The Role of (Dis)information in Society During the COVID-19 Pandemic

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Abstract

Purpose: Demonstrating the harmfulness of disinformation and summarizing the COVID-19 false information to which recipients are most often exposed. Confrontation of the most popular myths about SARS-CoV-2 with the results of Evidence-Based Medicine (EBM).

Design/methodology/approach: A review of original papers and reviews of myths about COVID-19.

Findings: The COVID-19 pandemic has challenged the public with information overload related to SARS-CoV-2. Some of this information may be false and potentially harmful. The rapid spread of information reaching a wide audience is also a threat.

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Research limitations/implications: The subject of COVID-19 is still unknown and is under constant research, there are many new publications that we are not able to include and this publication needs to be updated.

Originality/value: We have not found a similar publication on this topic. The article draws attention to the problem of misinformation, thus helping in the prevention of infections and misguided harmful behaviors.

Keywords: COVID-19, disinformation, infodemic, misinformation, SARS-CoV-2.

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Rola szerzenia dezinformacji wśród społeczeństwa w czasie pandemii COVID-19

Streszczenie

Cel: wykazanie szkodliwości dezinformacji oraz podsumowanie fałszywych informacji dotyczących COVID-19, na które najczęściej są narażeni odbiorcy. Skonfrontowano najpopularniejsze mity nt. SARS-CoV-2 z wynikami badań naukowych Evidence-Based Medicine (EBM).

Metodologia: przegląd prac oryginalnych oraz przeglądowych dotyczących mitów nt. COVID-19.

Wyniki: pandemia COVID-19 postawiła przed społeczeństwem wyzwanie w postaci nadmiaru informacji związanych z SARS-CoV-2. Niektóre z tych informacji mogą być fałszywe i potencjalnie szkodliwe. Zagrożenie stanowią również szybkie oraz docierające do szerokiego grona odbiorców rozprzestrzenianie informacji.

Ograniczenia/implikacje badawcze: przedmiot publikacji, choroba COVID-19 jest poddawana nieustannym badaniom. Pojawia się wiele nowych publikacji, których nie sposób było uwzględnić w tym artykule, wymaga on zatem aktualizacji.

Oryginalność/wartość: podczas pisania artykułu nie znaleziono podobnej publikacji. Jego tematyka pozwala na zwiększenie społecznej świadomości dotyczącej roli dezinformacji w czasie pandemii COVID-19.

Słowa kluczowe: COVID-19, dezinformacja, pandemia, fałszywe informacje, SARS-CoV-2.

1. Introduction

The SARS-CoV-2 virus, which was first reported in China in December 2019, has caused a global pandemic (Liu, Kuo, & Shih, 2020). To June 14th, COVID-19 had contributed to 176,870,304 cases and 3,822,300 deaths worldwide ("COVID live update: 200,453,515 cases and 4,263,103 deaths from the coronavirus," 2021) Unfortunately, the pandemic panic caused plenty of false information, which, mainly through social media and direct contact, circulated the whole world (Zarocostas, 2020; Singh et al., 2020; Orso, Federici, Copetti, Vetrugno, & Bove, 2020). What is worse, such information is posted and promoted not only by uneducated people but also by some authorities and celebrities (Aiyewumi & Okeke, 2020). For this reason, we have decided to correct the most popular myths based on articles compliant with EBM. That is important primarily because of the risk posed by rejecting medical recommendations, buying expensive remedies of unknown origin, or considering certain people mysteriously resistant to the virus (Orso, Federici, Copetti, Vetrugno, & Bove, 2020; Aiyewumi & Okeke, 2020).

In the fight against this global pandemic, stopping the tide of disinformation is as crucial as stopping the virus transmission and spread (Koçak Tufan & Kayaaslan, 2020) First of all, it is necessary to educate the public about misleading messages and decode basic information (Orso, Federici, Copetti, Vetrugno, & Bove, 2020; Sahoo, Padhy, Ipsita, Mehra, & Grover, 2020; World Health Organization, 2021). Questioning is the norm, it is essential to separate false from truthful information and to emphasize critical thinking and logical reasoning. However, there must be control over the messages disclosed on social media in the long and short term. The information sought for guidance must be evidence-based and must contain actionable messages about behavior change. Besides, scientific uncertainty about the biology and pathophysiology of viral infections needs to be recognized and explained in a simple and targeted manner.

