



Vaccine Hesitancy

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Abstract

Purpose of Review The recent COVID-19 pandemic has caused over 800,000 deaths in the USA as of this writing. Remarkable, several effective vaccines have been developed within 1 year of the occurrence of the pandemic's outbreak in the USA.

Recent Findings Although the vaccine has proven to be remarkably effective in preventing hospitalization and death, the number of unvaccinated persons in the USA who are eligible for the vaccine remains over 35%.

Summary Unvaccinated persons pose a risk for vaccine mutation and prolongation of the pandemic, with its attendant quarantines and societal shutdowns. The ability of clinicians to address this problem remains unclear in a population suspicious of science and of the health care community.

Keywords Vaccination · COVID-19 · Vaccine hesitancy

Introduction

Vaccines have an outstanding safety profile and protect both individuals and the entire community against infectious illnesses [1]. This has been proven time and time again. Vaccines have been around for many years and have been available to medical providers. This review will examine vaccine hesitancy as it pertains to the current COVID-19 pandemic, while also keeping vaccine hesitancy in its historical context. Approximately 18% of all COVID-19 infections occur in the USA, a figure that represents a significant proportion of the global total. Despite the fact that vaccinations can reduce the risk of infection, a significant section of the population in the USA is anti-vaccination [2]. Vaccine hesitancy (VH) may be traced all the way back to the 1800s [3]. Fear of the COVID-19 vaccination ranged from 22% to more than a third of the population in the USA [4]. While the house of medicine endorses empowering patients to make their own medical decisions, VH does appear to be an alarming and growing trend. The present COVID-19 pandemic that is affecting the whole planet is exacerbated by VH. When it

comes to the fight against COVID-19, vaccine hesitancy is a serious concern since obtaining herd immunity is dependent on both the efficiency of the vaccine itself and the willingness of the general public to take it [5•]. To succeed in the control and management of the current pandemic, the population needs to accept the COVID-19 vaccine. Following the initiation of vaccination, the expected reduction in new COVID-19 cases must be appropriately highlighted as an effect of vaccine uptake rather than being interpreted as a reduction in risk, which might lead to a reduction in the perceived need for immunization [5•]. It is unclear if this is exactly what is happening. The vast divides in American society shown by the epidemic, which are divided along lines of class, race, and political affiliation, are reflected in vaccination opinions [5•]. This is another concerning issue in our attempt to manage the current pandemic. The COVID-19 virus is disproportionately more prevalent among minorities, low-income persons, and those with fewer educational qualifications [6, 7]. Health care professionals must be cognizant of this. The groups mentioned above with demonstrably lower vaccine acceptance require special attention. This entails identifying the roots of their chronic distrust of health authorities as well as addressing the consequences of their chronic distrust of health authorities in order to break the vicious cycle of skepticism and poor health outcomes [5•]. Health care professionals should try to have an open conversation with all patients in an attempt to understand their concerns. Prejudice or opposition on the part of minorities against medical research and

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the health care system stems from past occurrences (e.g., unethical experiments on Blacks in the Tuskegee syphilis study) as well as current perceptions of prejudice in clinical encounters and treatments [8, 9, 10•]. This is an understandable issue that leads to VH in the current pandemic.

