is inextricably connected with the geography of the pandemic.

***Keywords*:** geography, pandemic, COVID-19, global problem, tourism, Europe, America, Asia, Africa, Russia

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ГЕОГРАФИЧЕСКИЕ И ТУРИСТИЧЕСКИЕ АСПЕКТЫ ПАНДЕМИИ COVID-19

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Аннотация. Пандемия КОВИД-19 является острой глобальной географической проблемой, поэтому для ее решения необходимы методы пространственного анализа, которые могут помочь в поиске закономерностей планетарного распространения коронавируса. Пандемия затронула все стороны жизни общества, в частности, туризм оказался одной из самых чувствительных, реактивных сфер деятельности и отраслей. С начала распространения пандемии туризм сыграл роль тонометра для многих экономических изменений. В статье последовательно раскрываются географические особенности распространения коронавируса в текущий период пандемии с января 2020 по май 2021 г. Особое внимание уделяется географии "вспышек" инфекций в странах и регионах. Такой подход, по мнению авторов, позволит раскрыть географические закономерности пандемии. География пандемии рассматривается в контексте влияния на мировую индустрию туризма.

Ключевые слова: география, пандемия, COVID-19, глобальная проблема, туризм, Европа, Америка, Азия, Африка, Россия

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Introduction

Formulation of the problem

The rapid spread of the coronavirus infection in the winter and early spring of 2020 showed the global geographic significance of this problem. Many geographers became involved in the discussion on the territorial aspects of the pandemic (1–6, 8–14). It is clear that the fight against this problem affects the development of society in many aspects, including the spatial and structural organization of tourism. This industry has proven to be a very sensitive area and even an intensifier of the spread of the pandemic. The relevance of the topic of the pandemic impact on tourism is demonstrated by many publications (7). In this article, the authors attempt to show the geographical features of the spread of the coronavirus and analyze the spatial changes in the level of infection over the period of almost a year and a half. The geography of the pandemic is studied in the article in terms of its impact on tourism.

It was for the first time that, being faced with this epidemiological problem, all countries of the world unanimously united in addressing the issue of information exchange, creating a system of accessible epidemiological statistics. Already in the winter of 2020, the spread of the coronavirus was well mapped, providing statistics for the countries and some individual regions. Over 14 months, a variety of information was collected on the spread of COVID-19. This required attention to a number of geographical factors affecting the spread of the pandemic.

Results

Geography of the spread of the coronavirus infection in the world (January 2020 - May 2021)

By the beginning of May 2021, cases of COVID-19 infection were recorded in all countries of the world. The table shows 10 countries which account for 64% of all infections (table 1).

Despite the large number of the infected, their share relative to the country's population does not exceed 11% (USA). This means that there remains a high probability of the disease in most of the population. Vaccination rates vary greatly from country to country, and, most likely, global herd immunity will not be developed soon. Thus, the impact of COVID-19 on all spheres of human life will continue over the next few years.

Table 1

Leading countries by number of confirmed COVID-19 cases

Leaders in the total number of infected		*The total number of infected (as of 02 June 2021.)*	*Population (as of 02 June 2021.)*	*Infected, % (as of 02 June 2021.)*	*Vaccinated, % (as of 02 June 2021.)*
1	USA	34,136,738	332,680,000	10,3	50
2	India	28,307,832	1,391,716,000	2	12
3	Brazil	16,625,572	213,865,000	7,8	21
4	France	5,677,172	65,398,000	8,7	39
5	Turkey	5,256,516	85,122,000	6,2	19,5
6	Russia	5,081,417	145,989,000	3,5	11,3
7	UK	4,490,438	68,194,000	6,6	57,7
8	Italy	4,220,304	60,385,000	7	39
9	Argentina	3,817,139	45,927,278	8,3	20,8
10	Germany	3,692,908	84,016,000	4,4	43
11	Spain	3,682,778	46,770,000	7,9	38,5

We will further conduct a geographic analysis supported by statistical information on the characteristics of the spread of COVID-19 during 14 months (from March 2020 to May 2021).

Asia (China, Thailand, India, Iran)

The virus spread across the subtropical belt of the Northern Hemisphere in mild wet winter conditions. It originated in the Chinese city of Wuhan and the Hubei province, characterized by a subtropical monsoon climate. This province had 80-90% of all infected people in the country. In this respect, China was the most polarized country: other provinces were much less affected by the epidemic. By March 2020, approximately 80,000 infections had been recorded in China. After the imposition of severe restrictions and the introduction of preventive measures, China was able to localize the virus and prevent its further spread. Over the following 14 months, no more than 11,000 cases were registered. China is one of the few countries where COVID-19 has been defeated without vaccinating the population. However, this appears to be an exception among Asian countries.

