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The controversy around the vaccine against Covid-19

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Abstract

Since the beginning of the Covid-19 pandemic, the phenomenon known as conspiracy theories started to develop under the uncertainty of what is going to happen next and why we are forced to live in times like that. Meanwhile, researchers tried to develop as soon as possible a vaccine that would mitigate the damage caused by the SARS-CoV-2 virus, and eventually put an end to this pandemic. But, the effort of creating a vaccine is threatened by a vast number of people that tend to reject the idea of vaccination because of distrust in vaccine efficiency, fear related to side effects, the composition of vaccine and so on. What fuels these negative attitudes towards anti-Covid-19 vaccination are the controversies born from conspiracy theories, that tend to be attractive to some categories of people, such as younger individuals, women, people with low-income levels, a low level of education and people from ethnic minorities. In this paper, I tried to capture what are the reasons for people's vaccine hesitancy, and how we can resolve this problem.

Keywords

Vaccine hesitancy; Conspiracy theories; Distrust; Vaccine attitudes;

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Introduction

The pandemic caused by the emergence of a new Coronavirus alerted the entire population of the world since every nation reported a gradually increasing number of victims. Workers in key fields such as doctors, researchers and governments have made and continue to make considerable efforts to reduce the effects at all levels of public life, and in particular, have worked together to develop a vaccine in record time that will eventually stop this pandemic.

But, unfortunately, all these efforts could be hindered due to a considerable number of individuals who would oppose vaccination, being hesitant in getting the vaccine (Palamenghi, Barello, Boccia and Graffigna, 2020). A vaccine would be the greatest hope for permanent control of the pandemic, but to be effective it should be received and accepted by the vast majority of the population (Pogue et al. 2020). In fact, vaccines are known to be among the best technical solutions, having the best intentions, given the fact that in human confrontations against most infections such as smallpox, polio, typhoid, plague, etc.; vaccines have played a critical role in eradicating these diseases that had an increased risk of mortality (Harrison and Wu, 2020). Among the unclear causes behind this hesitation about vaccination are socio-demographic characteristics and psychological factors, as well as public distrust of the medical professions and authorities (Palamenghi et al. 2020). Also at the beginning of the pandemic, the availability to vaccinate people at high risk of getting sick was unknown, whose responses were largely related to socio-demographic factors (Thorneloe, Wilcockson, Lamb, Jordan and Arden, 2020).

People's distrust of the effectiveness of the vaccine developed against Covid-19 is closely linked to a phenomenon that has arisen since the news that the entire world is in a pandemic. This phenomenon is known as conspiracy theories. These have gradually increased and have been the biggest barriers to developing public confidence in vaccination. Research in the field reveals that people's trust in conspiracy theories undermines people's involvement in an appropriate health behaviour and in supporting public health policies (Earnshaw et al. 2020).

In this paper, I will review the literature that has studied this phenomenon of hesitation against vaccination caused largely by various controversies arising from conspiracy theories that have been developed by individuals for certain reasons, which will be discovered throughout the paper.

Literature Review

First, I will explain in detail the main psychological characteristics of conspiracy theories to provide an understanding of how they work on an individual level.

The most common pandemic conspiracies are those claiming that the SARS-CoV-2 virus is a biological weapon of a government program, that 5G telephone antennas are spreading the virus, or that the pharmaceutical industry is encouraging the spread of COVID-19 for profit (Earnshaw et al. 2020). Thus, conspiracy theories are explanations of

important events in the midst of which there are certain secret intrigues set up by powerful and malevolent people, groups, or organizations (Douglas and Cichocka, 2017).