The sad truth about the present day is that a deluge of misinformation will accompany any health misfortune. A wave of conspiracy theories has been spreading for a long time. Unfortunately, the new coronavirus is no exception (Lazer et al., 2018; The Lancet Infectious Diseases, 2020). In this case, it is a common myth that it is a biological weapon, constructed in the laboratory as a means of mass destruction. At the center of this pandemic, another myth has arisen that is used to sow seeds of confusion and denial in the uninformed minds. According to this theory, the virus is an elaborate hoax created by the government for self-satisfaction and profit. When influential people blatantly and publicly disregard precautions such as wearing face masks, social distancing, etc., the public believes there is no pandemic. If there is, authorities should have followed public health measures (Aiyewumi & Okeke, 2020). Public awareness is key – the importance of social distancing, hygiene measures, and vaccination when a vaccine emerges (Chu, Duda, Solo, Yaacoub, & Schunemann, 2020).

2. How Disinformation Affects Society

Disinformation can be defined as "any statement of facts that is currently false due to a lack of scientific evidence". False information may be completely harmless, but other may contribute to a decline in epidemic control as well as cause concern and pose danger to society. Understanding how disinformation spreads and assessing the risks associated with it can be crucial for the government and the media. Countering disinformation may become one of the key elements of the COVID-19 containment strategy (Van der Linden, Roozenbeek, & Compton, 2020). False information could be classified in three types: misinformation – unintentionally false information, disinformation – information that is false and deliberately created to harm a person, social group, organization, or country, and mal-information – information that is based on reality, used to inflict harm on

a person, organization or country (Hernon, 1995). According to a survey by the Responsible Business Forum "Coronavirus – opinions of Poles and evaluation of employers' activities", in March 2020, 84% of Poles a couple of times a day actively searched for information about COVID-19 and declared television (77%), internet information sites (63%) and social media (52%) as the main sources of knowledge about COVID-19. They trusted scientists, doctors, WHO experts and representatives of the Polish Chief Sanitary Inspectorate the most (Forum Odpowiedzialnego Biznesu, 2020). Fridman et al.'s research showed that trust in information sources is related to the knowledge about COVID-19. A positive relationship has been shown for people who declare confidence in the government's announcements, a negative one for people who obtain information from social media (Fridman, Lucas, Henke, & Zigler, 2020). It may be suspected that social media is the main source of misinformation (Hartley & Vu, 2020).

The perception of information contained in the media depends on many factors. An analysis by Calvillo et al. found a link between political ideology and threat perceptions, conspiracy beliefs, media exaggeration of COVID-19, and the accuracy of genuine and false COVID-19 headlines as perceived by citizens in the United States. Conservatives rated the virus as less dangerous and were more likely than liberals to think that COVID-19 is the result of a conspiracy. They considered that the media exaggerate the risks associated with the virus. Conservatives distinguished truthful and false information about COVID-19 with less accuracy. They showed less knowledge of COVID-19 and its epidemiology, making them more susceptible to false information. It was related, among other things, with a higher level of acceptance of the president by conservatives, whose statements at the time of the study questioned the pandemic's dangers (Calvillo, Ross, Garcia, Smelter, & Rutchick, 2020). There was also a link between personality traits and engaging in fake news. Reflective people were more likely to believe that the COVID-19 pandemic is a hoax and were less likely to engage in preventive behavior.

Myths may apply to both the prevention and transmission of COVID-19. They have a detrimental effect on public health by contradicting correct behavior and promoting wrong practices. Because of their position and trust in society, widely respected and famous people who should promote scientifically proven facts have extraordinary power (Hartley & Vu, 2020).

Priority should be given to constructing statements that rest upon evidence-based science. Organizations and social movements, local authorities, and the mass media should also fight against disinformation. Verified information should be shared on multiple platforms. One of the practices used is also an agreement with the owners of social media

platforms where advertisements promoting local health authorities (e.g., on the Facebook platform) or promoting the WHO website (via Google) are displayed. It should be common to use the help of experts and to adapt the specialized language to make announcements understandable by the general public (Ahinkorah, Ameyaw, Hagan, Seidu, & Schack, 2020).

One of the algorithms used by social media platforms is to preferentially display the content from news sources that users consider trustworthy (Pennycook & Rand, 2019). This solution shows good effectiveness. According to a study by Moscadelli et al., in the fight against fake news, the most effective strategy turned out to be to use regular reminders to pay attention to the assessment of the truthfulness of statements before reading them (Moscadelli et al., 2020). To sum up, the COVID-19 epidemic is not only a health problem but also a social one. The scale of this crisis requires involvement in helping the public to recognize fake news. There is a need for local authorities, journalists and experts to participate in the flow of only verified information, both in social media and in traditional media, the press (Naeem, Bhatti, & Khan, 2020).