The tense situation caused by the spread of COVID-19 developed in Turkey, India, and Iran. These countries have a high population density and a low level of health care development. Iran was the first in this macro-region to enter the epidemic. At the first stage, the northern and central provinces of the country (Mazandaran, Tehran, Qom, Isfahan) were affected particularly badly. Until November 2020, there had been a steady increase in the incidence. The second wave lasted two months. After a short break, a sharp increase in the number of infections began in the spring, which indicated the onset of the third wave.

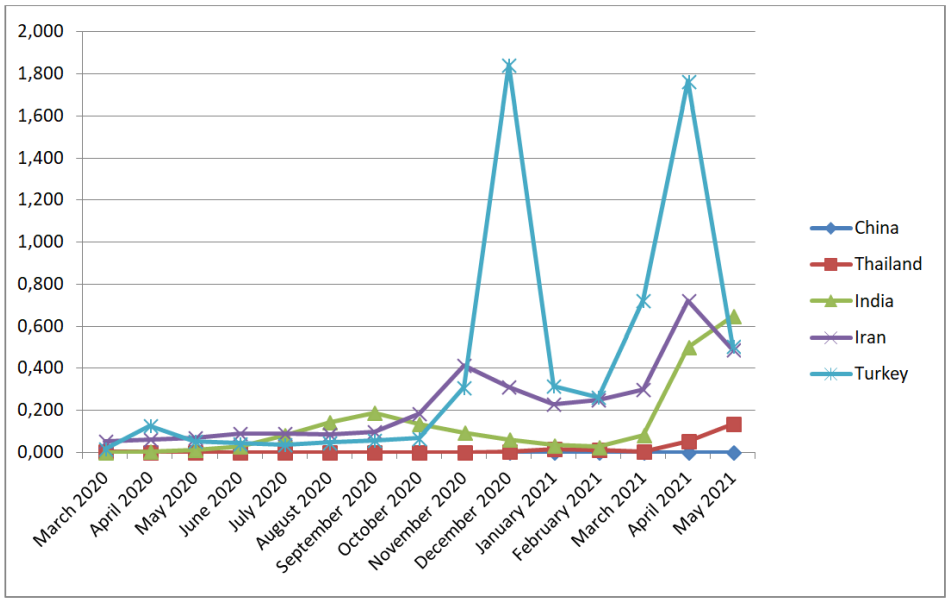

Fig. 1. The number of people infected with COVID-19 per 100,000 population in Asia

India, where the fight against COVID-19 has been complicated by socio-economic, religious and other factors, is of great concern. At the beginning of the summer of 2020, India was ranking third in the world by the rise in infections, the numbers were also huge in Pakistan and Bangladesh, and even 'quiet' Nepal demonstrated a progressive development of the pandemic. In the summer, when India showed a 20-fold decrease in the rate of infections in relation to the previous day, it was the first time that statistics from this country raised doubts about its reliability. Pakistan was also not scrupulous enough in providing epidemiological information. This indicates serious problems in the fight against the epidemic associated with the lack of accurate data on the number of cases. In December, in India, as was the case in all of South Asia, the rates of increase in the number of

infections were declining. However, since March 2021, India, with its record growth rates, has come to the second place in the world in terms of the total infection rate. Although no more than 2% of the population have been officially infected in this country, there are serious risks of an even greater increase in the incidence.

Turkey, having experienced an increase in incidence in April 2020, seemed to be able to cope with the spread of COVID-19 in the future. However, already in November, Turkey demonstrated such a sharp rise close to which no other country in the world had been over the entire period of the pandemic. In the summer and autumn, the country showed practically the same relatively small values of daily increases in infections in the range of 1–2 thousand people, while almost all countries were having waves, ups, and downs. This gave an impression of artificially leveled statistics. In November, the incidence in Turkey was increasing very gradually from 2 to 6 thousand people, when suddenly, from 26 November 2020, the country began to show from 30 to 44 newly discovered cases daily, and the graph of the infection growth rate became sharply volatile, like the graphs of other countries. The peak of the second wave fell on December 10, when a huge number of infections were identified – 823 thousand cases. Such a sudden and tremendous increase casts serious doubts on the reliability of Turkish statistics. Perhaps this is an example of data manipulation aiming to maintain tourist flow in the summer and autumn. The incidence in Russia increased significantly during the return of Russians tourists from Turkish resorts. The third wave came to Turkey in April 2021, when record incidence rates were again registered in the country. Despite the tough policy of tourism authorities and the beginning of mass vaccinations, the early summer tourist season in 2021 was disrupted.