Douglas and Cichocka (2017) argue that people tend to believe in conspiracy theories when - compared to non-conspiracy explanations - they promise to satisfy certain psycho-social motives that can be divided into epistemic (desire to understand something, accuracy, and subjective certainty), existential (desire for control and security) and social (intention to keep a positive image of yourself or in a group). More complexly explained, epistemic motives refer to the fact that the explanations of the causes control the curiosities when the information is not available, having the effect of reducing uncertainty and confusion in situations where the available information is conflicting and can make sense when events seem to at random, having the ability to defend the beliefs of individuals against infirmities. In the case of existential motivations, Douglas and Cichocka (2017) found based on their review that people lean on conspiracy theories to receive compensatory satisfaction when their needs are threatened. They exemplify that people who lack instrumental control may be given a certain compensatory sense of control through conspiracy theories because it allows them to reject official narratives and feel that they have an alternative opinion. From the point of view of social motives, Douglas and Cichocka (2017) say that researchers claim that conspiracy theories capitalize on self and a sense of belonging to a group by allowing them to blame others for certain negative results. Thus, conspiracy theories may support the image of self and group as correct and moral, but which is threatened by another powerful and more unjust group.

With the onset of the pandemic, countless studies have been conducted that have sought to identify people's attitudes toward vaccination and what would influence them to hesitate.

Fisher's (2020) study shows that out of a sample of 1,000 people in the US, 57.6% of them would like to be vaccinated against Covid-19, while 31.6% said they were undecided, and 10.8% would not intend to be vaccinated. Among the socio-demographic characteristics of those who responded that they were undecided about the vaccine or did not intend to be vaccinated would be the following: younger people (under 60), generally women, in terms of ethnicity would be African-American or Hispanic, people with a low level of education, with a low household income, and a lower tendency to report having the flu shot.

Fisher (2020) also found in his research that more than half (56.6%) of respondents who offered reasons against the intention to vaccinate invoked reasons related to the spectrum of anti-vaccination attitudes, beliefs or emotions. Many of them said they do not believe in vaccines, do not like them, do not want to do so, while others gave more explicit reasons with references to unclear scientific information, also invoked the association between vaccines and autism and the idea that it is impossible to vaccinate against a virus. These beliefs and especially anti-vaccination emotions, Fisher (2020) argues are the biggest obstacles that need to be overcome because just simple information is unlikely to have any effect in the right direction. In principle, Chou and Budenz (2020) consider addressing this issue of reluctance to vaccinate and build public confidence in vaccination practices, evidence-based communication strategies are critical in addressing these impediments,

focusing on the emotions and the effect that communication has on them. The second category of reasons for not intending to be vaccinated (Fisher, 2020) identified a lack of confidence in vaccines. He also found that the circulation of conspiracy theories about vaccination against Covid-19 influenced some study participants to adopt a negative attitude towards vaccination.

In another study, Romer and Jamieson (2020) tested the hypothesis that acceptance of conspiracy theories circulating on social media about the pandemic in the US is in a negative association with the performance of preventive behaviour in terms of health and availability to receive a vaccine. People would be tempted to believe certain conspiracy theories, given that some political leaders have expressed doubts about the seriousness of this pandemic, especially Donald Trump, who said that this pandemic would not be more dangerous than the seasonal flu. (Romes and Jamieson, 2020). Thus, the two authors claim that the inconsistency at the border between the messages coming from public health specialists and those disseminated in the media by certain public figures would cause difficulties for medical staff to form a preventive behaviour of the population in front of this pandemic.

Therefore, Romer and Jamieson (2020) assessed people's beliefs in the following three conspiracy theories: 1. The pharmaceutical industry created the coronavirus to increase sales of drugs and vaccines; 2. Coronavirus was created by the Chinese government as a biological weapon; 3. The Centers for Disease Control and Prevention (CDC) exaggerates the danger posed by coronavirus to affect Trump's presidency. "High proportions reported belief in conspiracies, ranging from a low of 14.8% for the pharmaceutical industry having created the virus to a high of 28.3%, believing that the Chinese government created the virus as a biological weapon" (Romer and Jamieson, 2020, p. 5). Moreover, people with conservative beliefs and social media consumers have given more credibility to these conspiracy ideas, with the final results of research showing that adherents of conspiracy theories tend to be young, low-income and low-educated people, as well as people from disadvantaged ethnic groups (Romer and Jamieson, 2020). Earnshaw et al. (2020) aimed to explore the association between conspiracies about Covid-19 and the intention to vaccinate against this disease. They found that 33% of respondents believe in one more conspiracy theory. Study participants who believed in these theories had a 3.9-fold lower vaccination intention and reported lower support for Covid-19 prevention measures compared to those who did not believe in conspiracy theories. Earnshaw et al. (2020) also identified that in general women, and those with a low level of education would be less likely to be vaccinated. Also, as previous studies have identified, respondents who were more tempted to believe in conspiracy theories were young people, those of African American or other ethnicities, and those with no more than high school education level.