3. An Impact of Disinformation on the Society During the COVID-19 Pandemic

The sudden expansion of the disease significantly drove the development of disinformation in the COVID-19 pandemic. The information provided was often recklessly published due to the lack of validated scientific evidence. The initial miscomparison of SARS-CoV-2 to the influenza virus was due to ignorance and negatively affected the perception of COVID-19 as a threat. Even when these misspellings were withdrawn, they had drastic repercussions on the government's credibility in the public eyes (Tagliabue, Galassi, & Mariani, 2020). The lack of information also contributed to the negative public mood. Ambiguity can lead to heightened threat assessments and, thus, extreme defensive responses (Garfin, Silver, & Holman, 2020). The pandemic prompted people to search for information. But the flood of often contradictory messages overwhelmed them, introducing more chaos than good.

Alarming statements of medics, experts, and government representatives introduced a panic, which resulted in the mass purchase of food and personal protective equipment as well as alcoholic detergents (Tagliabue, Galassi, & Mariani, 2020). This had a negative impact both on the medical sector, which became insufficiently secured due to an exaggerated public response, and on the pockets of consumers (Tagliabue, Galassi, & Mariani, 2020; Garfin, Silver, & Holman, 2020). The increase in demand for preventive equipment resulted in its price rise. Insensitive individuals and the bombardment with information that created confusion in their lives led to the exacerbation of

psychiatric pathologies and even the development of Post-Traumatic Stress Disorder (PTSD). A relationship has been demonstrated between social isolation and the occurrence of PTSD and stress disorders, especially in areas with high COVID-19 incidence. It has also been found that disinformation contributed to their occurrence. Poor information quality not only adds to the current concern but will also exacerbate this in the event of the next pandemic wave.

Healthcare professionals have also been affected by the decline in public confidence due to disinformation. Distorted information may suggest errors in hospital structures and result in patients being reluctant to visit hospitals, doctors, and medical centers. This is the result of fear of exposure to medical error and fear of infection. The search for those responsible for the pandemic also undermines the credibility of international public health institutions.

Healthcare professionals are also at increased risk of PTSD during the COVID-19 pandemic. Patients can expect doctors to undertake a specific therapy, falsely considered by the media as effective. If a given doctor does not take such an action towards the patient, this may result in bringing a lawsuit against the doctor and thus exposes him or her to additional stress and psychological burden. False content about the vaccine is a serious threat of misinformation. Its spread reduces the number of people ready to be vaccinated when the vaccine is available. This will make it difficult to build herd immunity and slow down epidemic control (Tagliabue, Galassi, & Mariani, 2020).

4. Economic Side of Spreading False Information

The increasing amount of unverified information that is repeated around the world has a huge impact on the economy. The most significant factor is the frequency of visits to websites or videos on YouTube that contain some conspiracy theories and unconfirmed news. Behind the prevalence of fake news, there is a distinctive business model consisting of three main parts: a news platform, advertising content, and an online shop. It is proven that fake news attracts between 60% and 220% more people than that verified by scientists (Higdon, 2020, pp. 92–124). That fact results in bigger incomes for people who post such information – they earn more money on commercials and promoting other websites or certain products. Clients who visit these sites on the internet feel safer because of the conviction that they possessed undiscovered knowledge that most people do not have. Moreover, selling books connected with conspiracy theories on websites or platforms dedicated to this theme rises each day, depriving regular internet bookstores of their clients. For entrepreneurs, preventing false information became some kind of industry to reach more clients, and as a result, more

profits. Often, they themselves do not agree with the myths and theories that they publish and do not believe in information that is popularized by them on the internet. All the factors above result in a decrease of sales in regular shops or pharmacies and mistrust in products that are offered by enterprises not connected with alternative medicine or unscientific work, and in consequence, huge financial losses.

