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REPORT: CONTROVERSIAL TOPICS REPRESENTED IN MEDIA

How the coronavirus pandemic has been covered by Greek media

SUB-REPORT

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CONTENT

1. Definition of topic and period of analysis

The study focused mainly on the coverage of the coronavirus outbreak with some references to seasonal flu due to comparisons that emerged especially in the beginning of the outbreak, as coronavirus and flu partly trigger identical symptoms. The analysis covers the period of January to the beginning of March 2020. New research findings in connection to the coronavirus disease have not been included since the analysis considered the early stage of the spread. Every article has been reviewed based on the existing scientific data available at the date of publication.

2. General Introduction

The topic has been chosen due to its importance as it concerns a global pandemic and due to its originality as it represents a very distinct example of the importance of science journalism vis-à-vis so called “fake news”. The topic is relevant in Greece and all over the world as it affects peoples' lives on a daily basis. For the first time in modern history almost all countries across the globe had to adopt harsh measures and move to a general lockdown as a way to combat the pandemic. In some countries this brought forward a controversy that questioned the necessity of political measures such as closures of schools, shops, etcetera. People’s reactions and fears towards the measures taken – for example quarantine – have sparked a furious debate since they have been exploited by political actors (populists) in order to promote their agenda based on assumptions and conspiracy theories (see for example Brazil). In Europe we have seen a rise in disinformation regarding the issue spread by political parties (populists, authoritarians) and movements (anti-vaccine) that linked the coronavirus pandemic to topics such as 5G and conspiracy theories mixed with anti-establishment rhetoric.

In addition, the topic was considered suitable for this analysis due to the emergent situation, the way that journalists and media organisations have covered it but also due to the high demand for information. Under these circumstances, it is more than important to fight “fake news” and misinformation and in this regard science communication plays a vital role. Unfortunately, accurate information about the coronavirus may make the difference between life and death.

3. Desk Research

The overview of scientific literature aims to present facts and evidence-based research regarding the coronavirus disease. Firstly, coronavirus belongs to the wide category of viruses called corona like SARS and MERS. More specifically, COVID-19 (the new 2019 coronavirus) belongs to the beta group of coronaviruses that are responsible for respiratory infections. First coronavirus cases were detected in December 2019 in the Chinese city of Wuhan and are believed to be connected to a market where illegal trade of wild animals took place. As the first outbreak occurred in China, the claim that the virus had been created in a Chinese lab has been reproduced broadly in “fake news” articles circulating throughout other parts of the world.

The coronavirus disease can be transmitted through cough or sneeze droplets from an infected person or contaminated surfaces (after touching face, eyes, mouth and nose). The antiviral drugs used so far against flu will not work. Moreover, anti-flu vaccines do not protect from COVID-19 and vaccine against the novel coronavirus has not been found yet. Recovery depends on the strength of the immune system. According to data provided by the WHO (World Health Organization), an infected person will transmit the coronavirus in average to 1,4 to 2,5 people. The incubation period of COVID-19 is thought to be between one and 14 days. It is contagious before symptoms appear. According to the WHO, signs of infection include fever, dry cough, tiredness, shortness of breath and breathing difficulties. According to recent data provided by the WHO, very few people also report symptoms of diarrhoea, nausea and runny nose. In more severe cases, it can lead to pneumonia, multiple organ failure and even death (Boseley & Devlin, 2020).

While the use of a medical mask can restrict further transmission, the use of a mask alone cannot provide full protection. Further precautionary measures like proper hand hygiene and avoidance of close contact must also be taken by citizens (European Centre for Disease Prevention and Control, 2020a). Precautionary measures include the use of antiseptic alcoholic solutions, thoroughly washing of hands with soap and water for at least 20 seconds and a balanced diet to boost the immune system. Moreover, people that show symptoms of respiratory infection should stay at home and abstain from attending classes or working, people should avoid close contact with anyone with respiratory symptoms and hand contact with eyes, nose and mouth to reduce the risk of infection. In case of coughing or sneezing, people should cover their nose and mouth with their sleeve at the elbow or with a tissue and dispose the used tissue in trash cans (European Centre for Disease Prevention and Control, 2020b).

Moreover, many articles compared the novel coronavirus with flu because both are respiratory illnesses and partly have identical symptoms. However, these articles were prompted by initial assumptions that quickly were abandoned since the scientific community realised that the symptoms were more severe. In addition, this approach has been adapted by conspiracy theorists in order to strengthen their opposition towards quarantine measures. Thus, it is important to take into consideration facts and evidence related to the common flu. Apart from the difference in symptoms and the course of disease, there are no vaccines or treatments for the novel coronavirus while vaccines against the flu along with effective antibiotics are available for use.

During crises, communication is a major tool in order to handle the crisis and most importantly to tackle “fake news” that could negatively affect the course of a crisis. “Fake news” as Waisbord (2018, p. 1866) argues “(…) is symptomatic of the collapse of the old news order and the chaos of contemporary public communication (…) These developments reflect seismic changes in public communication – the end of information scarcity, multi-layered news and communication environments, and the active role of publics in news production, access, and use”. Additionally, a variety of communities push different brands of scientific denialism in the vast digital landscape (Alumkal, 2017). They espouse convictions that contradict accepted arguments among scientists, historians, policy specialists, and other experts. To mention a few examples: With a mix of conspiracy theory and pseudoscientific jargon, AIDS denialists contradict standard scientific conclusions about HIV transmission, prevention, and care

(Kalichman, 2014). Fluoridation denialists and vaccination sceptics reject scientific consensus on the positive impact of both interventions with an odd brew of false data, wannabe-experts, and misrepresentation of findings and conclusions (Barraza, Orenstein, Campos-Outcalt, 2013). It is worth mentioning that misinformation spread when little was known about AIDS, generating fear in public opinion as well as racist and homophobic behaviours that had a negative impact on how people approached the issue. There were also rumours that AIDS would be transmitted through air. Back then, they did not call it "fake news", but “fake news” that are being used to warn people and spread ideologies seem to benefit from a lack of scientific knowledge about illnesses.

Post-truth challenges the normative vision of journalism as a critical link in democratic public life based on fact-grounded, reasoned arguments. The combination of large-scale dissemination of false information and the wide access of communities of belief with diametrically different epistemologies contradicts the aspirations of rationalist models (Waisbord, 2018, p. 1871). For our analysis we have taken into account what Scheufele and Krause (2019, p. 165) argue: “that part of the problem is related to a well-documented decline in science journalism” and “the trend among many media organizations to no longer use (full-time) science journalists”. As a result, coverage of scientific issues has often become the responsibility of political reporters, business writers, and journalists in other non-scientific beats.