Thus, by the beginning of the summer of 2021, the spread of COVID-19 in Asian countries was characterized by the following features.

In the Middle East, Western Asia and Transcaucasia, a number of countries had climbed the peak of the wave. These were Iraq, Saudi Arabia, Qatar, Armenia, Georgia, Azerbaijan. Turkey and Iran were showing record increases in infections. Israel went through a wave in January, and Jordan – through a very high one – in March.

As to the countries of Central Asia (Kazakhstan, Uzbekistan, Kyrgyzstan) and South Asia (Pakistan, Nepal, Bangladesh), the early summer of 2021 was marked by the beginning of the third wave in some of them and a sharp rise of the wave in others. India, demonstrating record growth rates, took the second place in the total infection rate in the world. The situation in South Korea, Japan, and even Cambodia and Thailand could be characterized as a small third wave, while in the Philippines the new wave starts with high rates.

A calm situation, according to statistics, developed in China and Vietnam in the winter and spring.

Europe (Italy, Spain, Germany, UK, France, Russia)

The subtropical belt of the Northern Hemisphere was most susceptible to the virus diffusion in winter. After passing through the subtropics of Asia, COVID-19 hit Italy and Spain, in their northern regions.

In the early spring of 2020, the virus spread to all countries and territories adjacent to the North Atlantic up to and including the Central European meridian (Sweden – Czech Republic – Austria – Italy). Countries from Iceland to the Mediterranean in Europe, U.S. states and Canadian provinces close to the Atlantic and Great Lakes, having a so-called ‘Atlantic’ climate, found themselves to be in the area of strong epidemic progression.

The geography of the spread of the virus in the first months clearly corresponded to the areas of winter recreation and skiing in Europe. The Alpine regions suffered the most (Lombardy, Valle d’Aosta, Trentino-Alto Adige, Veneto, Piedmont – in Italy; Rhone-Alpes – in France; Bavaria, Baden-Württemberg – in Germany; the countries of Switzerland and Austria). Norway, Sweden, and Iceland, also being areas of winter recreation, were severely affected by the epidemic too.

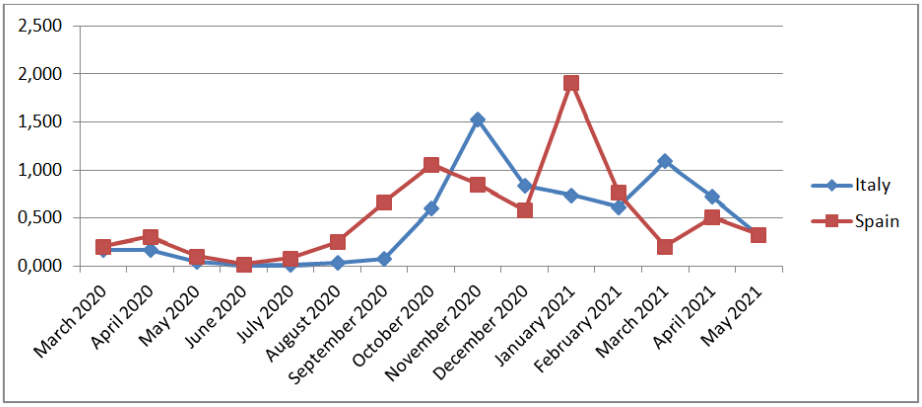

Fig. 2. The number of people infected with COVID-19 per 100,000 population in the Mediterranean countries of Europe

The epidemic came to Russia from the west along a big curve, and not directly from the east. In the winter of 2020, the virus made it way from China, along the subtropical belt, through Iran, to Italy and Spain, in the spring – along the Atlantic to Great Britain, Iceland, Germany, and further, almost according to the Atlantic transfer, like some kind of 'cyclone' – to Poland, Belarus, and Russia. In Russia, the global features of the spread of coronavirus have been manifested. From the west to the east, the infection generally decreases, reaching local maximums in especially large cities, in the coastal regions of the Black and Azov Seas, the Caspian Sea, in the mountains and foothills of the Caucasus. Regions in transport 'dead ends' (Tomsk Oblast, Republic of Tyva, Gornyy Altay) are less affected by the epidemic.

