

## ORIGINAL ARTICLE

# The COVID-19 pandemic – A global statistical interpretation in first year dynamics

Viorel Ordeanu<sup>1,2</sup>, Lucia E. Ionescu<sup>1</sup>

**Abstract:** The novel coronavirus, identified in December 2019, has caused a pandemic that will remain in the medical literature as SARS-CoV-2, the etiological agent of the Covid-19 disease. It was initially stated that this disease would not be more serious than the flu, in terms of prevalence, frequency of complications and mortality. Although in the country of origin the epidemic was only local, the virus spread successively to other countries, until it quickly spread to all inhabited continents and was declared a pandemic.

Being a new disease and a new virus, the world panicked. The World Health Organization released guidelines to member countries, which they have implemented. Because the disease sped out of control, it became not only a health crisis but also a socio-economic one. A year later, we are still facing this disease, about which we have learned a lot but not yet all that is necessary and so the time has come for a certain summing up.

The Covid-19 pandemic is a reality of current times, the year 2020 being portrayed as the "COVID year". The international scientific community has shown that, when needed, it can collaborate beyond classical barriers. Statistics show that the virus is not very aggressive, the disease is not very serious but there are also serious, sometimes fatal complications to which appropriate measures must be applied. The risk of serious illness and life-threatening complications is statistically reduced over time, the disease being less severe now than at the beginning, so it is on a downward slope.

**Keywords:** Covid-19, SARS-CoV-2, pandemic, statistics, public health, fake news

## THE OVERALL SITUATION

The coronavirus identified by the Chinese in December 2019 caused an epidemic and then a pandemic that would remain in the medical literature as the severe acute respiratory syndrome virus coronavirus 2 (SARS-CoV-2) as the etiological agent of Covid-19 disease (coronavirus from December 2019) by analogy with the SARS coronavirus from 2002. It was stated from the beginning that this disease would not be more serious than influenza, both in prevalence and in the frequency of complications and mortality.

Although in the supposed country of origin the epidemic was only local (but in the size of a medium-sized country) and was "obstructed" in a short period of time by drastic, medical and non-medical measures, the virus spread successively to other countries, until it quickly spread to all inhabited continents and was declared a pandemic.

Being a new disease (although viral pneumonia is known and treatable) and a new virus (although coronaviruses are known with hundreds of species with different pathogens and virulence) the world panicked. The World Health Organization (WHO) has accounted for the situation and released guidelines to member countries which they have more or less implemented, sooner or later, according to "national specifics". Because the evil was not pulled out by the roots suddenly but rather gradually, the disease got out of control and became not only a health crisis but also a socio-economic one. It seems that some countries would have had an interest in maximizing the disease in order for it to be considered the main cause of the current economic crisis, which had started anyway. The impact on the population was variable, from absurd denial and protests to unjustified fear that culminated in suicides for fear of the novel coronavirus.

A year later, we are still facing this disease, about which we

---

<sup>1</sup> Cantacuzino National Military Medical Institute for Research-Development

<sup>2</sup> Titu Maiorescu University, Bucharest

---

Corresponding author: Lucia Elena Ionescu  
ionescu.lucia@gmail.com

have learned a lot but not yet all that is necessary and so the time has come for a certain summing up, from the onset to the present. The assessment is useful for evaluating through critical points in the dynamics, because in fact we do not even know when and how this complex crisis that mainly dominated Western civilization will end.

The statistically processed data were recorded before the appearance of new variants of SARS-CoV-2 discovered in the UK (known as 20I/501Y.V1, VOC 202012/01, or B.1.1.7) and South Africa (SARS-CoV-2 known as 20H/501Y.V2 or B.1.351).

## MATERIAL AND METHOD

The medical literature on Covid-19 and the information released in the official and unofficial public space about the current complex crisis caused by the pandemic were studied. Data published in the media and on the Internet by credible organizations were statistically analyzed: WHO, CDC (Center for Disease Control, USA), ECDC (European Center for Disease Control), Worldometer (USA), communiqués from national governments and specialised journals. Of these, the most complete and systematized data, representing the US point of view, are updated and published daily on the website and can be accessed free of charge by anyone interested in accurate information [1, 2].

The primary statistical interpretation was possible by dividing quantitative intervals, percentage processing by absolute and relative values per million people [3], by applying the 2 alpha significance test, etc. corroborated with medical logic, which has lately come into contradiction with "pseudo-evidence-based medicine". In general, infectious diseases on Earth and consecutive epidemics have a certain pattern of evolution, which is learned in medicine and is found in the history of medicine. The Romanian historian Nicolae Iorga said "Learn history to know what will come!". Obviously, when it comes to microbes brought, with or without intention, from other celestial bodies, we will not know what we have to do, being in front of absolute news, and the risk will be maximum.

## RESULTS AND COMMENTS

The listing of the data provided by Worldometer on world statistics for all the landmarks considered important, grouped by fields, presents a comprehensive, dynamic and realistic figure of the current society. The listing of data provided by Worldometer on 13.12.2020 on the Covid-19 pandemic shows that data on morbidity, prevalence, diagnosis, severity and mortality from 120 territorial entities on five continents were reported and centralized: the 195

independent member countries UN/WHO, 23 permanently inhabited dependent territories and two extraterritorial ones (cruise ships quarantined for epidemic on board) but not including the territories that did not declare the presence of this disease.

The centralised data published on a daily basis are in permanent dynamics, apparently amplified, so for any statistical interpretation the corresponding date must be mentioned. In general, the trend is mathematically increasing, but through the biostatistical interpretation of the primary and secondary data, different parameters of the pandemic can be objectively highlighted.