During past health crises, such as the swine flu or the recent Ebola outbreak, journalists were repeatedly criticised for falling short of expectations, reporting inaccurately, imbalanced or aggravating fears and panic (Shuchman & Wilkes, 1997; Yusuf, Yahaya, Qabli, 2015). The prevalence of false stories especially when covering health issues and crises are raising concerns in many countries. Paired with an increasingly polarised political environment, this has also promoted what some have called “false balance”. The term refers to reporting – often by nonscience journalists – that puts established scientific consensus around issues like genetically modified food or climate change on equal footing with nonfactual claims by think tanks or interest groups for the sake of “showing both sides”. According to Klemm, Das and Hartmann (2019, p. 1224), “the fact that journalists face strongly articulated (and at times conflicting) expectations hints at what may be an important variable in the overall process of communicating health crises” which is the role of journalists and media organisations. Journalistic practices of ‘balance’ in news reporting (Boykoff & Boykoff, 2004) should not prevent them from reporting fake news. In our analysis we will shed a light on the source of the news: whether or not it is from a specialised reporter, or source and whether we have cases where scientific consensus around the issue is presented on equal footing with nonfactual claims. In addition, “our inability to reach all segments of the population equally well with high-quality scientific information is particularly troubling, given that the need for antidotes to misinformation might be particularly pronounced among certain groups of the public” (Scheufele & Krause, 2019, p. 7665). In our review of scholarly work, we can see that several important factors have figured prominently in scholarly assessments of science journalism, such as the news values that inform story selection, the representation of both science and scientists' journalistic perceptions of audiences or market pressures shaping coverage.

4. General information about the sample

For the selection of articles related to the coronavirus outbreak, more than 300 articles were screened from which 60 articles were initially selected. From these 60 articles, 30 were finally chosen in order to be used for the creation of the sub-report. The 30 chosen articles include 25 articles (83 %) from Greek mainstream media websites (they were selected from the top 50 Greek websites according to the classification of *Alexa*) and five (16,65 %) from online mainstream English news websites (specifically: *BBC*, *Al Jazeera*, *The Guardian*, and *Russia Today*). In particular, the Greek articles were published in 23 different Greek mainstream media websites. The period of the selected articles lasts from the 22nd of January until the first week of March. In addition, two articles (*Al Jazeera* and *The Guardian*) do not provide a date of publication as they have been updated continuously but were included in the sample at the end of February.

For our research we have used quantitative content analysis, a method widely employed in the field of communication. We systematically tracked down relevant articles through following the day-by-day coverage of COVID-19 within the selected news portals. In addition, a keyword analysis was applied to track relevant reporting regarding the flu coverage. Then we categorised textual as well as visual material in order to analyse it and track disinformation cases. Central to our content analysis was coding, following the set of instructions that we have jointly agreed on to identify misrepresentation. The news items were chosen from Greek and English mainstream news websites. The articles had to be related with COVID-19 while the source of the analysis were narratives regarding the pandemic. Conducting a successful content analysis requires careful attention to unitising (segmenting the texts for analysis), sampling (selecting an appropriate collection of units to analyse), reliability (different researchers making codes consistently), and validity (using a coding scheme that adequately represents the specified phenomena).

Approximately 30 % of the articles collected seem to misrepresent the chosen topic since the information provided in the articles is misleading or deficient. For instance, the author of an article published in *zougla.gr* (*Zougla online*, January 29th, 2020) claims that Bill Gates' enterprise is responsible for the coronavirus outbreak because, as he explains, this virus was a laboratory construct funded by the *Bill & Melinda Gates Foundation* and the virus already had a patent number (EP3172319B1) developed by *Pirbright Institute* which received funds from the *Bill & Melinda Gates Foundation*. In fact, Bill Gates is a top target for conspiracy theories around coronavirus (Huddleston Jr., 2020). In specific, he has been accused that he wanted to fight the coronavirus by implanting the global population with vaccine microchips. Other conspiracy theories as the one mentioned above, suggest that Bill Gates had prior knowledge of coronavirus. A video of Bill Gates giving a speech at *TEDx* in 2015 about a virus outbreak has attracted much attention on *YouTube* and *Facebook* platforms and has been used to fuel this conspiracy.[1] In Addition, the pro-Trump movement *QAnon* and the anti-vax community support that the coronavirus outbreak was planned by Bill Gates and spread that rumour across social media platforms. The main argument behind these allegations is the existence of a patent

[1] The TEDx talk can be accessed through this link: https://www.ted.com/talks/bill_gates_the_next_outbreak_we_re_not_ready?rid=udoHFMirVaMH&utm_source=recommendation&utm_medium=email&utm_campaign=explore&utm_term=watchNow

number for coronavirus held by *Pirbright Institute*. However, according to *Pirbright Institute* (2020) this patent concerns "(…) the development of an attenuated (weakened) form of the coronavirus that could potentially be used as a vaccine to prevent respiratory diseases in birds and other animals" and "was not funded by the *Bill & Melinda Gates Foundation*". The framing of conspiracy theories in connection to the coronavirus pandemic is remarkably interesting since the outbreak is being attributed to various sources and reasons that are partly contradicting. For instance, on the one hand some conspiracies claim that the virus was created in a Chinese lab while others state that the Bill & Melinda Gates Foundation is responsible for its existence.

Another example is an article uploaded in *thetoc.gr* (*TheToc*, January 24th, 2020) in which the author states that the virus originates from cobra consumption or from another snake infected by bats which transmitted the virus to humans and explains that the novel coronavirus is a combined, mutant virus coming from bat and snake. We find another example of deficiency of information in an article on *vimaonline.gr* (*Vima Online*, January 30th, 2020) in which the author, who is a special pathologist, presents guidelines regarding coronavirus, informing readers about its characteristics, origin, similarities with SARS virus, ways of transmission, risk levels and precautionary measures. However, the information presented is not entirely accurate, as one of the measures that the author suggests includes the avoidance of contact with stray animals, birds and the consumption of raw meat – this is not recommended by any other source, scientist or organisation.