Northern urban territories and regions with rotational organization of work (Murmansk Oblast, Yamalo-Nenets Autonomous Okrug) were also significantly affected by the virus. Some regions demonstrated low infection rates for a long time, but at some point the numbers went up faster (regions of the Central Black Earth Region, Chelyabinsk and Novosibirsk Oblasts). High rates of infection were also recorded in Mordovia, Mari-El, Chuvashia, although being rural regions.

The spread of COVID-19 is cyclical and wavelike in nature. Moreover, each subsequent wave is stronger than the previous ones. In the temperate climatic zone, the infection peaks occur in the spring and autumn months.

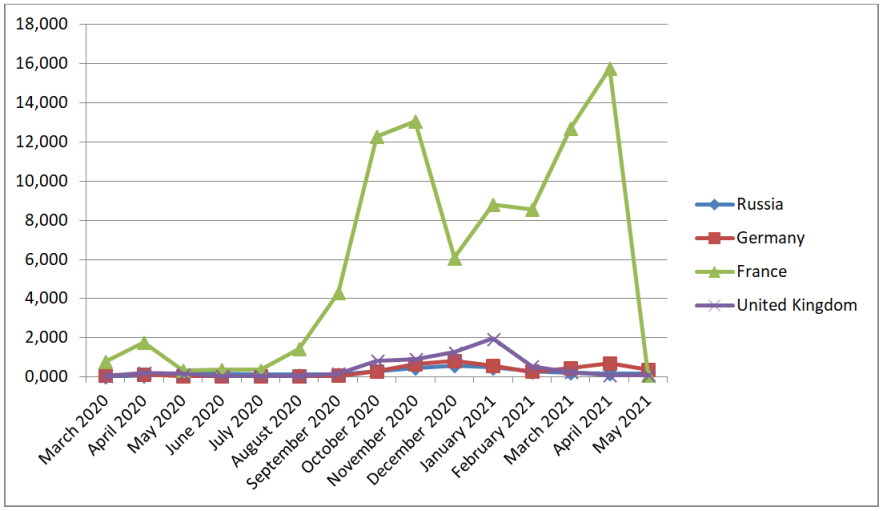

Fig. 3. The number of people infected with COVID-19 per 100,000 population in the countries of temperate climatic zone in the Europe

In the early summer of 2020, the epidemic in Europe is slowly declining. In Northern Europe, the daily increase in infections is small though still very significant. Western Europe demonstrates a smaller increment in infections relative to April. In Eastern Europe, a group of countries stands out: Poland, Romania, Moldova, Ukraine – with average growth rates, and Belarus – with high ones. In the Balkans, the situation is better: only Serbia and Bosnia demonstrate high infection rates. Statistics in Spain and Portugal are synchronously on the rise. The recession of the virus that has begun in most European countries is almost invisible in the UK. In this respect, the country is similar to the United States. In Europe, the ratio of the total number of infections to the country's population is the highest in countries with small population (Iceland, Andorra, San Marino, Luxembourg) and in Ireland.

In the fall of 2020, a sharp rise in infections begins in Europe. In Northern Europe and the Baltics, it is relatively weak, but in Iceland, Estonia, Latvia, and Lithuania the September rise is very noticeable, especially against the background of the generally mild coronavirus history of these countries. The most problematic are Spain and France. Provision of information from these countries is unstable, with multi-day gaps. Sweden, the Netherlands, Luxembourg, Switzerland, Iceland also fail to provide information on a regular basis in September. In the UK, infection is progressing strongly. Eastern Europe is also experiencing a rise in infections. This is not only Ukraine, Poland, Romania, Czech Republic, but also Slovakia, Hungary, Slovenia, Croatia, which have been able to avoid high rates before. The situation in the Balkan Peninsula is relatively favorable. The curves in Germany – since the beginning of August, Italy – since the end of August, and Portugal – since the beginning of September – are slowly moving upward, although not having such high worrisome values in relation to the population as their neighbors. The second wave in many countries drags on and continues until February 2021.

The first two waves were practically synchronous in European countries, while in the spring of 2021 there were some differences. In Russia, the third wave is not felt, it is practically nonexistent. From the beginning of the year to the end of March, the number of daily infections in the country gradually decreases, but in April the downward trend changes to the stable 8–9 thousand cases per day. While tensions with infections are decreasing in almost all regions of the country, in Moscow the decline stops, but still there is no clear tendency for a wave in the capital.

In the North Atlantic region, the pandemic is steadily subsiding in the British Isles, which suffered greatly throughout the fall. In Great Britain, a steep decline continues until the beginning of March, then it becomes more moderate but still steady-going. The situation in Ireland appears to be the same. As to Iceland, which was one of the most infected countries per capita exactly a year ago, this time the processes here are milder.