## 2020 statistical processing on case studies

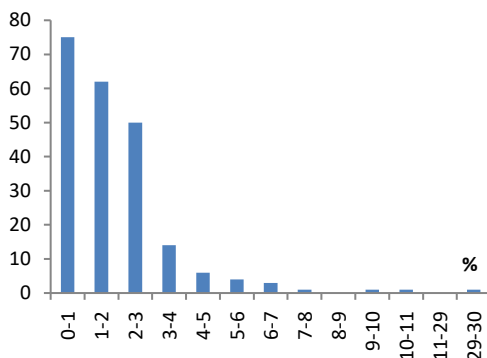
The exhaustive table is ordered by the absolute number of cases of Covid-19 disease recorded from the beginning of the year until now, with linear and logarithmic graphical processing. The total number of 72,197,885 cases registered on 13.12.2020 represents a prevalence of the disease of 0.92% of the world's population (7,832,803,872 inhabitants). Compared to the overall mortality of the world population (55,995,505), 2.88% of mortality is due to/with Covid-19 (1,613,401). We statistically analyzed the percentage distribution of mortality (as the maximum severity factor of the disease) compared to the total number of Covid-19 cases registered by country, the world average being 2.24%, so a total of 1 death of covid or with covid at 4 855 inhabitants, which means a cause of mortality with a relatively low frequency. It is far outweighed by other diseases, such as HIV/AIDS, under-five infant mortality or toxic use (tobacco, alcohol, drugs).

The graphical distribution by percentage statistical intervals of the countries did not create a normal bell-shaped Gaussian curve, but a steep downward curve. Thus, for the interval 0 (inclusive) – 1 (exclusive) % there are 75 countries, about a third of the total, and of these 24 countries/territories have no covid mortality at all. In general, these countries have a relatively small population (below the world average) and the total number of covid patients is relatively small, below 1,000, except for Turkey. At the 1-2% range are 62 countries, including "world champions" such as the USA, India, Brazil and Russia. In the median range of 2-3% are 50 countries, including Romania which is slightly above the world average (2.18%) with 2.40% mortality from the number of covid patients. Then the frequency decreases dramatically, so at 3-4% there are 14 countries, at 4-5% there are 6 countries, at 5-6% there are 4 countries, at 6-7% there are 3, at 7-8% it is only one country, at 9-10% one, at 10-11% one and at 29-30% one. A total of 64 countries out of the 220 statistically monitored entities

(states and territories) have a mortality rate due to Covid-19 above the world average.

It should be noted that Yemen holds the "absolute record" of 29.9%, but it is in a prolonged war with Saudi Arabia (which could be considered a "proxy" war between the US and Iran) which has induced a major humanitarian crisis, as never before, for the solution of which the "international community" has not been effectively involved. The other excessive values are for Mexico (9.16%) which apparently would have no special reason but also for Western Sahara, which has a mortality of 10%, with 2 deaths out of a total of 10 cases, so it is not statistically significant (Figure 1).

**Figure 1:** The percentage distribution of the mortality rate due to Covid-19 compared to the total number of Covid-19 cases registered by country (website [www.worldometer](http://www.worldometer) on 13.12.2020)



#### Statistical processing on data from the present situation - active cases

The percentage distribution of Covid-19 active cases (so, which were hospitalized on 13.12.2020) at approx. one year after the initial declaration of the epidemic, reports cases of serious illness (serious and critical) compared to the current active cases (mild and asymptomatic), according to Worldometer. The total incidence of serious cases in the total number of cases under treatment is 0.42%, which compared to the historical situation for a year of 2.24% mortality shows a major improvement in the situation. This favorable situation may be due to several causes: either due to a decrease in the virulence of the virus by its adapting to the human host (no pathogen has the "interest" to kill its host), or by optimizing therapy (although we do not yet have effective specific drugs), either due to the extension of collective immunity (so contemptuously called "herd" in English literature) or a combination of these. In fact, the WHO estimates that 99.5% of current cases are mild and only 0.5% are severe, which means that mortality in Covid-19 cases should not be higher than 0.2%, i.e. below influenza mortality.

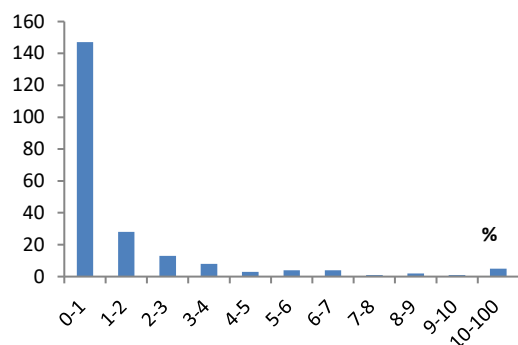
It is interesting to note that in the "year of covid" we do not have a flu epidemic or acute upper respiratory infections (URI), which is remarkable because there is a hypothesis of the possibility of hybridization of the novel coronavirus with the influenza virus, which would have led to an increase in the risk to public health. The explanation could be that the measures of individual and collective prophylaxis were effective: wearing a protective mask both healthy (so as not to be contaminated) and sick (so as not to spread the virus), physical/social distancing, and compliance with hygiene rules. Individual and collective, preventive medical control (including mass thermometry), specific tests, isolation, quarantine, compulsory hospitalization, etc. Another possible explanation could be that in previous influenza and/or IACRS outbreaks some of the cases were actually coronaviruses, including the current undiagnosed Covid, or that we currently have undiagnosed influenza that is erroneously recorded with the diagnosis of Covid-19.

The global prevalence has dropped from 0.92% per year to 0.26% up to the present moment (13.12.2020), and 78 countries (more than a third of the total) currently have no serious cases in evolution. Calculated as a percentage of serious cases from the total number of active Covid-19 cases, between 0 (inclusive) ÷ 1% (exclusive) are 147 countries, for example the USA, the absolute "champion", has only 0.42% so with little above the world average. Of these, the 78 countries and territories mentioned do not have serious cases at all, so they do not require intensive care in the ICU. This includes the median of the group. In the range of 1÷ 2% there are 28 countries, including Germany with 1.32% and Romania with 1.48% (so well above the world average). At 2÷3% there are 13 countries, at 3÷4% there are 8 countries, at 4÷5% there are 3 countries, at 5÷6% there are 4 countries, at 6÷7% there are 4 countries, at 7÷8 % is a country, 8÷9% are 2 countries, 9÷10% is a country and over 10% are 5 countries. It should be mentioned that 4 countries no longer report for various reasons, so they cannot be fully included in the statistical study: Great Britain, Spain, the Netherlands and Sweden. We may only wonder how some of these countries would have reacted if another country would have acted as such under the circumstances. A total of 101 countries out of the 220 monitored have reported serious active cases (current, serious, critical) above the world average.