In fact, not every consumer can assess the quality and exactness of the information and its sources. The research published in the New York Times on 18 January 2017 claims that about 8 percent of the adult population is "willing to believe anything that sounds plausible and fits their preconceptions about the heroes and villains in politics" (Kshetri & Voas, 2017). Society often cannot recognize if the content presented on various websites is an advertisement or a fact-based article. Internet users click headlights that they find particularly interesting even if the title is not reliable (Kshetri & Voas, 2017). Nevertheless, people change their beliefs very seldom, even if they find out they are not true. Warning society about false information sources and negating them in public media does not resolve this problem. Various debates about the economy of disinformation have focused on sanctioning websites containing myths and unconfirmed news by blacklisting them from ad networks and flagging as inappropriate (Gray, Bounegru, & Venturini, 2020).

5. Political Misinformation

Some of opinions and attitudes towards the COVID-19 disease may have their source in false beliefs about the government's actions. Personal convictions and political views do not lead directly to the negation of the pandemic, but they might be the basis of failure to comply with the restrictions. This phenomenon explains why people give up on wearing the face mask in public spaces or do not respect the set limit of people in shops. The lack of trust towards the government communications results in disregarding them. Although disinformation differs from conspiracy theories, both of them are components that cause the disorientation in society. Unfortunately, the majority of people are convinced about the truthfulness of the information that turns out to be false. The spread of disinformation about the policy may lead to undermining governmental regulations. The main difficulty in correcting the untrue views is the motivational aspect of false beliefs – people have a tendency to devalue the top-down warrants and oppose government decisions. This seems to be a significant component of the following myths about the COVID-19 disease (Jerit & Zhao, 2020).

6. Myths

Myth	True information
Mortality for SARS-CoV-2 is similar to the influenza.	Mortality for COVID-19 is higher than for influenza.
The increase of the temperature will eradicate the virus, thus using sauna and taking hot baths could protect the organism from SARS CoV-2.	High temperature may result in severe skin burns that become the gate of infection. There is no scientific proof that the temperature influences the activation of the virus.
The virus originated in some Chinese laboratory and is artificially produced by scientists.	It is improbable that SARS-CoV-2 was invented in the laboratory by manipulating a related SARS-CoV-like coronavirus.
Drinking alcohol eradicates the virus and protects from the contamination.	Consuming alcohol weakens the immune system and thus does not destroy the virus.
Regularly rinsing nostrils/nose with saltwater or saline can help prevent COVID-19 infection.	There is no evidence that regular gargling (with salt water or saline) protects people from being infected with the new coronavirus.
Regular physical activity decreases the probability of the SARS-Cov-2 contamination, so athletes are immune to this disease.	There is no proof that athletes are more immune to COVID-19 than the general population.
X-rays show that the condition of lungs worsens as COVID-19 progresses in time.	Lesions in lungs appear on X-ray images, even if the infection is mild. Additionally this organ looks properly on an X-ray, even though the patient's health state is worsening.
Pets might be a potential source of infection.	At present, there is no evidence that pets can transmit COVID-19 infection.
The virus may be transmitted during the blood donation.	There is no proof that COVID-19 can be transmitted by the blood donation.
The asymptomatic course of illness is connected with low risk of the transmission.	The asymptomatic patients are able to successfully spread the disease.
The 5G technology is a possible source of the virus transmission.	There is no confirmation of spreading SARS-CoV-2 by the 5G network.
The SARS-CoV-2 virus can be spread through mosquito bites.	SARS-CoV-2 cannot replicate in mosquito cells.

Tab. 1. The myths versus true information about the virus SARS-CoV-2. Source: The authors of this publication.

Although myths about COVID-19 are denied continuously by virologists, society seems to be convinced about their truthfulness. For example, many people consider SARS-CoV-2 as well known as flu. Even though they have a similar disease presentation and both affect the respiratory system, there are many differences between them. Firstly, mortality for COVID-19 (4.0%) is higher than for influenza (0.1%) and seasonal influenza (seasonal influenza is characterized by fever, dry cough, headache, muscle and joint pain, severe malaise, sore throat, and a runny nose) (World Health Organization, 2018). COVID-19 and flu viruses, indeed, spread in similar ways, but COVID-19 is more contagious for specific age groups and people with chronic diseases. It has been observed to have more spreading events than flu. Thus, the virus that causes COVID-19 spreads fast and easily infect many people and results in continuous spreading as time progresses (World Health Organization, 2020). Comparing flu to SARS-CoV-2 seems inappropriate and neglects the danger of COVID-19 contraction. Such conviction results in ignoring the restrictions and preventive measures, and consequently, the numbers of infections rise faster.