Moreover, people who believed in conspiracy theories had less information about the Covid-19 pandemic and reported that they had less confidence in the medical staff than those who did not adhere to these theories. Respondents who believed in conspiracy theories said they trusted Covid-19 information on social media and President Donald Trump. Despite these findings, over 80% of respondents who believed in conspiracy

theories and over 90% of those who discredited them said they trusted the information about Covid-19 that came from their doctors. Therefore, the study by Earnhsaw et al. (2020) identified that doctors could play a major role in combating conspiracy theories before exposing people to them in order to promote disease prevention efforts.

Research conducted in Pakistan by Khan et al. (2020) revealed the effect of disseminating misinformation in the media about the Covid-19 pandemic, where a significant number of individuals trusted the statements of two major political figures who said either the virus was a great illusion directed against the Islamic State, set up by the Jews to rule the world by using microchips implanted in human bodies, being controlled by 5G antennas, whether the United States created this virus in the United Kingdom and then transferred to China so that it can then be spread globally. Because of these theories, people's hesitation about vaccination has remained a major problem, with Pakistan previously suffering from conspiracy theories in the fight to eradicate polio through vaccination. To provide a solution to this problem of hesitation regarding vaccination, Khan et al. (2020) developed a series of measures that could be taken to reduce the impact of conspiracy theories on vaccination attitudes.

First of all, they consider that a major role in solving this problem is played by the media, which should avoid spreading any kind of exaggerated statements that could lead to negative perceptions of the Covid-19 pandemic, leading to the development of conspiracy theories. Khan et al. (2020) suggest that the most appropriate approach would be to limit the discourse on Covid-19 to the ones that come from health professionals, and not to the ones that come from political figures or business people.

Second, the authors remind the importance of public education, given that conspiracy theories provide arguments for people who deny vaccination. Thus, they recommend that medical authorities ensure that only correct information is disseminated to the public, make this information clear to the public, and listen to and provide answers to questions and concerns from the public (Ibidem).

Third, in light of the large volume of misinformation circulating about Covid-19, Khan et al. (2020) suggest that researchers and public health professionals have a duty to analyze data related to distorted information. Thus, they should analyze the sources of information, the patterns of dissemination of information, as well as the impact that this misinformation has on the whole community for the situation where a vaccine will be available, to ensure the transparency of information on how the vaccine is developed, how it works, what it contains, what its effect is and what the possible side effects would be to ensure a high level of safety and confidence in the population about the vaccine.

Both the study by Fisher (2020) and the work by Khan et al. (2020) draw attention to the emotional component that influences people's attitudes towards vaccination, generating negative reactions and scepticism about the main solution that would help reduce the spread of the virus and ultimately eradicate it. In light of this, the article by Chou and Budenz (2020) addresses the importance of the role that emotions play in streamlining communication. For example, they say that studies of anti-vaccination messages on Twitter claim that they have a greater predisposition to spread hatred compared to pro-vaccination ones. This type of emotional response contributes to hesitant behaviour

regarding vaccination and to hindering efforts to achieve vaccination (Chou and Budenz, 2020).

The relationship between emotions and health preventive measures is a complex one because a message that intends to generate a certain type of emotion can instead produce completely different emotions that could intensify risky health behaviours or decrease people's willingness to act preventively from a sanitary point of view. Chou and Budenz (2020) argue that this complexity of emotions can be exacerbated during the pandemic because it would interfere with anti-vaccination rhetoric that would generate confusion, nervousness, apathy and other emotions that would affect vaccination decisions. Therefore, care must be taken with the emotions that may be generated in a community so as they do not cause the opposite effect to the desired one regarding the vaccination decision. Some research has identified that in uncertain and uncontrollable times people tend to focus more on reducing negative emotions than on changing the behavioural pattern that could reduce possible threats (Lerner and Keltner, 2001, apud. Chou and Budenz, 2020).