It should be mentioned that Yemen has a severity incidence of 24.47% of the reasons shown above, and Saudi Arabia of 15.36%, a country with which it is at war. These are followed by Liechtenstein with 12.65%, Suriname with 100% (in 2 cases out of 2) and Antigua with 33.33% (in 2 cases out of 6) which with a relatively small population and low casuistry

show no individual statistical significance, but only within the world average (Figure 2).

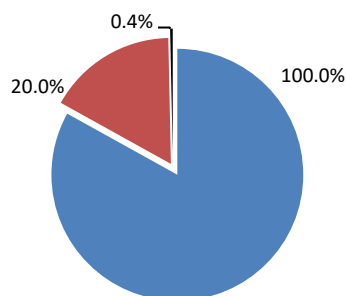
**Figure 2:** Percentage distribution of current (active) cases of Covid-19 with serious forms (serious, critical) compared to the total number of active cases currently registered by country (website [www.worldometer](http://www.worldometer) on 13.12.2020)



### Comment on closed communities

In the early days of the pandemic, there were two cases of cruise ships (Diamond Princess and MS Zandam) of interest as a "situational experiment" in which international personnel benefiting from extraterritoriality suffered the effects of the epidemic, without other external factors. Peculiarities of the situation: a crew of thousands of healthy adults and passengers thousands of other adults and especially healthy elderly or with various comorbidities, but with permanent medical assistance (for surveillance, quarantine, treatment and evacuation), with maximum congestion and reduced isolation possibilities. A total of 721 Covid-19 cases were registered, with 15 deaths and 706 cures, so a contagiousness of max. 20% with mortality 2.08% of the total number of cases, so max. 0.4% mortality from the existing population. It can be estimated that under conditions of strictly supervised medical and non-medical countermeasures, Covid-19 is neither very contagious nor has a high mortality, even if there is a population in the risk group: the elderly, chronic diseases, etc (Figure 3).

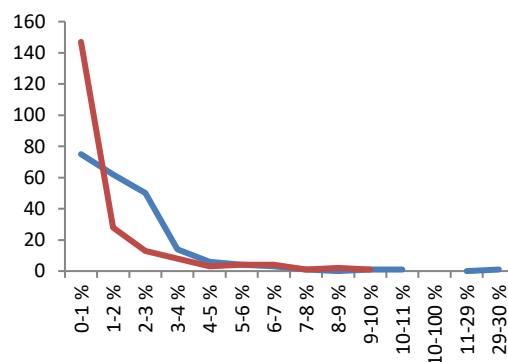
**Figure 3:** Proportion of sick and deceased aboard the cruise ships, registered by country (website [www.worldometer](http://www.worldometer) on 13.12.2020)



### Data significance validity and probability

The entry of the statistically processed data from the Worldometer tables primarily processed on the grid's graph with the probability of significance "2 alpha" of 95%, shows that the general prevalence of fatal cases of/with Covid-19 compared to the total cases of Covid-19 throughout 2020 (A) is significantly higher than the prevalence of severe cases compared to the total current active cases of Covid-19 (B). Because the size of the sublots (cohort) can influence the statistical interpretation, we completed the graphical matrix once in descending order of number of cases and separately in reverse order, respectively in ascending order of number of cases and compared the two curves. These showed that the severity of group A is higher than that of group B with a statistical probability of 95%. In order to obtain the statistically significant result, in the first situation 20 cases were necessary and in the second 34 cases out of a total of 220 available. It was clear that the situation before December was worse, so we are currently facing a milder disease, which may be the "beginning of the pandemic's end." (Figure 4).

**Figure 4:** Comparison of the Covid-19 percentage mortality curve by country in 2020 compared to serious active cases in December 2020 registered by country (website [www.worldometer](http://www.worldometer) on 13.12.2020)



There is a decrease in the severity of the disease in the pandemic's dynamic context, which could mean that: the virus has become less virulent (adapts to the host), the treatment is more effective (more effective therapeutic strategies are being identified), (specific and/or cross) collective immunity develops or all of these in different proportions.

The United Nations (UN) centralizes worldwide data on the Covid-19 pandemic, namely the 230 countries (195 independent and 35 inhabited dependent territories) and the data are updated on a daily basis and published on the Internet via [www.worldometercoronavirus](http://www.worldometercoronavirus). The world's population, which currently consists of nearly 7.8 billion

people, is extremely unevenly distributed in these countries and is in ongoing dynamics. Some have over 1 billion inhabitants (China, India), about 150 countries have a population between 1 million and 1 billion, and about 70 entities have a population between 1 thousand and 1 million inhabitants and the rest under 1 thousand (e.g. the Vatican). The distribution of the population is uneven even between continents, but the discrepancies are much attenuated. Asia has the majority of the world's population, about 60% and the other six continents have the remaining 40% but Antarctica has no permanent inhabitants.

Of the countries in the world, 218 reported at least one case of Covid-19 (the US and India each have over 10 million cases) and 24 of them have no fatal cases of Covid-19. Countries free of Covid-19 or without mortality are generally small and sparsely populated and most are located in areas with warm climates. It should be recalled that four major countries, which are severely affected by the pandemic, no longer report up-to-date data on the evolution of the disease (UK, the Netherlands, Spain and Sweden) which may lead to some erroneous statistical conclusions. Among the countries monitored for Covid-19 are 23 (i.e. 10.45%) that have reported cases but have no mortality, and currently there are 78 countries (i.e. 35.45%) that do not have serious cases. Statistically, it can be concluded that the pandemic is on a downward trend.