Moreover, 22 out of 30 (73 %) are news reports, six (20 %) are analysis (providing specific information on COVID-19) and two (7 %) are interviews. Regarding the perspective, 14 out of 30 articles (47 %) focus on a national perspective and 16 (53 %) focus on a broader context since coronavirus is a topic that is covered throughout countries all over the world.

Lastly, the articles have been divided into three categories according to their length: (1) articles below 300 words, (2) articles between 301 and 600 words and (3) articles above 600 words. More specifically, six out of 30 articles (20 %) have below 300 words, 16 (53 %) have between 301 and 600 words and eight (27 %) have above 600 words.

5. Authorship

Half of the articles (50 %) do not provide the author's name while five (17 %) mention that the article is written by the newsroom or editorial team of the media organisation. In addition, seven out of 30 articles (23 %) were written by journalists and two (7 %) were written by a pathologist and a university professor accordingly. It is a common practice in Greek media not to include sources. In a recent study in 2017 it was found that only 17 % of the online articles include the source of the information (Saridou, Spyridou, Veglis, 2017). This is because in many cases Greek media report information from press releases and news agencies without including a reference to them. This has resulted in an increased level of *Churnalism* that can be found in Greek Online Media (89 % *Churnalism* rate as reported by Saridou, Spyridou, Veglis, 2017). Thus, we cannot conclude that the lack of source is a strong indication that the article is not credible, since it is a common practice in Greek Online Media.

As far as the point of the author is concerned, more than half of the articles (53 %) provide information regarding the coronavirus pandemic in a neutral and informative manner, including information such as the virus' characteristics, symptoms, reported cases, origin, similarities and differences with other viruses like SARS, MERS and Influenza, ways of transmission, risk levels, precautionary measures, guidelines for the use of medical masks, the profile (age, condition of health, residence) of people that were infected or died from coronavirus and the current yeasty situation that the outbreak has caused to China and other countries.

In some cases, these articles also name more than one source to support the provided arguments. For example, in an article published in *cretalive.gr* (*Cretalive*, January 31st, 2020) the author presents the guidelines that governments from different countries have enacted towards citizens regarding the use of facial masks to protect themselves from the coronavirus spread and the confusion created by these guidelines. Different sources are mentioned referring to protection measures suggested by Singapore newspapers, the government of Malaysia, *Taiwan Railways Administration* and a virologist of Columbia University. The author also mentions citizens' reactions regarding this issue. Thus, the article gives general directions regarding the question whether or not to use a mask without supporting a specific point of view. In addition, in an article published in *kathimerini.gr* (*Kathimerini*, January 31st, 2020) the author uses information provided by *Hellenic Pasteur Institute*, which is a Legal Entity of Public Law and non-profit organisation supervised by the Ministry of Development and Investments and the Ministry of Health with the main goal to prevent and treat diseases, as well as the European Centre for Disease Prevention and Control (ECDC) in order to provide all the necessary information about the novel coronavirus to the readers. Furthermore, an interview with the Vice-Rector of the *National and Kapodistrian University of Athens* and Director of the Laboratory of Microbiology of the Medical School, Professor Athanasios Tsakri, is presented to clarify the identity of the virus and give directions to readers.

Other articles present the measures taken by the Chinese government to tackle the coronavirus outbreak. In detail, in an article published on *protothema.gr* (*Proto thema*, January 31st, 2020) the author informs that one of the measures taken by the Chinese government to contain the spread of the virus is the use of drones that distribute disinfectants through the air. Another article published on *tomanifesto.gr* (*Tomanifesto*, February 8th, 2020) is showing videos with Chinese citizens taken out of their homes by force or being arrested by police as part of the measures taken to fight the coronavirus outbreak. This can be referred to as an infotainment approach in order to impress the audience. As these examples highlight, in the beginning of the outbreak, the pandemic was presented as an exotic phenomenon connected to China and the "underdeveloped" world.

In the remaining 14 articles (47 %), the side taken by the authors is more obvious, and in certain cases, is leaning towards a certain country or a specific point of view. For instance, in an article published in *Russia Today* (*Russia Today*, February 4th, 2020) the author claims that the Russian drug *Triazavirin* is tested by China as a potential effective drug against the coronavirus but he does not provide further information regarding drugs or vaccines tested against coronavirus and only presents the testing for a Russian drug highlighting only Russian research. *Russia Today* has been accused for its propagandistic content by several news media and in this case, it seems to confirm the platform's pro-Russia bias (Ioffe, 2010). *Russia Today* has also

emphasised “western weaknesses” in dealing with the event while hardly any information about numbers of infections within Russia were published. In addition, great emphasis has been put on Russian aid towards Western Europe, especially Italy.

In some cases, the author does not only support one side but also provides fake or misleading information like in the article published in *makeleio.gr* (*Makeleio.gr*, January 29th, 2020). In this particular article, the author claims that due to the survival of the virus up to 28 days in the environment, it might be a biological weapon. But he fails to provide the required evidence since the findings of the study included as evidence are not consistent with the author's arguments.

On the other hand, some articles may highlight a certain view, but the provided information is supported by scientific research or different sources. For instance, the author of an article published in *huffingtonpost.gr* (*The HuffPost Greece*, January 30th, 2020) supports that coronavirus is less contagious in comparison to child diseases like measles, smallpox, mumps but also influenza and the more recent SARS. The author presents two sources that provide contradictory arguments regarding the contagion level of the coronavirus: an infographic by *Statista* and a link to *Spiegel* magazine. The infographic, however, presents the information that the author uses to support his/her arguments and the contradicted arguments presented by *Spiegel* magazine are not mentioned and only a link to the magazine’s article is provided.

Thus, that the author is taking a specific side does not necessarily correlate with disinformation or misinformation as long as the information provided is supported with accurate and valid arguments as well as not mentioning the author’s name or when the author’s name is reported, his/her occupation or specialty does not seem to affect the credibility of the article’s content. This is due to the fact that the amount of *Churnalism* is quite high in Greek online media including some of the mainstream media websites although in most cases the media employ credible sources (for example news agencies or press releases) without mentioning them (Saridou, Spyridou, Veglis, 2017).

6. Style of language

The style of language used in the articles can be divided into three main types:

- neutral,
- emotional and
- critical

Neutral: When the news item does not include adjectives regarding the event, the journalist does not take sides and inflammatory language is not being used.