Another major problem that threatens the effectiveness of the Covid-19 vaccination is the low literacy of the population on health information. The pandemic highlighted this problem, for example in Europe almost half of the adult population stated that they have problems understanding medical information and do not have the necessary skills to take care of themselves or their loved ones (Paakkari and Okan, 2020). Therefore, health literacy could help people understand the purpose of health recommendations and be able to reflect on possible options for action, develop social solidarity, think beyond their own interests and understand how people make decisions about their own health (Ibidem). Paakkari and Okan (2020) also believe that solidarity and social responsibility are attitudes that should also be adopted by individuals who share wrong or false information about Covid-19.

Regarding the subject of anti-Covid-19 vaccination in our country (Romania), the study conducted by IRES (2020) on a sample of 1,512 respondents shows that Romanians generally have positive perceptions and attitudes about vaccines, 79% of them saying they have a good or very good opinion, and 18% have a bad or very bad opinion. Similar to previous studies, people who are more sceptical about vaccines are the youngest (36-50 years old), while people over the age of 50 report positive attitudes. Positive attitudes towards vaccination are directly proportional to the level of education, in the sense that more educated people have more positive opinions. The same thing happens from the point of view of income, where people with a maximum income of 1500 lei in a household have a more negative opinion about vaccination, compared to those with a higher income. Also, people in rural areas tend to be more sceptical about vaccination than those in urban areas.

Compared to previous research that measured the intention to vaccinate against Covid-19 of Romanians, a more recent study conducted by IRES (2020) found that this intention is increasing, 4 out of 10 Romanians saying they will certainly be vaccinated, and a fifth saying that they will not be vaccinated. Also, 36% of respondents are undecided about the vaccine. Among the main reasons why people do not get vaccinated are the fear

of side effects, lack of confidence in vaccines or personal health. People would change their negative views if they would receive more explicit and understandable information, if they were given a guarantee of vaccine safety, or if they would receive information from people who had already been vaccinated, as well as the conditioning of certain activities related to the vaccination process.

Therefore, the study conducted by IRES (2020) reveals the need for more accurate information related to the medical spectrum and vaccination, as identified by other authors (Paakkari and Okan, 2020; Khan et al. 2020) in their works that the need for educating the population on health and vaccination decision-making by providing clear and accurate information on this subject.

Conclusions

The Covid-19 pandemic has set humanity on fire both at the macro level, in terms of managing this crisis at the state level and the micro level, individually generating a series of negative reactions and emotions from people, reactions that have represented a vacuum through which some conspiracy theories infiltrated, which only hindered efforts to mitigate the disastrous effects of the pandemic, such as attempts to persuade people to follow instructions to protect human health and later attempts to convince people of the effectiveness and need for the Covid-19 vaccine.

The research conducted to understand individuals' beliefs and hesitations about vaccination has found that conspiracy theories have a major effect on people's acceptance of a vaccine, appearing to satisfy individuals with a range of psychosocial needs (Douglas și Cichocka, 2017). People who are more likely to believe these theories and at the same time to be sceptical about or even disapprove of vaccination are typically people under the age of 60, with a low income and educational level, and mainly women or people who came from ethnic minorities (Fisher, 2020; Romer and Jamieson, 2020; Earnhsaw et al., 2020; IRES, 2020). Research has also shown that what fuels people's confidence in these conspiracies is information that is disseminated in the media or information that comes from resonant personalities, such as political leaders (Earnhsaw et al., 2020; Khan et al., 2020).

Therefore, what would discourage negative perceptions and attitudes about vaccination would be to pay more attention to the impact that the information disseminated has on individual emotions, as the messages can sometimes produce completely opposite reactions than initially desired (Chou and Budenz, 2020). Last but not least, there needs to be a greater effort to educate the population on health-related information, in order to facilitate the decision-making process regarding vaccination (Paakkari and Okan, 2020; Khan et al. 2020).

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