The results of the statistical data processing, contained in Subchapter 3.1. could support the alarmists and Subchapter 3.2. the moderates, but in fact show a dynamic of the epidemic that is common in all epidemics. We could quote what the Germans jokingly say: "Statistics is a science that can prove anything, absolutely anything."

It seems that the current pandemic also holds a record for unfounded, contradictory and fake news depending on different interests, this being doubled by an "infodemic".

## Comparative public health implications by geographical area

The representation of the real situation compared on different geographical areas, respectively compared to the world total with the percentage comparison (to mitigate extreme quantitative differences) on continents, which broadly represent one or more types of civilizations in the sense described by Huntingdon is systematised in tables 1-10. The comparison of statistical data is illustrative for the severity and evolution in the pandemic's dynamics, on large geographical areas with the respective population (Table no. 1).

**Table 1:** World population with numerical and percentage distribution by continents (www.worldometer on 01.07.2020)

| No. | Geographical area | Population    | %     | Observations regarding the population |
|-----|-------------------|---------------|-------|---------------------------------------|
| 1   | Worldwide         | 7,794,798,739 | 100.0 |                                       |
| 2   | Europe            | 747,636,026   | 9.6   |                                       |
| 3   | North America     | 368,829,647   | 4.7   |                                       |
| 4   | Asia              | 4,641,054,775 | 59.5  | majority                              |
| 5   | South America     | 653,962,331   | 8.4   |                                       |
| 6   | Africa            | 1,340,518,147 | 17.2  |                                       |
| 7   | Oceania           | 42,677,813    | 0.5   | minority                              |
| 8   | Antarctica        | 0             | 0     | uninhabited                           |

It is observed that the area of the extended western civilization (1 + 2 + 4 + 6) represents about 23%, and the area of the other civilizations about 77%, i.e. the absolute majority.

The percentage prevalence of the total cases of Covid-19 from the whole year 2020 compared to the total population, morbidity, is presented in Table 2, according to the data provided by www.coronavirusworldometer from 27.12.2020.

**Table 2:** Covid-19 prevalence in the population, by geographical areas

| No. | Geographical area | Population    | %     | Covid-19 Cases | % prevalence in population | Observations on morbidity |
|-----|-------------------|---------------|-------|----------------|----------------------------|---------------------------|
| 1   | Worldwide         | 7,794,798,739 | 100.0 | 81027859       | 1.04                       | average                   |
| 2   | Europe            | 747,636,026   | 9.6   | 22684299       | 3.03                       | extremely high            |
| 3   | North America     | 368,829,647   | 4.7   | 22400648       | 6.07                       | maximum                   |
| 4   | Asia              | 4,641,054,775 | 59.5  | 20362013       | 0.44                       | low                       |
| 5   | South America     | 653,962,331   | 8.4   | 12856856       | 1.97                       | high                      |
| 6   | Africa            | 1,340,518,147 | 17.2  | 2675424        | 0.20                       | low                       |
| 7   | Oceania           | 42,677,813    | 0.5   | 48222          | 0.11                       | minimum                   |
| 8   | Antarctica        | 0             | 0     | 0              | 0.0                        |                           |

The area of restricted western/Euro-Atlantic civilization has about 14% of the population and about 56% of the cases

The percentage prevalence of Covid-19 fatal cases

throughout 2020 compared to the total population, mortality, is presented in Table 3, according to the data provided by [www.coronaviruswoldometer](http://www.coronaviruswoldometer) from 27.12.2020.

**Table 3:** Prevalence of Covid-19 mortality in the population, by geographical areas

| No. | Geographical area | Population    | %     | Fatal Cases of Covid-19 | % prevalence in population | Observations on morbidity |
|-----|-------------------|---------------|-------|-------------------------|----------------------------|---------------------------|
| 1   | Worldwide         | 7,794,798,739 | 100.0 | 1770254                 | 0.023                      | average                   |
| 2   | Europe            | 747,636,026   | 9.6   | 521434                  | 0.070                      | extremely high            |
| 3   | North America     | 368,829,647   | 4.7   | 496982                  | 0.135                      | maximum                   |
| 4   | Asia              | 4,641,054,775 | 59.5  | 332002                  | 0.007                      | low                       |
| 5   | South America     | 653,962,331   | 8.4   | 355935                  | 0.054                      | high                      |
| 6   | Africa            | 1,340,518,147 | 17.2  | 62834                   | 0.005                      | low                       |
| 7   | Oceania           | 42,677,813    | 0.5   | 1058                    | 0.002                      | minimum                   |
| 8   | Antarctica        | 0             | 0     | 0                       | 0.0                        |                           |

North America has a Covid-19 mortality rate among its population of almost 6 times higher than the global rate.

The percentage incidence of mortality due to Covid-19 in the

total cases of Covid-19 in 2020 is presented in Table 4, according to the data provided by [www.coronaviruswoldometer](http://www.coronaviruswoldometer) from 27.12.2020.

**Table 4:** Incidence of mortality in patients with Covid-19, by geographical areas

| No. | Geographical area | Population    | %     | Fatal Cases of Covid-19 | Total Covid-19 Cases | % prevalence in population | Observations on morbidity |
|-----|-------------------|---------------|-------|-------------------------|----------------------|----------------------------|---------------------------|
| 1   | Worldwide         | 7,794,798,739 | 100.0 | 1770254                 | 81027859             | 2.18                       | average                   |
| 2   | Europe            | 747,636,026   | 9.6   | 521434                  | 22684299             | 2.30                       |                           |
| 3   | North America     | 368,829,647   | 4.7   | 496982                  | 22400648             | 2.22                       |                           |
| 4   | Asia              | 4,641,054,775 | 59.5  | 332002                  | 20362013             | 1.63                       | minimum                   |
| 5   | South America     | 653,962,331   | 8.4   | 355935                  | 12856856             | 2.77                       | maximum                   |
| 6   | Africa            | 1,340,518,147 | 17.2  | 62834                   | 2675424              | 2.35                       | high                      |
| 7   | Oceania           | 42,677,813    | 0.5   | 1058                    | 48222                | 2.19                       |                           |
| 8   | Antarctica        | 0             | 0     | 0                       | 0                    | 0.0                        |                           |

South America and Africa have high mortality and Asia has low mortality.