Emotional: The journalist/author uses qualifying adjectives. The news story includes the use of style elements or descriptions in the story (exaggeration, the use of dramatic superlative adjectives and metaphors) that highlight or emphasise the unusual, incredible, and spectacular. The tools used to introduce sensationalism in a story can be found in textual elements such as metaphors, exaggeration, the use of dramatic superlative adjectives.

Critical: Using text, images and/or sound, the journalist/author explicitly provides his/her point of view or judgment as an expression of approval or disapproval, indicating what side s/he is on, or what her/his position is.

In more detail, most articles adopt a neutral style of language (21 out 30 articles – 70 %). Nevertheless, six out of 30 articles (20 %) use emotional language in order to persuade readers of a certain point of view. Only three articles were found to employ critical style of language.

For instance, in an article published in *makeleio.gr* (*Makeleio.gr*, January 29th, 2020) the author uses adjectives like "nightmarishly" when describing the evidence of the survey of Casanova et al. (2010) on the effects of air temperature and relative humidity on the survival of the virus on different surfaces. This was used as evidence to the argument stating that the coronavirus is a biological weapon.

Another example is an article published in *tanea.gr* (*Ta Nea*, February 8th, 2020) in which the author presents a document from the Hellenic National Public Health Organization (EODY) that was sent to the Hellenic Police and the ministry of Migration and Asylum and to Reception and Identification service. The document included information regarding protective measures against the spread of coronavirus that should be taken in hot spots. The author points out how crucial and exposing the document is by employing words such as "terror" (terrifying) in order to characterise it. As it seems the author issues warnings regarding a coronavirus spread through refugees while at this particular time no documented cases of coronavirus had been reported in hot spots.

The articles which employ a neutral style of language focus on informing readers about the coronavirus outbreak, reported cases' characteristics, symptoms, origin, similarities and differences with other diseases, precautionary measures, the profile of people that were infected or died from the virus and measures taken by countries with reported coronavirus cases.

Lastly, there are three articles which use a critical style of language. In these articles, the authors criticise a certain policy, organisation or a point of view. In more detail, in an article published in *Deutsche Welle* (*Deutsche Welle*, February 24th, 2020) the author explains that the extent of media coverage on coronavirus and the panic created by it is disproportionate to the actual danger of this virus as other diseases that are more dangerous for people would get less coverage. Thus, according to the author, this practice is tailored to attract more attention.

In addition, in an article uploaded in *efsyn.gr* (*Efsyn*, February 11th, 2020) the author, prompted by the testing of the Cuban drug *IFNrec* – a medicine normally used to treat HIV patients that is now being tested as a treatment for coronavirus – through the National Health Commission of China, supports the end of the embargo imposed by the USA against Cuba. As the author explains , the fact that China has adopted this medicine as a "front-line" risk management drug raises the question of whether the US economic embargo on Cuba that has been in place for 60 years should continue or not, since an end could benefit millions of Americans as they could get access to medicines that are overpriced in America. He also mentions that many Americans already travel to Latin America to get supplies in medicines that they cannot afford in America due to high costs of private health insurances.

Finally, in an article of *zougla.gr* (*Zougla online*, January 29th, 2020) the style of language can be characterised as ironic and critical as the author accuses Bill Gates' foundation for the coronavirus outbreak and characterizes Bill Gates as a "prophet" because, as he explains, Bill Gates' foundation, along with the Center for Health Security of Johns Hopkins University and the World Economic Forum, organised *Event 201*, a simulation of a coronavirus pandemic exercise prior to the coronavirus outbreak in December 2019.

All in all, the style of language used in the articles is in most cases neutral. Nevertheless, the majority of articles that employ critical and ironic and in fewer cases emotional style of language tend to do so in order to persuade readers into accepting an untruthful position instead of providing factual data or arguments or even valid proof.

7. Visualisation

All articles include at least one photo in line with the content that introduces the reader to the subject of the article. In more detail, 17 out of 30 articles (57 %) are accompanied with just one image and the others additionally include videos, infographics, interactive maps, graphs and photos. All images are in line with the article's content, but no further data is provided.

Specifically, an article uploaded in *pronews.gr* (*Pronews*, February 8th, 2020) includes an image showing a person getting vaccinated, which is in line with the article's content as it encourages people to get vaccinated against seasonal flu. In addition, in an article of *in.gr* (*In.gr*, February 7th, 2020), an image showing an empty street in a city accompanies the article which is related to the article's content as it informs about the quarantine in Hubei province. Moreover, a photo is included in an article of *Russia Today* (*Russia Today*, February 4th, 2020) showing laboratory equipment, which is in line with the content since the article is related to drug testing.

The articles that include static and interactive visualisations are six out of 30 (20 %) and the ones that include only static visualisations like one image along with an infographic or more pictures are also six (20 %). For example, an article uploaded on *bbc.com* (*BBC*, February 3rd, 2020) is accompanied by three photos related to the information provided by the author, one infographic showing precautionary measures against the spread of the virus and a video showing how to properly wash your hands.

Thus, all visualisations are in line with the content and are being used to illustrate the guidelines the author presents. In addition, an article on *ant1news.gr* (*Ant1news*, February 11th, 2020) includes seven photos that show the equipment used in the decompression chamber that operates at *ATTICON Hospital* and the preparation that has been made to deal with a possible coronavirus case. In addition, four clips from *skai* news broadcast are included that show reportages on the developments of the coronavirus spreading.

In many cases, visualisations serve as evidence to the presented arguments and provide further information on the subject. For instance, an article of *skai.gr* (*Skai*, February 24th, 2020) that presents the reported cases of the coronavirus globally includes a real time interactive map created by Johns Hopkins University. It shows all the countries that have been affected by the spread of coronavirus, the total number of confirmed cases but also the confirmed cases by

country/region, the total number of deaths and the total number of recovered patients by country/region. In addition, the article includes two clips of *skai news* about the coronavirus outbreak in Italy that provide further information regarding the reported coronavirus cases and one photo showing a Chinese citizen wearing a mask as an introductory photo to the article. All the visualisations provide a broad perspective as far as the global outbreak of the virus is concerned.

Another example is an article uploaded on the *Al Jazeera* website (*Al Jazeera*, date updated continuously) in which the characteristics of the virus, the symptoms, how deadly it is, reported cases, countries with confirmed cases, origin and measures taken to stop the spread are presented along with two videos. The videos were created by *Al Jazeera*, the first one is a news clip with basic facts about the novel coronavirus and the second one a presentation of basic facts with additional statements by experts and data regarding the virus in order to provide further information on the topic. In addition, four data visualisations are presented, one showing the category of viruses that COVID-19 belongs to, one showing the symptoms, a third showing the timeline of the coronavirus spread and a fourth showing protection measures. All visualisations support the provided information and give an overview regarding COVID-19.