In March, the countries of Northern Europe and Baltic states experienced the peak of the third wave (Norway and Finland – in a relatively soft version; Estonia – in a hard one; in Latvia the peak was not so high, but the decline was slow).

Countries of Central and Eastern Europe and the Eastern Balkans saw the peak of a strong third wave in late March – early April. These included Poland, Ukraine, Moldova, Romania, Bulgaria, Serbia, Bosnia, Kosovo, North Macedonia, Hungary, and Austria. In the Czech Republic, the third wave was especially strong, with a peak in early March, as well as in Slovakia, which had been spared from the first waves. In Albania, the pandemic rate increased, but not so catastrophically.

The situation in Belarus and Lithuania was different from that in neighboring countries. The indicators were not so frightening, in Belarus they were gradually decreasing, while in Lithuania, after a decline in winter, a gradual rise began in late March, similar to the beginning of the third wave.

In the Eastern Mediterranean, a number of countries climbed the peak of the wave. Greece, Cyprus, Spain, and Slovenia were the first in Europe to experience that. This happened in January –

at the same time when the pandemic was on the rise in the British Isles. This happened in January – at the same time when the pandemic was on the rise in the British Isles. However, the process of decline in infections was very uncertain, especially in Spain. In Italy, the peak was in March. In France, Germany, Benelux countries, and Croatia, the peak of the wave shifted and continued in May. The most difficult situation was in France. During the third wave, the rates of daily infections in European countries were much higher than those recorded during the first two waves.

North and South America

The largest number of infections among all countries was recorded in the United States, where more than 10% of the population were found to be infected. There were three major outbreaks in the United States over 14 months.

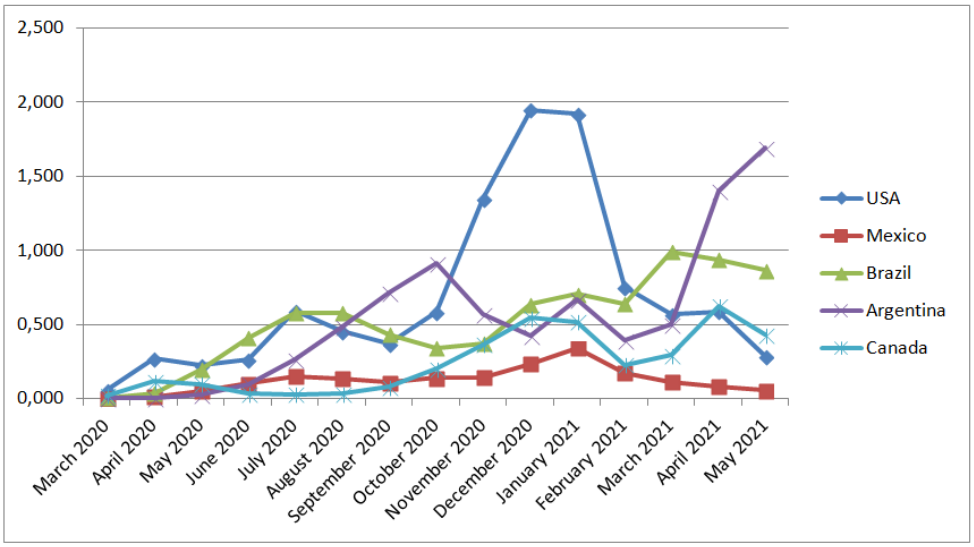

Fig. 4. The number of people infected with COVID-19 per 100,000 population in the countries of the Americas

At the onset of the pandemic, coastal areas are more affected than inland areas. This is evidenced by the spread of the virus in the United States, where the states of New York, Florida, Louisiana, California were most affected. In Canada, the highest infection rates were recorded on the Atlantic and Pacific coasts. In May 2020, infections were on the rise in the United States and Canada, with more infections in the United States than in any other country of the world.

At the beginning of the summer, the belt Bolivia – Paraguay – Uruguay is relatively calm, but at the very end of June the situation in Bolivia begins to deteriorate rapidly. The Andean countries such as Colombia, Chile, and especially Peru demonstrate galloping infection rates, official statistics on the situation in Ecuador is not published for several days. Brazil leaves behind Russia and even the United States in terms of the infection growth rate.