The percentage incidence of mortality due to Covid-19 in the new cases of Covid-19 in December 2020 is presented in Table 5, according to the data provided by [www.coronaviruswoldometer](http://www.coronaviruswoldometer) from 27.12.2020.

South America, Africa and Europe have high mortality and Oceania no longer has mortality.

The percentage prevalence in the population of the current active cases of Covid-19 in December 2020 is presented in Table 6, according to the data provided by [www.coronaviruswoldometer](http://www.coronaviruswoldometer) from 27.12.2020.

North America and Europe have a high prevalence (totaling 87% in a population of about 14%) and Asia, Africa and Oceania currently have a low prevalence.

The prevalence of serious cases (serious and critical) of current assets in December 2020 expressed as a percentage of the population is presented in Table 7, according to the data provided by [www.coronaviruswoldometer](http://www.coronaviruswoldometer) from 27.12.2020.

With an average prevalence of active cases of 1/100 000 it can be considered that at this moment Covid-19 is a "rare disease" and drugs intended for the prophylaxis and treatment of this disease can be considered as "orphan drugs". North America and Europe have a relatively higher



prevalence and Africa and Oceania currently have a very low prevalence.

**Table 5:** Incidence of mortality in new patients with Covid-19 (December), by geographical areas

| No. | Geographical area | Population    | %     | New deaths due to Covid-19 | New Covid-19 cases | % Incidence in patients | Observations on mortality |
|-----|-------------------|---------------|-------|----------------------------|--------------------|-------------------------|---------------------------|
| 1   | Worldwide         | 7,794,798,739 | 100.0 | 5830                       | 316402             | 1.84                    | average                   |
| 2   | Europe            | 747,636,026   | 9.6   | 2699                       | 122940             | 2.20                    | high                      |
| 3   | North America     | 368,829,647   | 4.7   | 1321                       | 102110             | 1.29                    |                           |
| 4   | Asia              | 4,641,054,775 | 59.5  | 1348                       | 72428              | 1.86                    | minimum                   |
| 5   | South America     | 653,962,331   | 8.4   | 99                         | 2938               | 3.37                    | maximum                   |
| 6   | Africa            | 1,340,518,147 | 17.2  | 363                        | 15955              | 2.28                    | high                      |
| 7   | Oceania           | 42,677,813    | 0.5   | 0                          | 34                 | 0.0                     | minimum                   |
| 8   | Antarctica        | 0             | 0     | 0                          |                    | 0.0                     |                           |

**Table 6:** Percentage prevalence in the population of Covid-19 active cases (December), by geographical areas

| No. | Geographical area | Population | %     | Covid-19 Active Cases | % Incidence in patients | Observations on prevalence |
|-----|-------------------|------------|-------|-----------------------|-------------------------|----------------------------|
| 1   | Worldwide         | 7794798739 | 100.0 | 22074490              | 0.283                   | average                    |
| 2   | Europe            | 747636026  | 9.6   | 11083322              | 1,482                   | high                       |
| 3   | North America     | 368829647  | 4.7   | 8220611               | 2,229                   | maximum                    |
| 4   | Asia              | 4641054775 | 59.5  | 1244003               | 0.027                   | minimum                    |
| 5   | South America     | 653962331  | 8.4   | 1136032               | 0.174                   |                            |
| 6   | Africa            | 1340518147 | 17.2  | 377067                | 0.028                   | low                        |
| 7   | Oceania           | 42677813   | 0.5   | 13727                 | 0.032                   | low                        |
| 8   | Antarctica        | 0          | 0     | 0                     | 0.0                     |                            |

**Table 7:** Percentage prevalence in the population of severe active cases of Covid-19 (December), by geographical areas

| No. | Geographical area | Population    | %     | Covid-19 Serious Active Cases | % Incidence in population | Observations on severity |
|-----|-------------------|---------------|-------|-------------------------------|---------------------------|--------------------------|
| 1   | Worldwide         | 7,794,798,739 | 100.0 | 105246                        | 0.001                     | average                  |
| 2   | Europe            | 747,636,026   | 9.6   | 26548                         | 0.004                     | high                     |
| 3   | North America     | 368,829,647   | 4.7   | 34193                         | 0.009                     | maximum                  |
| 4   | Asia              | 4,641,054,775 | 59.5  | 25284                         | 0.001                     | minimum                  |
| 5   | South America     | 653,962,331   | 8.4   | 16758                         | 0.003                     | high                     |
| 6   | Africa            | 1,340,518,147 | 17.2  | 2442                          | 0.0002                    | low                      |
| 7   | Oceania           | 42,677,813    | 0.5   | 22                            | 0.00005                   | minimum                  |
| 8   | Antarctica        | 0             | 0     | 0                             | 0.0                       |                          |

The incidence of serious cases (serious and critical) that require ICU from the active cases of Covid-19 in December 2020 (treatable at home or in hospital) is presented in Table 8, according to the data provided by

[www.coronaviruswoldometer](http://www.coronaviruswoldometer) from 27.12.2020.

Asia, South America and Africa have a high incidence of serious cases and Europe and Oceania have a low incidence.

The evolution of morbidity by comparing the percentage of current active cases (December 2020) compared to the total cases of Covid-19 in 2020 is presented in Table 9, according

to the data provided by [www.coronaviruswoldometer](http://www.coronaviruswoldometer) from 27.12.2020.