8. Controversy

The articles that present controversial ideas are 10 out of 30 (33 %), either by providing misleading information or due to the controversial points of views presented. It is quite common in times of crisis for a lot of controversial ideas to be presented in news articles, in many cases without any concrete evidence. In addition, another usual practice is to present only a particular side of a story without providing the audience with different views that would provide a bigger picture of a specific topic or event. Next, specific examples of this practice identified in the analysed articles are briefly presented.

More specifically, in an article published in *in.gr* (*In.gr*, February 7th, 2020) two sources are presented regarding the origin of COVID-19. In more detail, the South China Agricultural University supports and examines the possibility that *manis* (a genus of pangolins) is the host of this new coronavirus. Also, Dirk Pfeiffer, Professor of Veterinary Medicine at Hong Kong's City University, warns that research has not proven yet that pangolins have transmitted the virus.

Moreover, in an article published in *Deutsche Welle* (*Deutsche Welle*, February 24th, 2020) the author provides data to support her arguments regarding the excessive coverage of the novel coronavirus by media when the death rates and reported cases but also the symptoms of the virus show that the numbers of coronavirus infections would not exceed the ones of other diseases like Ebola, seasonal flu and HIV. According to the author, the risks of the new virus, especially outside of its epicentre, were low compared to the risks of other diseases. Thus, the virus should be dealt with additional measures by public health institutions and there should not be any panic. The author supports her arguments with statements by experts, data visualisations, research and additional articles related to the subject. For example, a graph included in the article shows the levels of contagiousness and deadliness of diseases like Bird Flu, SARS, Ebola, HIV, Rabies, Polio and Hantavirus compared to the novel coronavirus to prove that levels of contagiousness and deadliness of the novel coronavirus were lower compared to the other presented diseases.

The author of an article in *tanea.gr* (*Ta Nea*, February 8th, 2020) presents a document sent to Greek authorities regarding precautionary measures that should be taken into account in hot spots in a misleading way. As it seems, the document was sent to the responsible authorities and gives basic precautionary instructions to prevent the spread of coronavirus but the author seems to raise concerns for a coronavirus spread by refugees in hot spots and, as he states, "this letter, sent on 5 February 2020, illustrates the fears of EL.AS for a coronavirus 'case' by refugees and uncontrolled entry points". As it seems, the author issues warnings regarding a coronavirus spread through refugees while there have been no documented cases in hot spots at this point. The article tries to draw connections between controversial topics by linking refugees/migration to COVID-19. By referring to an official document and warnings, a narrative of imminent danger is linked to previous ones that emphasise the threat imposed by "the other". Concerns are presented as facts and thus a misleading impression is created since it is difficult for the reader to distinguish between facts and hypotheses set up by the author.

In an article of *iefimerida.gr* (*Iefimerida*, January 31st, 2020), the author states that the number of coronavirus cases has surpassed the number of cases of SARS underpinning this statement with information based on a BBC article. Moreover, as the author suggests, the actual number of coronavirus cases would be much higher than the ones being reported based on information provided by the University of Hong Kong that challenges official reports. Thus, s/he presents arguments about the rising number of coronavirus cases and uses only sources that support that argument.

In an article of *Russia Today* (*Russia Today*, February 4th, 2020) the author seems to focus only on Russian drug testing and includes statements from Russia's Deputy Health Minister Sergei Kraevoi to support his arguments. The aim is to highlight Russia's effort and it is part of the "mask diplomacy" that has been put in place mainly from China.

The author of an article in *zougla.gr* (*Zougla online*, January 29th, 2020) claims that the novel coronavirus is a laboratory construct funded by the *Bill & Melinda Gates Foundation* and a series of images and videos included in the article are also tailored to that point of view.

In a *huffingtonpost.gr* article (*HuffPost Greece*, January 30th, 2020) two sources with contradictory arguments are presented regarding coronavirus' contagion level: An infographic by *Statista* showing a graph that compares the novel coronavirus with other diseases and a link to *Spiegel* magazine.

An article in *makeleio.gr* (*Makeleio.gr*, January 29th, 2020) claims that the novel coronavirus is a biological weapon and uses a survey of 2010 to prove his argument, although the data provided in the survey are not consistent with that position.

Moreover, in an article published in *efsyn.gr* (*Efsyn*, February 11th, 2020) the author supports the end of the embargo of China against Cuba as this could benefit millions of Americans to get access to medicines that are overpriced in America. He also mentions that due to the costly health system in America, many Americans resort to getting supplies in medicines that they cannot afford in America from Latin America. An expert from a Mexican newspaper is cited to support the arguments, according to which progress is made through collaboration and limitations like this would only harm the international community.

Lastly, the author of an article published in the *toc.gr* (*TheToc*, January 24th, 2020) does not provide any evidence to support his/her arguments regarding the origin of the virus. According to the article the novel coronavirus is a combined mutant virus coming from bats and snakes.

Evidently, articles that are tailored to one point of view and where the evidence provided support only the author's arguments, aim at misleading readers and providing false information. In addition, the articles that provide inaccurate information do not use many sources to support their arguments. In contrast, articles that present different points of view allow readers to form a more informed opinion on the presented subject.

The controversy around the coronavirus outbreak represented in the analysed articles finds expression in two different phases: (1) in the first phase as far as causes for the coronavirus outbreak are concerned; (2) in the second phase, related to numbers of people infected and dead, where measures such as a lock down are being questioned. The controversy surrounding the coronavirus outbreak has been part of a wider power struggle between populist and non-populist movements. To a certain extent, it reinforced the conspiracy and populist narrative claiming that the truth would be hidden in order for the elites to promote their agenda. In the second phase the debate moved around the necessity of imposing a lockdown. Mostly the controversy triggered a debate about globalisation connected to the fear of the other, negative stereotypes as well as – again – the hidden agenda of the elites that were exploiting the pandemic.

9. Use of evidence-based research/science and missing facts

The majority of articles draws on research, researchers and academics to prove the presented arguments and more specifically, just 10 out of 30 articles (33 %) do not use scientific sources. Several articles refer to health care professionals from various medical disciplines to support their arguments.

