

Mandatory Vaccination: Prioritizing Social Issues Over Bodily Autonomy

Sining Wang

*The High School Affiliated to Renmin University of China, Beijing, China
sinesss@163.com*

Abstract. Following the COVID-19 pandemic, Mandatory Vaccination, which refers to requiring employees, students, or citizens to be vaccinated to continue their work, education or daily activities, has become a highly debated topic. Although anti-vaccine activists emphasize their right of bodily autonomy, it is ethical to require vaccination, supported by three perspectives: utilitarian, societal and in terms of vulnerability, to guarantee the health of the entire society. Comparing the potential side effects of vaccines and the harm of the spread of infectious diseases and using measles as an example help analyze from utilitarian perspective. From societal perspectives, instances of suicide and hate speech show that laws and policies prioritize collective interests over individual preferences. In terms of vulnerability, vaccines are also designed for underprivileged groups, such as people whose health conditions prevent them being vaccinated and people who cannot afford the fees of medical treatments, ensuring equitable health protection.

Keywords: Bodily autonomy, mandatory Vaccination, utilitarian perspective, underprivileged groups, societal perspective

1. Introduction

The novel coronavirus disease (COVID-19) outbreak that emerged at the end of 2019 swept across the world for more than 3 years. As of 30 April, 2023, there have been reported over 6.9 million confirmed COVID-19 induced deaths worldwide [1]. To reduce the infection rate, various companies developed vaccines for COVID-19 in roughly one year, representing scientific achievements in terms of pandemic response. For instance, CoronaVac started phase three clinical trial in Brazil as early as July 2020 [2]; the Pfizer-BioNTech COVID-19 vaccine had met the primary efficacy goals of the phase three clinical trial, with over 40,000 people participating, by November 2020 [3], representing scientific achievements in terms of pandemic response.

Vaccination then became mandatory in several regions: for example, Beijing requires armed police, community workers and other seven kinds of jobs to be vaccinated to continue working [4], causing the voices of anti-vaccine activists grew louder. Comments on YouTube videos during the COVID-19 pandemic clustered around concerns about vaccine safety, potential side-effects, lack of trust in government and pharmaceutical companies [5].

The ethical dilemma centers around whether the collective right to public health supersedes an individual's bodily autonomy. Mandatory vaccination is defined as "any law that makes vaccination

compulsory, or any public or private vaccination requirement for accessing a venue or a service that cannot be avoided without undue burden” [6], aiming to protect vulnerable populations through herd immunity. They simultaneously limit people’s personal freedom to make medical decisions: they have no choice other than being vaccinated. Anti-vaccine activists publicly stated that, even if being vaccinated could prevent them from being infected, they still refuse to comply. They argued that they have the right not to be vaccinated, and that it is their own choice. To guarantee the health of the whole society, it is ethical to require vaccination despite its impact on individuals’ bodily autonomy.

2. Literature review

2.1. Biological nature of vaccine

Vaccines are biological preparations that provide active acquired immunity to infectious diseases such as influenza and hepatitis, as well as some malignant diseases such as cancer. By triggering an immediate immune response, vaccines not only protect individuals from infection but also help reduce disease transmission within communities, creating what scientists call 'herd immunity.' This collective protection is especially crucial for vulnerable populations who cannot be vaccinated due to medical conditions. According to recent studies, even vaccines developed rapidly during emergencies and targeting constantly evolving viruses, like mRNA-based COVID-19 vaccines, had 94.6% efficacy in phase two and three RCTs [7].

2.2. Inequity in vaccine distribution

Unfortunately, not all people have opportunities to be vaccinated, and groups that do not have access to vaccination are often victims of circumstances beyond their control. This inequity is particularly evident in the resource barriers to vaccination. In many developed countries, prices for vaccines usually range from 50 dollars to 500 dollars, which is at least equal to seven hours of minimum wage in a developed country, making them unaffordable for people who are living in poverty. The situation is even more serious in developing countries and third-world countries, where vaccines are not provided to most citizens due to limited healthcare resources and economic constraints. A majority of low-income (LIC) and lower-middle-income countries (LMIC) were unable to achieve at least 10% population coverage during initial vaccine rollouts, despite the rapid development of the coronavirus disease 2019 (COVID-19) vaccines [8]. The rights to bodily autonomy of privileged groups must be balanced against the health risks faced by groups of people who cannot afford vaccinations. It is reasonable to focus on the underprivileged in particular, because people who choose to be vaccinated are protected from being infected, and people who have opportunities but choose not to be vaccinated can be responsible for the consequences of their own choices; this leaves only those who wish to be vaccinated but don’t have the means to. Refusing vaccination when it is readily available has consequences that extend beyond the individual, potentially endangering those who lack access to the same healthcare options.