**Table 8:** Incidence of serious cases in Covid-19 active cases by geographical areas

| No. | Geographical area | Population | %     | Covid-19 Serious Active Cases | Covid-19 Active Cases | % Incidence in patients | Incidence observations |
|-----|-------------------|------------|-------|-------------------------------|-----------------------|-------------------------|------------------------|
| 1   | Worldwide         | 7794798739 | 100.0 | 105246                        | 22074490              | 0.48                    | average                |
| 2   | Europe            | 747636026  | 9.6   | 26548                         | 11083322              | 0.24                    | low                    |
| 3   | North America     | 368829647  | 4.7   | 34193                         | 8220611               | 0.42                    |                        |
| 4   | Asia              | 4641054775 | 59.5  | 25284                         | 1244003               | 2.03                    | maximum                |
| 5   | South America     | 653962331  | 8.4   | 16758                         | 1136032               | 1.48                    | high                   |
| 6   | Africa            | 1340518147 | 17.2  | 2442                          | 377067                | 0.65                    |                        |
| 7   | Oceania           | 42677813   | 0.5   | 22                            | 13727                 | 0.16                    |                        |
| 8   | Antarctica        | 0          | 0     | 0                             | 0                     | 0.0                     |                        |

**Table 9:** Evolution of morbidity by percentage comparison of current active cases (December 2020) compared to the total number of Covid-19 cases in 2020, by geographical area

| No. | Geographical area | Population    | %     | Covid-19 Active Cases | Covid-19 Total Cases | % Incidence in patients | Evolution observations |
|-----|-------------------|---------------|-------|-----------------------|----------------------|-------------------------|------------------------|
| 1   | Worldwide         | 7,794,798,739 | 100.0 | 105246                | 81027859             | 27.24                   | average                |
| 2   | Europe            | 747,636,026   | 9.6   | 26548                 | 22684299             | 48.86                   | maximum                |
| 3   | North America     | 368,829,647   | 4.7   | 34193                 | 22400648             | 36.70                   | high                   |
| 4   | Asia              | 4,641,054,775 | 59.5  | 25284                 | 20362013             | 6.11                    | minimum                |
| 5   | South America     | 653,962,331   | 8.4   | 16758                 | 12856856             | 8.84                    | low                    |
| 6   | Africa            | 1,340,518,147 | 17.2  | 2442                  | 2675424              | 14.09                   |                        |
| 7   | Oceania           | 42,677,813    | 0.5   | 22                    | 48222                | 28.47                   |                        |
| 8   | Antarctica        | 0             | 0     | 0                     | 0                    | 0.0                     |                        |

By a reductio ad absurdum, in a more balanced distribution, December should have represented less than 10% of the total for 2020, but it is almost 3 times higher worldwide, so the epidemic is "accelerating" especially in Europe and North America.

By comparing the percentage of serious (serious and critical) current cases (December 2020) to the total mortality of Covid-19 cases in 2020, the evolution of the severity of the cases is presented in Table 10, according to the data provided by [www.coronaviruswoldometer](http://www.coronaviruswoldometer) from 27.12.2020.

**Table 10:** The evolution of the severity of the cases by comparing the percentage of the serious (serious and critical) current active cases (December 2020) to the total mortality of Covid-19 cases in 2020, by geographical areas

| No. | Geographical area | Population    | %     | Covid-19 death rate % on 2020 | % Severity Covid-19 active | % Difference | % Decrease in severity | Evolution observations |
|-----|-------------------|---------------|-------|-------------------------------|----------------------------|--------------|------------------------|------------------------|
| 1   | Worldwide         | 7,794,798,739 | 100.0 | 2.18                          | 0.48                       | 1.78         | 22.02                  | average                |
| 2   | Europe            | 747,636,026   | 9.6   | 2.30                          | 0.24                       | 2.06         | 10.43                  | good                   |
| 3   | North America     | 368,829,647   | 4.7   | 2.22                          | 0.42                       | 1.80         | 18.92                  |                        |
| 4   | Asia              | 4,641,054,775 | 59.5  | 1.63                          | 2.03                       | -0.40        | 124.54                 | Is getting worse!      |
| 5   | South America     | 653,962,331   | 8.4   | 2.77                          | 1.48                       | 1.29         | 53.43                  | worse                  |



| No. | Geographical area | Population    | %    | Covid-19 death rate % on 2020 | % Severity Covid-19 active | % Difference | % Decrease in severity | Evolution observations |
|-----|-------------------|---------------|------|-------------------------------|----------------------------|--------------|------------------------|------------------------|
| 6   | Africa            | 1,340,518,147 | 17.2 | 2.35                          | 0.65                       | 1.70         | 27.66                  |                        |
| 7   | Oceania           | 42,677,813    | 0.5  | 2.19                          | 0.16                       | 2.03         | 7.31                   | good                   |
| 8   | Antarctica        | 0             | 0    | 0                             | 0                          | 0.0          | 0                      |                        |

It is observed that the severity of the pandemic increases in Asia and South America and decreases in Europe and Oceania.

The published data are updated on a daily basis showing, as expected, a permanent dynamic of the pandemic. However, the general evolution is maintained and falls within the usual predictions in epidemiology, but with inherent features dependent on the biological agent, the disease, the sick, the population, the environment, the medical system, etc.