In an article published in *pronews.gr* (*Pronews*, January 31st, 2020), statements made by Elena Maltezou, a virologist, are presented regarding the rise of flu cases and the coronavirus outbreak. In addition, in an article published on *ant1news.gr* (*Ant1news*, February 11th, 2020) information provided by Gabriel Yung, an epidemiologist from Hong Kong, is presented in one of the videos included in the article, and according to his statements every coronavirus patient could transmit the virus to 2,5 people resulting in significantly increased infection rates. Moreover, a statement made by the virologist Dr. Angela Rasmussen published in *Reuters Global Market Forum* is mentioned in the article to give directions regarding the use of masks.

Various articles, in addition to doctors' opinions, provide information and statements by academics and researchers. In more detail, in an article in *in.gr* (*In.gr*, February 7th, 2020) the author provides statements from a Professor at the School of Medicine at Ohan Zeng Yan University of Science and Technology, a doctor working in a hospital in the Hubei province, and Yang Konguan – former deputy general manager of the Centre for Disease Control and Prevention in China – to support his/her arguments regarding the measures taken in Wuhan after the coronavirus outbreak. Likewise, in an article published in *pentaponstagma.gr* (*Pentapostagma.gr*, January 30th, 2020) the author draws on information regarding measures

taken against flu provided by an expert at the Nursing school of Purdue University and by associate Professor Libby Richards. Also, information in an article published in *kathimerini.gr* (*Kathimerini*, January 31st, 2020) is provided by the Vice-Rector of the National and Kapodistrian University of Athens and Director of the Laboratory of Microbiology of the Medical School, Professor Athanasios Tsakris, member of the *Hellenic Pasteur Institute* and ECDC.

The articles also include data derived from health organisations and statements from professionals working in healthcare domains. For instance, in an article uploaded in *star.gr* (*Star.gr*, March 23rd, 2020) the experts being quoted are: Silvi Brian, a regional director of the WHO who stresses the rapid spread of coronavirus in Iran and the dangers for other countries, and the Director-General Dr. Tedros Adhanom Ghebreyesus who expresses concerns regarding the spread of coronavirus in countries with weak health systems, for example in Africa. All the sources mentioned in articles are using an appeal to authority in order to improve their credibility. Appealing to authority also backs up claims because it provides sound arguments (evidenced based on facts). In addition, attributing their claims to an authority helps journalists it helps journalists to foster objectivity.

In addition, in an article of *newsit.gr* (*NewsIT*, February 5th, 2020) data from the National Committee of Health and the statement of Jeremy Farar, manager of the British institution *Wellcome Trust*, are used to support the author's arguments. The first source is used to provide data regarding the profile of the people who died from coronavirus and the latter as complementary to the author's arguments regarding the subtle and varied symptoms of the virus. Additionally, in an article of *newsbeast.gr* (*Newsbeast*, February 10th, 2020), the author includes information provided by the WHO to inform readers regarding the similarities between coronavirus and common flu.

Finally, the articles present studies on the subject alongside with statements made by experts. For example, in an article published in *Deutsche Welle* (*Deutsche Welle*, February 24th, 2020), the author uses the statements of Jonathan Ball, a professor of molecular virology at the University of Nottingham and the WHO, to point out that the numbers of death rates and reported cases do not provide a clear image regarding the development of the virus, as in other virus outbreaks the numbers rose sharply in the beginning and eventually declined once certain measures were taken. Moreover, the statement of Mirjam Jenny, a risk literacy researcher at the Harding Centre for Risk Literacy at Potsdam University, is included to support the author's arguments regarding a claimed imbalance between low risks of coronavirus and its media coverage. Three research papers are also provided to support the data presented. Last but not least, an article published in *news247.gr* (*News247*, February 1st, 2020) includes information about the origin of coronavirus and about its risk levels provided by Dr. Dimitris Paraskevas, the first Greek scientist to have conducted the genetic analysis of the new coronavirus, in the form of an interview. His study is also included in the article.

As observed the articles that employ scientific sources to prove their arguments tend to provide accurate information, taking into account what was known through research at the time of publication.

9.1 Use of links

Half of the articles (50 %) do not contain links to related articles, surveys, or other related material. Most of the articles containing links include hyperlinked words that lead to articles related to the presented subject or surveys, data visualisations, other websites that provided related information or links that lead to information about a person, organisation, etcetera.

For instance, an article published in *protothema.gr* (*Proto thema*, February 8th, 2020) includes six hyperlinked words and phrases ("HIV", "coronavirus", "722 in China", "war conditions", "hospital" and "Diamond Princess cruise") that lead to a series of articles uploaded on *protothema.gr* related to coronavirus. In addition, an article of *star.gr* (*Star.gr*, February 23rd, 2020) includes one hyperlinked phrase ("coronavirus") that leads to articles published on *star.gr* that are connected to the coronavirus outbreak.

The articles providing links to scientific articles, research, statistics, and research centres are eight out of 30 (27 %). In more detail, an article on *makeleio.gr* (*Makeleio.gr*, January 29th, 2020) cites a study of Casanova et al. (2010), published in *Applied and Environmental Microbiology*, as evidence to the author's arguments that the coronavirus is a biological weapon. The study examines the survival of SARS and SARS-CoV viruses on environmental surfaces and how their survival is affected by environmental variables such as air temperature and air humidity. The study results showed that both viruses were inactivated more rapidly at 40°C than at 20°C, at low humidity levels (Casanova et al., 2010). However, the findings of the survey are not consistent with the author's argument stating that coronavirus is a biological weapon.

Furthermore, an article published in *news247.gr* (*News247*, February 1st, 2020) presents a Greek study of Paraskevis et al. (2020) on the genomic features of the novel coronavirus that indicates that the virus originated most likely from bats.

An article in *The Guardian* (*The Guardian*, date updated continuously) includes links to related coronavirus articles uploaded on *The Guardian*'s website. Specifically, the links point to a research article, an interactive map showing the reported coronavirus cases, deaths and recoveries (by Johns Hopkins University), full travel advice to UK nationals provided by gov.uk and advice by NHS on what to do if you think you have been exposed to the virus. The study included in the article was published in 2019 and examines the global mortality in relation to seasonal influenza epidemics. It is used to provide additional information to the ones the author provides regarding the death rates of seasonal flu compared to the novel coronavirus (Paget et al., 2019).