Another belief is that the virus will die if the temperature rises. Thus, taking a hot bath can prevent it. The myth arose from the belief that heat in saunas or hot baths has a good impact on health and immunity and could kill the coronavirus. High temperatures can indeed kill surface viruses. But a hot bath cannot protect from COVID-19. Moreover, taking a hot bath with very hot water can be harmful causing skin burns. These lesions become an easier gate of infection for the virus. The theory that saunas protect against infection says that they work based on "strengthening the immune system". It is not clear what any of these things mean. The liver breaks down toxins in the body without the help of saunas. General claims about "immune-boosting" or "detoxification aid" saunas are unscientific (Luo et al., 2020). Moreover, a public sauna can expose people to contact with potential carriers and, therefore, infection. If you have your sauna, you can still use it, but it is unlikely to protect you from the coronavirus. Coronaviruses as a group generally survive for short periods of elevated temperatures and higher humidity, according to the US Centers for Disease Control and Prevention. However, it is not known what temperature inactivates the virus responsible for COVID-19. Although high temperatures can affect viruses on the body surface, it is impossible to affect the virus once the body cells are infected.

There is no significant research demonstrating that a temperature increase will reduce the number of COVID-19 confirmed cases. Some viruses, such as above-mentioned flu viruses, spread more efficiently during colder months. But this does not mean that their transmission stops in warmer weather (Newman, 2021).

The myth that many people believe is that the virus originated in a laboratory in China to depopulate humanity or that it is some kind of

biological weapon. Scientists claim that it is improbable that SARS-CoV-2 was invented in a laboratory by manipulating a related SARS-CoV-like coronavirus. Additionally, if genetic manipulation had been performed, one of the several reverse-genetic systems would probably have been used. Genetic data indicates that SARS-CoV-2 is not derived from any previously used virus backbone. We propose two scenarios of the possible origin of SARS-CoV-2: natural selection in an animal host before zoonotic transfer; and natural selection in humans following zoonotic transfer (Andersen, Rambaut, Lipkin, Holmes, & Garry, 2020). Additionally, scientists noticed a relationship between 2019-nCoV and the bat CoV genetic material (York, 2020, p. 191). Although people feel safer when they feel they are able to control the world, some phenomena happen without their knowledge and will. They find it scary and prefer to think the virus was made by some laboratories in the United States than admit humans did not invent it.

Society contends that drinking alcohol helps eradicate coronavirus in the organism and that ethanol helps prevent contamination. WHO made a statement and published a series of articles dedicated to this issue. Firstly, alcohol is harmful – it causes 3 million deaths a year worldwide, increases injury and violence, triggers mental illness, and, what is the most significant, weakens the immune system. Consuming alcohol and other stimulants will not destroy the virus. While it is true that alcohol (at a concentration of at least 60% by volume) works as a disinfectant on your skin, it has no such effect within your system when ingested (World Health Organization, 2020).

Another belief is that regularly rinsing nostrils/nose with saltwater or saline can help prevent COVID-19 infection. Edinburgh scientists have begun to investigate whether a home remedy for colds can help with the early symptoms of COVID-19 (Ramalingam, Graham, Dove, Morrice, & Sheikh, 2019). Rinsing the nostrils and throat with saltwater has been a home remedy for many years, used by some to help fight the common cold.

A small pilot study involving just over 60 adults with a cold found that most people who used saltwater washes noticed a reduction in severity and duration of symptoms. Moreover, some of these colds (15) were caused by earlier human coronaviruses. This prompted scientists to think it would be worth repeating the study on people with COVID-19. However, as COVID-19 is caused by a new and more severe type of coronavirus (SARS-CoV-2) than those that cause the common cold, we do not yet know if gargling with salt will help.

We have not obtained the results yet, but the Harvard TH Chan School of Public Health India Research Center does not recommend using this method. They give aźsimple and straightforward justification. "There is no evidence that regular gargling (with salt water or saline) protects people from being infected with the new coronavirus. While it may help soothe a sore throat, this practice will not prevent the virus from entering the lungs".

While it is true that physical activity has a positive impact on our health state by, among other, increasing immunity, there is no proof that athletes are more immune to COVID-19 than the general population. Although young athletes do not have major cardiovascular or pulmonary conditions and, generally, do not belong to a group of increased risk of SARS-CoV-2 infection, they may be asymptomatic or experience mild symptoms. All of the known consequences of the COVID-19 disease may affect them as often as the rest of society. Thus, athletes suffer from myocarditis, heart failure, fibrosis of lungs, and pericardium as well. Moreover, the convalescents of this illness may lack the ability to return to sport and competition. This is mostly connected with inflammatory dysregulation. Sharing equipment and training in a group also promotes infection (Mercurio, Gianakos, Mulcahey, & Sutton, 2020).