## DISCUSSIONS

Statistically, it is found that worldwide the prevalence of the disease and the incidence of mortality are unequally represented in different countries and territories, presenting higher than average values in Europe and North America, followed by South America and Australia, so in the predominantly western civilization area and especially in the Euro-Atlantic one. Although an initial flu-like severity was estimated in the initial epidemic, the consecutive pandemic had an upward and then downward trend, now reaching below the severity of the pandemic flu epidemic. The factors favoring the pandemic can be incriminated as well as the relatively effective control measures, and currently the pandemic is decreasing both quantitatively and qualitatively. On the daily world case series (Worldometer graphs) there are three periods of increasing the frequency of the disease (16.03-13.05.2020, 08.07. - 02.09.2020 and 28.10-present) consistent with three consecutive periods of increasing mortality (12.04. - 09.05.2020, 29.07. - 21.09.2020 and 14.11-present). So it was a first wave in the spring of 2020, a second in the summer and a third in the fall-winter, so we expect a fourth wave next spring overlapping with the season of acute respiratory viruses. It means that the media warning that a second or third wave will come is not based on reality, they have already come and nothing special has happened. But the genetic variability of many viruses creates the risk of mutations in contagiousness, virulence and/or immunogenicity.

The global Covid-19 pandemic was not particularly serious, as some experts have questioned the declaration of the pandemic for medical reasons, and its continuation will be, as world statistics indicate, easier, even below the level of

seasonal flu. We currently benefit from specific diagnostic tools (for viruses, antibodies and clinical interpretation), etiological, adjuvant and complementary treatment (even if we do not yet have specific antivirals) and vaccine prophylaxis (under authorization) which will be applied en masse in the near future. The optimistic variant is that the pandemic will end in the summer, but there are also various pessimists that sustain it will last until 2022 or that we will have to live with the virus. Which is actually the case with influenza viruses, but no one is scared of them now.

At the mentioned date, out of the total of 72,197,885 cases diagnosed with Covid-19 for the year 2020, representing a world prevalence of 0.92%, there are 1,613,401 deaths, so the incidence of mortality was of 2.29%. Compared to these, there are currently 27.71% of current cases (with a global prevalence of 0.26%) under treatment in December. Thus, the frequency of Covid-19 diseases increased, but severe cases (requiring ICU treatment) accounted for only 0.53% of the cases. It turns out that the severity of Covid-19 has now been reduced by more than four times.

After the date on which the presented data were counted, some major events in the evolution of the pandemic occurred: the urgent authorization of the new anti-Covid-19 vaccines and the identification of an N501Y mutation that could change the evolution of this disease, but in what sense it is not yet known.

The exaggeration of the danger presented by this virus can be explained by: the novelty of the disease and its causative agent, which could have evolved unpredictably; by the desire of the sanitary decision makers not to trivialize a possible potentially serious epidemic; the desire of policy makers to show their concern for the population (especially if it is an election year); the desire of global finance to reap benefits primarily through Big Pharma and related fields; the desire of the press to hunt "hot" subjects; the desire of politicians to mask the incipient world economic crisis and even the attempt to economically suffocate the "factory of the world" in order to block the change of the New World Order.

It is paradoxical that the most civilized countries and with the best medicine have suffered the most, both through the health crisis (sick, deaths, involvement of forces and health)

and the subsequent socio-economic crisis. There is an explanation that these countries have the longest-lived population, so aged and with comorbidities, which are ranked in "risk groups". Nevertheless, it can be estimated that the best performing medicine, and therefore the most expensive, is not as effective in the field of public health. Compared to the health insurance system, the territorial rounding of health care allows better hygienic and epidemiological surveillance and an epidemiological investigation on the epidemiological chain: source-transmission-receiver, which has proven to be the most effective means of stopping the epidemic. However, the implementation of some measures would be in contradiction with the law, with the rights and freedoms of the individual and with the interests of the health insurance system.

Under these conditions, it would have been possible for any other viral, bacterial or other epidemic / pandemic to occur, with a single or multiple etiological agent, known or not yet known, with even more serious consequences. All this requires the timely preparation of appropriate, comprehensive but resilient Action Plans to cover any foreseeable situation in the future, including that of biological warfare, bioterrorism, biocrime or biological accident.

From the multitude of objective data published daily by the worldometer, interesting conclusions can be drawn for the evolution of the pandemic and public health, and each person interested in the real situation can ultimately reach his own conclusions.

The current pandemic has generated a complex health, social, economic crisis but also a "psychodemia" through direct and indirect effects. It is interesting that many doctors have let themselves get drawn into this collective fear, some have resigned shamefully, looking only at the particular cases in their field and at the multitude of information and misinformation in the environment subjectively and uncritically, rather criticizing interestedly or uninterestedly the realistic ones. American writer and journalist Mark Twain said, "If you don't read the newspaper, you're uninformed. If you read the newspaper, you're mis-informed." As recommended by some specialists (some of whom have lost their jobs, the freedom or their lives) we need to turn off the TV and analyze the statistical data provided by reliable scientific sources; we mainly chose WHO, Nature, Science and Worldometer. At the same time, the false news spread by conspiratorial negativists who do not see the virus, do not see the disease, do not see the epidemic, and do not see the reality and try to convince others of their aberrations must be rejected.

Regarding the diagnosis, treatment and prophylaxis, it can be considered that something that works now is more useful than something perfect in the future. It is important to respect the Hippocratic principles: „Primum non nocere” and „We treat the sick and not diseases”. But as the military say, „You go to war with what you have, not with what you want.”

At the same time, the year 2020 is one of the most prolific for medical science: the number of bio-medical scientific researches has reached a record hard to match, books have been written, articles about the various medical and non-medical aspects of Covid-19, an international collaboration took form with fast publications that are freely available online, just before the peer-review (which resulted in a record number of false researches that misled the medical world), a counter-clockwise competition for diagnostic reagents, drugs and specific vaccines, protective equipment, disinfectants, etc.

An English journalist and writer wrote, "I often thought again and again how unprepared the whole community had been for the calamity that had paled it, and to what extent the ensuing disaster was due to the fact that no public and personal measures and provisions had been taken in time. If everything had been done properly, the number of victims would have been much lower. I say all this as a warning and as a lesson for posterity." This warning was written by Daniel Defoe (1660-1731) in the book "A Journal of the Plague Year" published in 1722 [4] and is still valid today, and possibly also for the future...