In June 2020, Latin America almost entirely, except for Uruguay, Paraguay and some small Caribbean states, becomes the most problematic area. In the United States, which has the highest rates of the pandemic in the world, the daily increase in infections is very slow to decline, in Canada the downward trend is more pronounced. In the United States, the proportion of infections is gradually redistributed from the New York area toward other states, but the leader states in terms of infection remain the same as in April–May.

In the middle of the summer of 2020, the increase in infections in America is the greatest. At this time, the USA and Brazil show unprecedented values – the highest in the world throughout the whole period of the pandemic. The problem does not subside in Colombia and the Dominican Republic, there are outbreaks in Venezuela and Paraguay. The positive trend only continues in Canada.

In August 2020, several countries in America simultaneously demonstrate a huge increase in infections. The worsening is especially pronounced in the USA, Brazil, Colombia, Peru, Mexico, and Argentina. The problem begins to be felt in Paraguay and Venezuela, which have been almost unaffected before. In the late summer, the United States and Mexico demonstrate a slow decline in daily infections, the values of which are still extremely high in the former. In Canada, there has been a rather tangible rise in infections since the beginning of September. In October, Latin America shows a downward trend in the growth rate. Comforting trends are not yet visible in Colombia and Mexico, which, like Brazil and Argentina, are among the top ten countries in terms of the total number of infections during the entire period of the epidemic.

The beginning of the third wave in the countries of America falls on December 2020. The highest, often progressive, increases in infections are noted in the USA and Brazil. Canada and Mexico demonstrate relatively high rates almost every day. The third wave in January–February 2021 is raging in the Americas as much as in Europe. It covers almost all countries of the continents. The pandemic is growing especially sharply in Argentina and Colombia. In Central America, Mexico and the Caribbean, the third wave is less noticeable, but in some parts of the region it is not felt at all. In the United States, the situation with the pandemic is still very serious but, in general, it is gradually becoming softer, which cannot be said about Canada, where the tide is rising sharply. In April–May, the situation in Argentina worsens.

Africa

The spread of the coronavirus in African countries began later than in Asia, Europe or America. The first wave came there in the early summer. In May–June 2020, large countries of the subtropics (South Africa, Egypt, Morocco, Algeria) show steady growth in the infection figures at an average worldwide rate. The countries of the Gulf of Guinea (Nigeria, Cote d'Ivoire, Cameroon) and those of the Horn of Africa (Djibouti, Somalia) also stand out, while the countries of Central and East Africa demonstrate softer indicators.

In June 2020, in some African countries the infection progresses at a high and even increasing rate (Mauritania, Algeria, Nigeria, Ghana, Cote d'Ivoire, CAR, DRC, Equatorial Guinea, Madagascar, Cape Verde). One of the main leaders in the world in terms of the increase in infections is the Republic of South Africa. Rise is also noted in the countries of South Africa that have been almost unaffected by the epidemic (Namibia, Eswatini).

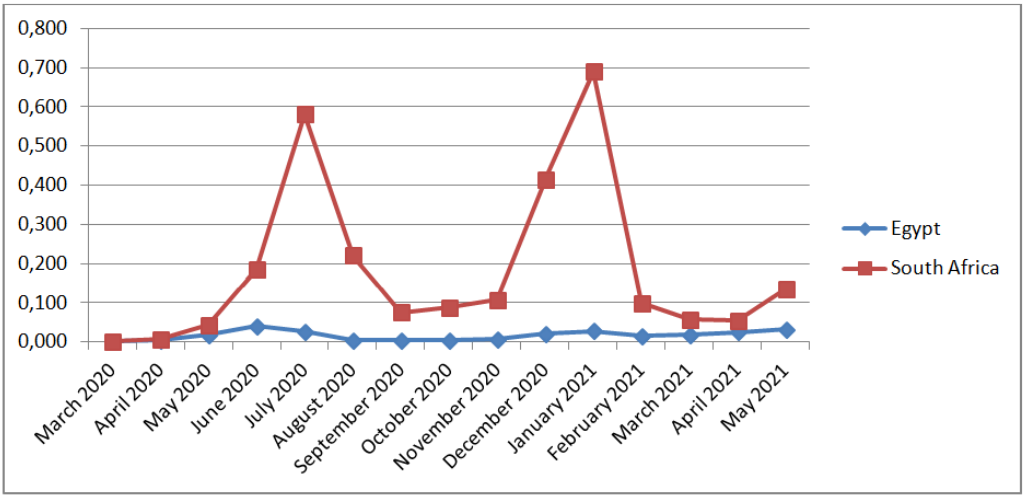

Fig. 5. The number of people infected with COVID-19 per 100,000 population in Egypt and South Africa

In early July, the largest increases in infections in Africa are recorded in the north (Egypt, Algeria, Morocco, Libya, Mauritania). The problem is not decreasing in the Gulf of Guinea, there are spikes in infections in Kenya, in the south the pandemic is obviously on the rise. In the Republic

of South Africa, there are more than 10 thousand infections per day. In the second half of the month, Malawi, Mozambique, Madagascar, Senegal, Sudan, Ethiopia are added to the list of problem countries.