An article published in *Deutsche Welle* (*Deutsche Welle*, February 24th, 2020) includes links to three scientific articles. More specifically, one article by Kirk et al. (2015) includes estimations of the global and regional disease burden on 22 foodborne bacteria, protozoal, and viral diseases. Additionally, another study cited in the news article focuses on estimating the basic reproduction number for single-strain dengue fever epidemics (Khan, Hassam, Imran, 2014) and a study of Wu, Leung and Leung deals with the potential domestic and international spread of 2019-CoV outbreak originating in Wuhan, China (Wu, Leung, Leung, 2020). The scientific articles provide additional information on the author's presented arguments. The news article also includes several hyperlinked words and phrases that lead to two other related articles on

COVID-19 published by *Deutsche Welle* and *sciencemediacentre.org*, websites of health data and the WHO as well as an interactive map that shows confirmed cases, deaths and countries with cases based on data provided by the WHO.

Finally, it is worth noting that an interactive real time map showing reported coronavirus cases, death rates and the number of recoveries by Johns Hopkins University and data provided by the WHO and other organizations is also presented in an article published on *skai.gr* (*Skai*, February 24th, 2020).

Thus, the links included in the articles are mostly used by the authors in order to support their arguments but also to provide additional information to the readers. It is also worth noting that in general media organisations are reluctant to link to external sources for financial reasons. For every click on their website, media companies earn advertising revenue which is important in the light of declining subscription numbers.

9.2 Missing facts

Most articles provide accurate information consistent to the one presented in desk research and supported by liable sources. In more detail, presented information is based on data and statements provided by health-related organisations such as the WHO, the *Hellenic Pasteur Institute* and experts such as infectious disease specialists, doctors, virologists etcetera. Thus, readers are provided with the needed information about the novel coronavirus (symptoms, precautionary measures, reported cases, origin, and similarities with other diseases).

However, nine out of 30 articles (30 %) provide misleading or deficient information as they leave out important information. For instance, in an article published on *vimaonline.gr* (*Vima Online*, January 30th, 2020) while the author of the article provides valid information regarding coronavirus symptoms, origin and characteristics, he advises readers “to avoid contact with animals, including poultry, birds and stray animals and do not eat raw meat and make sure your food is served hot” when precautionary measures are mentioned although no legitimate source stated that these factors contribute to getting infected with the novel coronavirus.

In addition, in an article published on *zougla.gr* (*Zougla online*, January 29th, 2020) the author suggests that the novel coronavirus is a laboratory construct funded by *Bill & Melinda Gates Foundation*. In addition, according to the author, the *Bill & Melinda Gates Foundation* funded the team, which is already working on a vaccine against coronavirus and participated in the creation of a "simulation" of a coronavirus epidemic, the *Event 201*. This article as highlighted previously, is promoting a very popular conspiracy theory which links Bill Gates to the coronavirus outbreak and that circulates on various social media platforms.

Furthermore, three articles misinform readers regarding the development of vaccines against the virus. In more detail, the articles of *protothema.gr* (*Proto thema*, February 8th, 2020), *efsyn.gr* (*Efsyn*, February 11th, 2020) and *rt.com* (*Russia Today*, February 4th, 2020) present information on possible vaccines against the novel coronavirus even though vaccines have not been developed yet. In fact, the article published in *efsyn.gr* supports the end of the embargo of the USA against Cuba for a possible vaccine that has not been verified yet as effective against the novel coronavirus.

The political affiliation of some news organisations affects the way that they approach the issue in terms of use of sources, references etcetera. It is a factor that influences their stance in general, but during emergency situations this issue seems to be reinforced.

Another article that provides information related to conspiracy theories is published on *makeleio.gr* (*Makeleio.gr*, January 29th, 2020). It informs readers that the novel coronavirus can survive on surfaces for 28 days. This information is outlined as a fact that should prove that the novel coronavirus is a biological weapon. Additionally, research findings are included that do not support the presented arguments.

In an article published on *tanea.gr* (*Ta Nea*, February 8th, 2020) the author issues warnings regarding a coronavirus spreading by refugees to promote fear and racism, while at this point there had not been documented cases of the coronavirus in hotspots.

Moreover, in an article published on *newsbeast.gr* (*Newsbeast*, February 10th, 2020) the author uses information from *Deutsche Welle* that suggests that less typical symptoms of coronavirus are: accumulation of phlegm, headache, haemoptysis and diarrhoea, data that are not supported by scientific sources.

Evidently, some of these articles provide inaccurate information and others deliberately misinform readers. A common ground among these articles is that they do not provide scientific evidence to support presented arguments, especially in articles where the content is linked to conspiracy theories (*zougla.gr*, *makeleio.gr*). Moreover, when they do so, they distort facts in order to promote their agenda.

9.3 Other noteworthy particularities

Since the novel coronavirus is a disease that appeared recently and news updates are presented almost daily, a large amount of mis- or disinformation can be observed in articles related to coronavirus. Misinformation is often connected to the alleged origin of the virus. In more detail, one article claims that the new coronavirus was transferred through snakes and another by anteaters (pangolins). However, in the second article the author also mentions that research has not proven yet that the virus originates from pangolins.

Conspiracy theories are also present in the sample of articles collected: They present the virus as a biological weapon created by humans or by Bill Gates along with the pre-existence of a vaccine against the virus as mentioned above.

Thus, as noted the panic created around an unprecedented situation caused by a virus has created many false and misleading ways to explain the current crisis leading to the dissemination of various false rumours that put global health at risk. Conspiracy theories related to Bill Gates and *Pirbright Institute* could also be used in order to serve certain political interests as Bill Gates has openly criticised the way Donald Trump has handled this health crisis in the USA (Parsons, 2020).

10. Conclusion

This sub-report has presented the results of an analysis of thirty articles related to coronavirus and flu outbreak. The articles' corpus is comprised of 25 articles from Greek mainstream media websites and from five online mainstream English news websites.

Approximately 30 % of the articles were found to misrepresent the topic, by providing information that is misleading or deficient. The authors of the articles seem to include some inaccurate information in otherwise truthful content. This fact makes it harder for the reader to detect false information. It also has to be taken into account that the study spans from January until March 2020. During that period, scientific research on the novel coronavirus was frantic and new information was published on a daily basis. So, it is not appropriate to judge the soundness of news articles published in January with the scientific knowledge that the scientific society had at a later point in time.

On the other hand, it is worth noting that the rest of the news articles included in the study offer tangible information and inform correctly and broadly about coronavirus and seasonal flu.