Sociological Factors to Vaccine Hesitancy

VH is omnipresent. When it comes to countries, states, and subgroups (including health care providers and parents), vaccination reluctance is ubiquitous, as are the factors of vaccine hesitancy—perceived illness or outbreak severity, infection risk, vaccine safety, and the necessity of vaccinating children [5•]. In both the Irish and the United Kingdom (UK) samples, similar rates of vaccine hesitance (26% and 25%) and resistance (9% and 6%) were observed, with only 65% of the Irish population and 69% of the UK population fully willing to accept a COVID-19 vaccine, respectively [11]. In the USA, it is reported that 33% of the population indicated vaccine hesitance or resistance [12•]. The rates of resistance to a COVID-19 vaccine are analogous to those found for other types of vaccines [11]. Non-Irish-born status, residing in a city, voting for an anti-establishment or independent candidate in the most recent general election, and having an underlying chronic health issue were all connected with vaccination resistance in Ireland, according to one study. In contrast, vaccination resistance was shown to be connected with suburban living and becoming pregnant in the United Kingdom [11]. Residence in an urban or suburban area may be indicative of greater socioeconomic difficulties that are known to exacerbate vaccination reluctance [13, 14], and is a troubling discovery, considering the larger potential for community transmission in densely populated places [11]. Immunization history, faith in the government, and doctor's recommendations are all essential factors in building vaccine confidence and promoting vaccination uptake [12•]. As one might imagine, the patients that health care professionals serve may or may not subscribe to these important influencers. When the resistance factors are identified, national public health authorities can utilize these data to target certain communities in their efforts to improve public health. The first step would be to focus public health campaigns towards groups more likely to be vaccination reluctant or resistant, such as women, young adults, and those from lower socioeconomic backgrounds, based on the common risk factors for vaccine hesitance/resistance found across the samples [11]. This should be paramount for national public health authorities worldwide. To tackle vaccination hesitancy and resistance, it is probable that a multi-disciplinary strategy involving social and behavioral change communication specialists, social marketers, medical

anthropologists, psychologists, and health care practitioners would be necessary [11]. This approach requires complete buy-in by health care professionals. There has been great progress achieved in the battle against infectious diseases in the USA since the implementation of immunization policies in the country, which ensure that all children are protected by routine childhood vaccinations [15]. However, a shift in illness beliefs, as well as growing vaccination safety concerns, threatens to undo the progress made in decreasing vaccine-preventable diseases. Many variables, including vaccine hesitancy, can impact the uptake of vaccinations [15]. More work is necessary to create and maintain public confidence in vaccinations. A rigorous vaccination safety system that takes use of new technology and scientific methodologies, as well as effective communication initiatives, is essential to maintain public confidence in vaccinations [15]. In order to determine what factors could contribute to COVID-19 vaccination fear among persons with disabilities in the USA, a study was performed. On the basis of previous research, it was hypothesized that trust in experts, having a college degree, getting tested for COVID-19, and concerns about getting sick from COVID-19 would be positively associated with COVID-19 vaccination hesitancy, and that trust in experts, having a college degree, getting tested for COVID-19, and concerns about getting sick from COVID-19 would be negatively associated with COVID-19 vaccination hesitancy [2]. These findings might imply that those with disabilities were less reluctant than the general population during this time period, which would be consistent with previous research [2]. It was observed that a fear of COVID-19 immunizations was associated with an increased risk of reluctance, but trust in experts, getting tested for COVID-19, fear of obtaining COVID-19, and knowledge were all associated with a decreased risk of hesitation. To encourage immunization among people with disabilities, who are more likely than the general population to have severe COVID-19 findings, it is necessary to address vaccine concerns [2]. The sociological issues to VH have been highlighted but now the psychological issues regarding VH will be examined.

Psychological Factors to Vaccine Hesitancy

Choices made regarding one's health care decisions are indeed a personal one. The psychological factors in vaccine resistance are striking [11]. When it comes to vaccination hesitancy/resistance, there are differences in social, economic, cultural, political, and geographic aspects, but psychological features are similar throughout populations. COVID-19 vaccine-hesitant/resistant individuals were distinguished from their vaccine-accepting counterparts by being more self-interested, more distrustful of experts and authority figures (e.g., scientists, health care professionals,