The Covid-19 pandemic is a reality of current times, the year 2020 being portrayed as the "COVID year". The international scientific community has shown that, when needed, it can collaborate beyond classical barriers. The novel coronavirus was studied as a coronavirus by biologists, as a new disease by doctors, as the new reagents by biochemists, as the new drugs from the perspective of pharmacologists, and so forth. Thus, in record time, faster than in any other similar situation, we already have a lot of knowledge about them and we have an adequate diagnostic, therapeutic and prophylactic means, but not everything.

Statistics show that the virus is not very aggressive, the disease is not very serious but there are also serious, sometimes fatal complications to which appropriate measures must be applied, including ICU. The risk of serious illness and life-threatening complications is statistically reduced over time, the disease being less severe now than at the beginning, so it is on a downward slope.

It can be estimated that there are premises for the end of this pandemic in the near future and that if no other

---

disruptive factors intervene, it will return to normal, or at least the ordinary, in terms of social and economic life.

### Comments

After one year, the Covid-19 is present disease, and the pandemic is a reality of current times, the year 2020 being portrayed as the "COVID year". The medical literature on Covid-19 and the information released in the public space allow statistical analysis, the most complete and systematized data, representing the US point of view, are updated and published on a daily basis, including on the website [www.worldometercoronavirus](http://www.worldometercoronavirus).

The primary and secondary statistical interpretation of quantitative data is possible by dividing on quantitative intervals, percentage processing by absolute and relative values, by applying the significance test, etc. and obtaining quantitative and qualitative data that corroborate with medical logic according to the principles of "evidence-based medicine".

The graphical distribution by percentage statistical intervals of the countries did not create a normal bell-shaped Gaussian curve, but a steep downward curve, so most countries had few or no cases and the high prevalence was in a small number of countries. The global prevalence has dropped from 0.92% per year to 0.26% up to the present moment (13.12.2020), and 78 countries (more than a third of the total) currently have no serious cases in evolution.

From a statistical point of view, confirmed by the "situational experiment" presented, it can be estimated that in the conditions of strictly supervised medical and non-medical countermeasures Covid-19 is neither very contagious nor has a high mortality, even if there is a population in the risk group: the elderly, chronic diseases, etc. The entry of the statistically processed data from the Worldometer tables primarily processed on the grid's graph with the probability of significance "2 alpha" of 95%, shows that the general prevalence of fatal cases of/with Covid-19 compared to the total cases of Covid-19 throughout 2020 (A) is significantly higher than the prevalence of severe cases compared to the total current active cases of Covid-19 (B). There is a decrease in the severity of the disease in the pandemic's dynamic context, which could mean that: the virus has become less virulent (adapts to the host), the treatment is more effective (more effective therapeutic strategies are being identified),

(specific and / or cross) collective immunity develops or all of these in different proportions.

The area of the extended western civilization (2 + 3 + 5 + 7) represents about 23%, and the area of the other civilizations about 77%, i.e. the absolute majority, and the area of restricted western, mainly Euro-Atlantic, has about 14% of the population and about 56% of cases. North America has a Covid-19 mortality rate among its population of almost 6 times higher than the global rate. The incidence of mortality in new Covid-19 patients in South America and Africa is high and low in Asia. The incidence of mortality in new Covid-19 patients is high in South America, Africa and Europe and Oceania no longer has mortality. The percentage prevalence in the population of Covid-19 active cases is high in North America and Europe (totalling 87% of active cases in a population of about 14%) and Asia, Africa and Oceania currently have a low prevalence.

With an average prevalence of active cases of 1/100,000 it can be considered that at this moment Covid-19 is a "rare disease" and drugs intended for the prophylaxis and treatment of this disease can be considered as "orphan drugs". North America and Europe have a relatively higher prevalence and Africa and Oceania currently have a very low prevalence. Asia and South America and Africa have a high incidence of serious cases and Europe and Oceania have a low incidence. By a reductio ad absurdum, in a more balanced distribution, December should have represented less than 10% of the total for 2020, but it is almost 3 times higher worldwide, so the epidemic is "accelerating" especially in Europe and North America. It is observed that the severity of the pandemic increases in Asia and South America and decreases in Europe and Oceania.

### CONCLUSION

Statistics show that the virus is not very aggressive, the disease is not very serious but there are also serious, sometimes fatal complications to which appropriate measures must be applied, including ICU. The risk of serious illness and life-threatening complications is statistically reduced over time, the disease being less severe now than at the beginning, so it is on a downward slope. With prophylaxis, vaccination and treatment we hope the finish of present epidemia.

### References:

1. Defoe D. "Jurnal din anul ciumei" (A Journal of the Plague Year) ed. Art, Bucuresti 2020
2. European Pharmacopoeia, 8.0 Edition, 2013, Statistical analysis

of results of biological assay and test, p. 607-635

3. Ordeanu V, Ionescu LE, Neagu R. „The Covid-19 pandemic – A statistical interpretation updated in early 2021” RJMM vol CXXIV

no 4/2021 p 445-451

4. Ordeanu V. „Controverse privind pandemia de Covid-19 in absenta pacientului zero” revista Lumea, nr. 5, p 30-35, 2020
5. Ordeanu V. „Covid-19” Viata Medicala din 06.03.2020, p 1,4-5
6. Viorel Ordeanu, Lucia Elena Ionescu, The impact of the COVID-19 pandemic on national and international security, Proceedings International Scientific Conference Strategies XXI, p 48-61
7. Voicu V, Cernescu C, Popescu I. “Pandemia Covid-19 in Romania, aspecte clinice si epidemiologice” Editura Academiei Române, București, 2020
8. [www.worldometer, current world population /world-population](http://www.worldometer.com/current-world-population/)
9. [www.worldometercoronavirus, Coronavirus updates/coronavirus/Covid-19/ Coronavirus Pandemic.](http://www.worldometercoronavirus.com/coronavirus-updates/coronavirus/Covid-19/Coronavirus-Pandemic)