As far as different types of misrepresentation are employed, we can detect the following two categories: (1) presentation of information of ideas without concrete evidence, and (2) presentation of only a particular side of a story without providing the audience with different views that provide a bigger picture in connection to a specific topic or event.

In some cases, links to scientific evidence are being employed in the articles that do not inform the claims that are included in the article, or that support completely opposite views to the ones presented in the news articles itself.

Overall, we can conclude that news articles that use various scientific sources (statements from experts in medical fields) are the ones that provide the most accurate information. In contrast, news articles that are tailored to one point of view and where the evidence provided supports only the author's arguments aim at misleading readers and providing false information.

As it results from our analysis, the following strategies can be implemented in order to tackle disinformation during health crises: (1) Journalists have to rely more on credible sources especially when they are dealing with scientific issues; (2) More fact-checking procedures need to be introduced to newsrooms; (3) Blaming journalists for failing to promote the benefits of science in the interest of garnering public approval and support is to overlook the differences that exist between media especially between professional and non; (4) There is a sense of urgency to intervene in current debates, especially the ones related to how scientific issues are being covered and reported; (5) Sources are important and this is why there is a need for extended collaboration with media and scientists; (6) Media literacy interventions are required in order to address the issue from an audience perspective.

As it results from our analysis, the role of media is crucial during pandemics and public health crises. It is a major channel of information and specific strategies described above should be implemented. It is in these crises that professional journalism can prove its advantages and reconnect with the public.

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ANNEX – Summaries of five selected articles in English

Bill Gates, the "prophet" of coronavirus
[Bill Gates, "ο προφήτης" του κοροναϊού]
Zougla.gr, https://www.zougla.gr/kosmos/article/o-koronaios-ksefige-apo-vretanika-ergastiria

According to the author, Bill Gates' enterprise is responsible for the coronavirus outbreak because as he explains this virus is a laboratory construct funded by the Bill & Melinda Gates foundation. As evidence to that argument the author refers to the simulation of a pandemic exercise on the treatment of coronavirus 6 weeks before the first appearance of the virus that took place on Event 201 organized by Canter for Health Security of Johns Hopkins University in collaboration with the Bill & Melinda Gates foundation and The World Economic Forum and as members of the Emergency Epidemic Committee representatives of UN, Johnson and Johnson, CDC and colossal banks. The articles and video included are also tailored on that view.

The novel coronavirus 2019 - NCOV: Answers to common questions
[Ο νέος κορονοϊός 2019 - NCOV: Απαντήσεις σε συνήθη ερωτήματα]
Vima Online, https://www.vimaonline.gr/20/article/39242/o-neos-koronoios-2019-ncov-apadiseis-se-sunithi-erotimata-

Special pathologist Dr. Anastasia Moshovaki answers questions regarding the novel coronavirus and as she explains the virus belongs to coronaviruses that usually cause humans' mild disease of the common cold type. Various forms of this virus category related to human coronaviruses affect a wide range of birds and mammals. In addition, the author compares the new coronavirus with SARS and MERS which both originated from animals. The author also informs about the symptoms of the disease, danger levels and warns that the virus is transmitted through cough or sneeze droplets or close contact and that people should avoid non necessary trips to the province of Hubei in China. Moreover, she advises readers to avoid contact with animals, including poultry, birds and stray animals and the consumption of raw meat and to wash thoroughly their hands and to boost their immune system.

How contagious the new coronavirus is if we compare it to other viruses or childhood diseases
['Πόσο μεταδοτικός είναι ο νέος κορονοϊός εάν τον συγκρίνουμε με άλλους ιούς ή παιδικές ασθένειες'].
The HuffPost Greece, https://www.huffingtonpost.gr/entry/poso-metadotikos-einai-o-neos-koronoios-ean-ton-seykrinoeme-me-paidikes-astheneies_gr_5e31874fc5b690f10576339b

The author presents the viruses that afflicted humanity during the last two decades, such as SARS that spread during 2002-2003, MERS that has first been identified in 2012, H1N1 in 2009 and the new coronavirus. The author also presents death rates for each virus and the countries with reported cases. The author claims the novel coronavirus is less contagious compared to child diseases like measles, smallpox and mumps but also compared to polio, HIV, SARS and Influenza based on information provided by the World Health Organization. In more detail, every new patient infected with coronavirus will transmit the virus to 1,4 to 2,5 people while an AIDS/ HIV carrier can transmit the virus on an average of 2 to 5 people, someone with measles disease can carry the disease to 12 to 18 people and someone who has a smallpox to about 5 to 7 people.

Coronavirus-Map: Real time the development of the epidemic- Italy is "red"
[Κορωνοϊός - Χάρτης: Real time η εξέλιξη της επιδημίας – Στο «κόκκινο» η Ιταλία]
skai.gr, https://www.skai.gr/news/ygeia/koronoios-xartis-real-time-i-ekseliksi-tis-epidimias-sto-kokkino-i-italia

The author presents the reported cases of coronavirus globally and includes an interactive real time map developed by Johns Hopkins University that shows all the reported cases in all the countries that the new coronavirus has spread along with the total number of deaths and the total number of recovered patients by country/region. Reported cases as of February 24, 2020 (3.20 pm) reached 79,524 worldwide, with 2,626 dead and neighboring Italy to show a rapid increase in coronavirus reported cases. The data presented on the map are derived from the World Health Organization, the Health Commission of China, CDC and other organizations. In addition, characteristics, origin, symptoms, ways of transmission and precautionary measures against the new coronavirus are also presented.

China tests Russian anti-viral drug which might treat coronavirus as Moscow warns of possible 'mass outbreak'
Russia Today, https://www.rt.com/russia/480037-china-tests-russian-drug-coronavirus/

A Russian drug called Triazavirin that was originally developed in order to treat "Bird Flu" (H5N1) and found to be also effective against 15 types of flu, is currently tested by China as a possible medicine for the new coronavirus. The medicine is also effective against Rift Valley fever and the West Nile virus and it is also being studied for possible use against Ebola. Russia's Deputy Health Minister Sergei Kraevoi confirmed the news and revealed that the Chinese have not shared samples required for a vaccine with foreign researchers and without these it is not possible to start looking for a remedy. He also added that Russia has sufficient stock of equipment and medicine to deal with a possible large-scale infection. The number of reported coronavirus cases worldwide but also in Russia is presented as well as the symptoms and measures taken by Russian authorities to stop the spread of the virus.