the state), more likely to hold strong religious beliefs (possibly because these kinds of beliefs are associated with distrust of the scientific worldview), and more likely to hold conspiratorial and paranoid beliefs (e.g., conspiracy theories, government conspiracies, and the government) (which reflect lack of trust in the intentions of others) [11]. Vaccine apprehension or resistance is more prevalent among individuals with a belief in one's own ability to direct one's own life, an affinity for cultures that are hierarchically structured as well as authoritarian, and an inability to tolerate the presence of migrants in society [11]. Moreover, they had a more impulsive way of thinking, and their personalities were defined by being more unpleasant, more emotionally unstable, and less conscientious than the general population [11]. These psychological issues may or may not be obvious to health care professionals. Using the comparison analyses, we may learn about the influence of framing and phrasing choices, which can be used to drive the immediate construction of a vitally needed national vaccine campaign and enhance future research design to support continuous vaccine hesitancy surveillance [16]. The national vaccine campaign must be aware that VH is alive and well. Vaccine safety and effectiveness messages should be focused on, as well as clarification of the importance and need of vaccination in people's belief systems (e.g., stressing that many vaccines have helped eradicate or control deadly diseases that we are no longer aware of or concerned about because those vaccines worked) [5]. Patients may or may not be aware of the historical success that vaccines have had in our society. Positive signals to action, such as encouragement from loved ones and trustworthy figures such as physicians and religious leaders, the sharing of personal tales, and peer pressure, might be used in communication tactics to motivate people to act [17]. As with other health care choices, VH may be overcome with the help of one's social support group. Interventions to increase vaccination rates in Black/African-American communities should include components that ensure accessibility at a bare minimum, but they should also address concerns that are not connected to accessibility, such as discrimination [18]. Long-term repercussions of disclosing negative vaccination results are not associated with public publication of unfavorable vaccine results. It is true that providing unfavorable vaccine information in an open and transparent manner may be painful in the short term, but it has significant long-term benefits in terms of maintaining confidence, which is a critical resource for dealing with future health emergencies as well as the ongoing epidemic, which may require multiple rounds of vaccination. Although political systems and degrees of polarization varied from one country to the next, the data supporting this conclusion was startlingly consistent in both the Danish and American populations [19]. Individual variations in political cynicism, which refers to the belief that political elites are

corrupt and inept, as well as conspiratorial thinking, were shown to be the most significant predictors of vaccination skepticism in both the USA and Denmark, respectively [19]. Since the outbreak of the COVID-19 pandemic began, there has been a deluge of disinformation and conspiracy theories, which has the potential to limit vaccination uptake [20]. Sadly, much of this has been perpetuated on social media and cable news networks. It is unknown why one modality (antibiotics) is generally seen as safe and effective while the other (vaccines) is regarded as possibly dangerous by some in the same group of young children [21•]. This is vexing the struggle to combat VH. When we look at the prevalence of vaccine hesitancy and how it is associated with individual, contextual, and clinical factors, we can determine which groups and contexts are most susceptible to vaccine hesitancy, and which require special attention from public health strategies in order to ensure widespread vaccination [22]. Transparency's major long-term goal is to prevent conspiratorial viewpoints from spreading into new demographic segments, making them harder to reach for health communicators. Transparency cannot completely eradicate early vaccination skepticism, but it is essential for sustaining long-term confidence and limiting the spread of conspiracy theories [20]. COVID-19-specific insights may (and should) be applied to the larger inequity problems that COVID-19 has recently brought to light and exacerbated, resulting in vaccine hesitation [23]. Again, one's social support system may help health care professionals overcome the accessibility issue.

Conclusion

Health care professionals have the ability to deal with VH. If you live in a culture that respects and appreciates scientific agreement, vaccine skepticism will be difficult to sustain [16]. It is expected that inconsistency in information from political leaders and specialists would further deepen suspicion [24]. The provision of direct access to professional sources of knowledge that are culturally appropriate and intelligible might be one approach to addressing public concerns about COVID-19 immunizations and boosting vaccination uptake. For persons with disabilities, this is particularly significant, as many of them are more likely to disclose problems that put them at risk of a catastrophic COVID-19 result [2]. Health care professionals are in a critical position to support this. Knowledge about conventional vaccinations and COVID-19 vaccines, as well as trust in the effectiveness and safety of conventional immunization, were all shown to be related with a decreased probability of vaccine hesitancy or resistance in the study population [25]. Patients do listen to health care professionals when making their own medical decisions. In order to prevent further spread of the virus in

the USA, it will be necessary to confront both conspiracy theories and vaccination misinformation. This is because belief in COVID-related conspiracy theories predicts resistance to both preventive behaviors and future vaccination against the virus [26]. In order to break down such barriers, public health officials will need to keep communicating with the public through mainstream media, particularly politically conservative publications that have embraced conspiracy theories about the COVID virus [25]. Health care professionals having a frank discussion with patients will diminish the power of conspiracy theories when it comes to VH. We, as health care professionals, may be able to lessen the impact of vaccine hesitancy; taking into account the factors discussed above could help the house of medicine diminish VH and reduce the severity of the COVID-19 pandemic's impacts.

Declarations

Competing Interests The authors declare no competing interests.

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