In August, many African countries enter the first wave (Libya, Ethiopia). Morocco and Algeria are experiencing the beginning of the second wave. The Republic of South Africa, having reached the daily gains of more than 10 thousand cases, began to significantly reduce this figure at the end of the month.

In September, the pandemic fades or subsides in Africa, with the exception of some Mediterranean countries. Morocco was recognized as the new problematic leader on the continent in September, after Egypt being such a leader in the spring and South Africa – in the summer.

In October, Africa, with the exception of the far north, comes out of the exacerbation period, the daily increase in cases is relatively small, especially in previously problematic areas (the countries of the Gulf of Guinea).

In December, Africa's infection rates are generally below the global average. The pandemic curve on the continent went up in Egypt and Tunisia, but most sharply in South Africa. The peak of the second wave in the Republic of South Africa fell on January 2021. The third wave began in May 2021.

Australia and Oceania

After the second wave, which came at the end of the winter in the Southern Hemisphere, Australia managed to avoid further outbreaks of the disease.

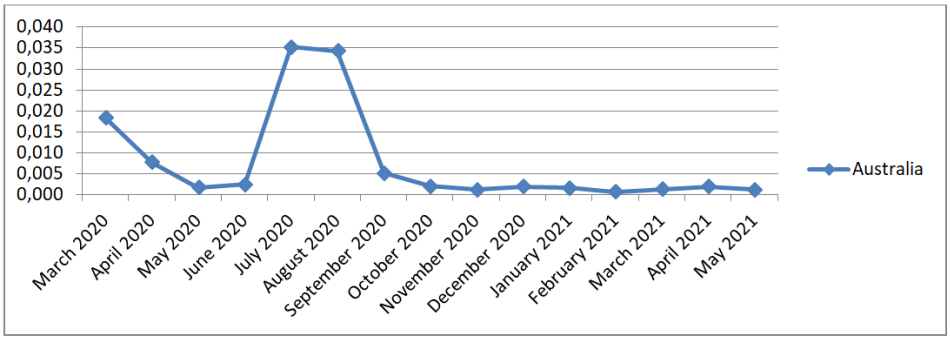

Fig. 6. The number of people infected with COVID-19 per 100,000 population in Australia

Over the entire period, about 30,000 cases of COVID-19 were recorded, which is 0,1% of the total population of the country. The scenario for controlling the spread of the disease was similar to China's one – very low vaccination rates, strict isolation policies, and effective prevention measures. A similar situation was developing in New Zealand and the countries of Oceania.

Discussion

Reaction and prospects of tourism

In many countries, the epidemic in its early stages mainly affected the largest cities (New York, Rome, Milan, Madrid, Paris, London, Istanbul, Moscow) and regions with urban agglomerations (North Rhine-Westphalia, the Netherlands, Belgium). Basically, the territories around the largest cities were involved, which was especially evident around New York (Connecticut, Massachusetts, New Jersey), Milan (Lombardy), Madrid (Castile), and Moscow (Moscow region). Rural areas were generally less affected by the virus (Southern Italy, Southwest France, rural Spain).

In the first months, the spread of the virus largely corresponded to the geography of tourist destinations, i.e. centers and areas of mass tourism. Countries recognized as the centers of world tourist suffered most. These include both main highly developed tourist countries such as the USA,

Italy, Spain, France, Germany, Great Britain, and smaller countries: Switzerland, Austria, the Netherlands, Belgium, Denmark, and others. Countries having experienced a recent sharp increase in tourist flow (Iceland) were severely affected. There can be seen a large difference between tourist countries and their non-tourist neighbors, where the figures were much lower than in the former. This can be illustrated through the comparison of Qatar as a tourist country and Kuwait as a non-tourist country, or the UAE, on the one hand, and Oman – on the other. Among the tourist areas, summer recreation regions were relatively less affected by the virus: Sardinia, Basilicata (Italy), Antalya, and Mugla (Turkey).

The initial spread of the virus most affected the largest cities, coastal areas, tourist destinations, and mountain areas of winter recreation. Tourism has proven to be one of the reasons for the spread of the epidemic.