False information connected with medical examinations is that chest X-rays show the worsening of COVID-19 infection as the disease progresses in time. It is not true because lesions in lungs appear on X-ray images, even if the infection is mild. During progressing consolidations and pulmonary congestions, the patient is treated by extracorporeal membrane oxygenation (ECMO). Through this and the renal replacement therapy (CRRT), lungs appear properly on X-ray, even though the patient's health state worsens (Sharma, Sharan, Kapoor, & Chowdhury, 2020).

There is also a lot of false information and beliefs about SARS-CoV-2 transmission. Because of the origin of this virus, society started considering pets as a potential source of infection. While it is true that 1 million people worldwide have tested positive for the virus, only 4 cases have been reported in which pets have tested positive for SARS-CoV-2. Although 3 of the 4 pets showed some clinical signs, only one of the cats did have symptoms of COVID-19. At present, there is no evidence that pets can transmit COVID-19 infection (Sahoo, Padhy, Ipsita, Mehra, & Grover, 2020). According to the Centers for Disease Control and Prevention (CDC), there is no proof that animals can play a major role in spreading SARS-Cov-2 (Centers for Disease Control and Prevention, 2021).

The spread of COVID-19 has had an impact on the number of blood donations and blood safety. The number of volunteer donors at places affected by the coronavirus outbreak was reduced. Despite some concerns for laboratory safety for blood transfusion during the time of epidemic, which may be resolved through automation of tests and additional disinfection equipment, there is no proof that COVID-19 can be transmitted by blood donation (Cai et al., 2020, pp. 79–82). The epidemic should not be a barrier, and any uncontaminated person can donate blood.

Another conviction that has a massive impact on spreading the virus is that asymptomatic people cannot infect others. As asymptomatic infections are not visible initially, they may have a huge impact on public health during the unlocking of lockdown strategies. Contacts of infected people must test

for COVID-19, regardless of symptoms. Asymptomatic cases should always be reported in official COVID-19 statistics (Nikolai, Meyer, Kremsner, & Velavan, 2020, pp. 112–116). Most of the patients are asymptomatic and can easily spread the disease without their knowledge.

Society considers the 5G technology as a possible way of spreading the virus, even though WHO denies that, claiming that 5G has no adverse health effect (World Health Organization, 2021). The 5G/COVID-19 theory broke into the media on April 5th because of 5G towers vandalism in the United Kingdom and later in other countries. The 5G technology was one of the most prevalent misinformation topics in the media, much of the coverage was fact-checking. Although there is no confirmation of spreading SARS-CoV-2 by the 5G network, many people still believe in this conspiracy theory (Evanega, Lynas, Adams, & Smolenyak, 2020).

Another popular myth is that the SARS-CoV-2 virus can be spread through mosquito bites. However, there is no information or evidence to suggest that mosquitoes can transmit the new coronavirus. SARS-CoV-2 cannot replicate in mosquito cells. The new coronavirus is a respiratory virus mainly spread by droplets formed when an infected person coughs or sneezes through saliva droplets or nasal discharge (Xia et al., 2020).

7. Conclusion

Although false information is part of our culture and has always accompanied the humankind, we cannot afford the lack of knowledge, especially when it comes to human health (and life). In the past, information (including false information) spread slowly, now social media gives us the ease of communication, which, depending on our actions, may help us to prevent or to accelerate this process. In this review, based on EBM, we have corrected the most popular misinformation about the coronavirus. Looking at how unreasonably people under panic pressure can act/behave, we can justify the importance of this action. We believe that the arguments based on reliable sources will convince them to follow the doctors' and experts' recommendations and avoid home-grown shamans. We would also like to draw attention to the publication of fake news by public figures, which may be associated with particularly serious consequences. These people are an authority for a part of the public. We hope that articles like this will increase vigilance and help to reduce the spread of false information.

In summary, ignorance and fear are the driving forces of speculation and guesswork which contribute to the formation of erroneous information, and these may undoubtedly contribute to an increased number of illnesses and deaths. As medical students and medical community members, we feel obliged to correct them and share the results with the community. We believe that our publication will inspire other experts and contribute to the publication of similar articles and disseminating scientific knowledge on the internet.

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