The tourism industry was the one to provide the quickest reaction to the epidemic since it was through tourist channels and poles that the disease spread, gaining a global character. In the spring, international tourism is extremely limited due to the pandemic. This halted the spread of the coronavirus, which was especially felt in countries away from the main traffic flows. For example, in Iceland the number of air passengers in March and April was halved in relation to February. The relatively high infection rates in Iceland, recorded primarily in the most visited regions of the southwest and south of the country, quickly changed for a downward trend, and in May there were almost no registered cases. The same happened in South Korea, Australia, New Zealand, the Balkan Peninsula, and the Baltic states. In the regions of Russia, including the Perm Territory, the range of types of tourism significantly decreased in the spring and early summer of 2020. Recreational activities not far from home, within the home region gained in demand. Spending holidays in the countryside became especially popular. Business tourism did not cease to exist, it turned to be practically the only type of tourism that provided the demand for hotels. However, the occupancy rate of hotels was no more than 10–20% since the number of business trips fell sharply due to the restrictive measures of many companies on the travel of their employees. Travel agencies working for international outbound destinations almost completely stopped working, and, according to Perm companies, in 2020 services to foreign tourists decreased by 100 times. Out-of-town recreational facilities and all kinds of recreation centers almost did not work. The restrictions imposed during the first wave affected all actors in the market of tourist and recreational services.

In the middle of the summer, tourist service gradually continued to work in the regions, but with restrictions on interregional movements. For example, in July recreation centers located in the Udmurtia only accepted residents of their region.

In the second half of the summer, the situation changed significantly. Travel service companies felt a sharp increase in demand for intraregional and interregional travel in Russia. Hotels in large cities were loaded twice as compared to the same period of the previous year. In the Perm Territory, this began from August 11, when hotels were allowed to receive not only guests with travel documents. September 2020 was a very active period for large hotels in cities due to sports competitions and various forums that had been planned for that year but had to be postponed. Suburban, especially peripheral, recreation centers were heavily loaded as there arrived not only the usual contingent but also those who had been planning to have a rest abroad. It previously used to be that tourists arrived in Perm at the beginning of the trip, stayed in large hotels, and then went to get acquainted with the region. Now most of the guests started to plan their holiday so that they could spend the whole time at one of the recreation centers in rural or forest areas, including on the far outskirts of the region. October and November in the Perm Territory were traditionally ‘off-season’ for the accommodation enterprises outside the cities. In December 2020, in January and February 2021, ski and other recreational complexes outside the cities were in good demand.

Numerous tourism and service enterprises were the first to feel the coronavirus epidemic and the first to suffer as a result of the closure or reduction of activities. The tourism industry has been

making efforts to adjust to the situation on a daily basis throughout the whole period, monitoring all the changes occurring. This cannot but affect the industry, certain transformations must inevitably follow in its functioning, structure, and priorities.

Tourism will now have to take into account epidemiological risks. It is not only the functional and spatial structure of tourism that will change. The safer types of tourism will receive a new development during periods of epidemics. The preferred types and forms of tourism will involve individual transport, small groups, accommodation in apartments, guest houses, small hotels, with meals in the open air and no crowding.

Among the types of tourism, nature-oriented ones (sports and ecological tourism, fishing) and many non-urban ones (rural, agronomic, suburban) appear to be most suitable for the new conditions. At such a time, travel involving the use of individual transport (automobiles, yachts, water-motor transport, kayaks, bicycles, motorcycles) becomes especially in demand.

Less suitable for the new conditions are types of tourism associated with mass visits to large premises (staying in health resorts, shopping, going to museums and on excursions). Hard times have come for the types of tourism associated with the stay of large groups of people in one place (during a festival, conference, sports competition, etc.). The development of these will be accompanied by the introduction of various restrictive conditions and new sanitary standards. Ski resorts will also have to change the form of service, especially in additional services.

Among service enterprises, dispersed ones appear to be more preferable nowadays. Traditionally, the economic efficiency of tourism requires the concentration of proposals and the creation of large complexes. However, in the new reality, epidemiological risks will dictate the rules, including deconcentration of the tourism industry, a dispersed rather than a polarized approach in spatial organization. Areal development of tourism will require a fractional tourist zoning, the development of networks of tourist micro-routes, and the development of municipal tourism.

This inevitably leads to changes in the range of tourist and recreational activities provided, affects the motivation and needs of people, promotes a growing interest in the home region, neighboring regions and the nature surrounding the city or village. The geography, history and life of the region are becoming interesting and important in a new way.

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