3. Discussion

3.1. Comparison of potential side effects vs spread of infectious diseases in utilitarian perspectives

From a utilitarian perspective, the potential side effects of vaccination on a relatively small population are much milder than the harms caused by the spread of diseases. The side effects of vaccines are usually mild and transient, including soreness, swelling, or redness at the injection site. Some vaccines for viruses are associated with fever and rash, but all these side effects are resolved in a few days. Serious side effects are rare compared to the population vaccinated, and reports of serious side effects are often due to misleading sources. For instance, in 1998, Andrew Wakefield deceived the world about the false side effect of measles vaccines—infantile autism—for his financial gain and reputation as an anti-vaccine activist. This event caused devastating consequences throughout the world: due to the decline in vaccination rates, the incidence of infectious diseases such as measles had increased dramatically. In 2000, for instance, the United States declared that it had successfully eradicated measles. However, a total of 695 cases of measles emerged in 22 states in the first four months of alone, with the majority of cases occurring in unvaccinated communities, showing that the Wakefield's anti-vaccine views led to the distrust among parents and the recurrence of an eliminated disease [9]. Globally, the vaccination coverage rate hovered around 86%, which was far from the level of protection required to prevent large-scale outbreaks of infectious diseases. With an R_0 of 15, measles is one of the most contagious viruses, meaning each infected person can spread it to 15 others on average, compared to just 2-3 for normal influenza. This high transmissibility, combined with its 28% fatality rate, makes widespread vaccination essential to prevent devastating outbreaks. Andrew Wakefield's actions caused measles to become a public health crisis again. Vaccine hesitancy, believed to be responsible for decreasing vaccine coverage and an increasing risk of vaccine-preventable disease outbreaks and epidemics, was listed as one of the top ten threats to human health two months after the World Health Organization published the alarm of a global resurgence of measles [10]. The side effects experienced by individuals are much less severe compared to the potential spread of preventable diseases. The infamous case of Andrew Wakefield clearly demonstrates that the harm from the spread of infectious diseases influences society far more negatively than restrictions on individuals' bodily autonomy, supporting the ethical argument that mandatory vaccination for serious infectious diseases is justified from a utilitarian perspective.

3.2. Comparison of collectivism vs individualism in social issues

Apart from the utilitarian point of view, it is necessary to consider the broader conflict between individualism and collectivism in modern society, which is exemplified by the tension between bodily autonomy and mandatory vaccination. While individual rights are fundamental to democratic societies, policy making often prioritizes collective interest when individual choices significantly impact public health and safety. One instance of this is the freedom of expression, which, despite being a fundamental right, is restricted when it comes to hate speech. Hate speech is defined as “a conscious and willful public statement intended to denigrate a group of people” [11]. The European Commission's Recommendation against Racism and Intolerance, No. 15 (On Combating Hate Speech) of December 8, 2015, specifically cites speech that “expresses hatred toward, humiliation of, or contempt for a person belonging to a protected group” [12]. Even in the United States, where the First Amendment strongly protects free speech, governments have established certain restrictions

on hate speech due to its demonstrably harmful impact on society. The consequences of unrestricted hate speech were tragically illustrated in Rwanda, where hate speech sprout rumors against Tutsi citizens created ethnic tensions between Hutu and Tutsi populations. These tensions were deliberately amplified by hate propaganda broadcast on Radio Libre des Mille Collines, which ultimately contributed to the 1994 genocide that resulted in the deaths of more than one million people in a systematic massacre lasting less than three months [13]. This example demonstrates that even though people have the right to express their opinions, groups that hold extreme views and express hate speech create serious social consequences, and society recognizes that this right cannot be absolute when expression incites violence and threatens public safety.

Similarly, suicide prevention laws represent another area where individual autonomy is limited for collective interest. Suicide remains a leading cause of death worldwide and is still considered a criminal offense in countries such as India, Pakistan, and Bangladesh. Although suicide may appear to be a deeply personal decision, it can trigger significant negative social impacts that extend far beyond the individual. These impacts include emotional trauma among family members, disruption of community social functioning, and substantial costs to public resources, as hospitals must treat suicide attempt survivors through medical interventions like gastric lavage, and law enforcement officers must respond to suicide attempts. Furthermore, one of the fundamental principles underpinning legal systems is the consistent and universal respect for human life. The exposure to suicide can create psychological trauma and negatively affect the mental health of others in the community. For instance, Greenland, which has the highest suicide rate in the world [14], also reports the highest depression rate globally [15]. This correlation suggests that the normalization of suicide in a society can harm the mental health conditions of the broader population.

The prohibition of both hate speech and suicide can be directly paralleled to mandatory vaccination policies. When individuals refuse vaccination, this personal choice can lead to the formation of anti-vaccine groups that spread misinformation to others who might otherwise choose to be vaccinated. Furthermore, when a large proportion of people refuse vaccination, infection rates increase significantly, potentially creating pandemics and other serious public health crises. Hence, while bodily autonomy is an important individual right, when individual choices potentially endanger the broader population, society justifiably prioritizes collective interest. Mandatory vaccination policies represent a reasonable limitation on individual rights when necessary to protect public health.

3.3. Goals of policies

Other than collective interest, policies are also trying to protect underprivileged groups and populations with limited access to resources. Society generally recognizes their vulnerability and the unique challenges faced by these groups, and therefore offer them priority in many circumstances. For instance, in the realm of employment, governments have developed specific policies to support disadvantaged populations. In China, for example, the government provides subsidies for disabled people, and the income from services provided by the disabled is exempt from business tax. Additionally, enterprises that employ disabled people who account for 10% to 35% of the total number of employees can enjoy a 50% reduction or full exemption of income tax [16]. These welfare programs for disabled people represent society's care for vulnerable groups: disabled people face significant challenges when seeking jobs, which means they have a higher probability of being rejected. Through these measures, the government guarantees their fundamental living conditions and raises their employment rate by providing benefits for companies. Vaccination programs, as part of the health area, should prioritize vulnerable populations as well. Vaccination might not be a must

for the wealthy, who can afford high-quality medical treatment and recover in a few days. However, mandatory vaccinations are designated for people who do not have the ability to protect themselves—they do not have opportunities to be vaccinated, and they cannot pay for medicine. By enforcing vaccination for people who have access to healthcare, the infection rate decreases, which reduces the risk of disadvantaged people being infected. For children and elderly individuals, some of whom do not meet the basic requirements for being vaccinated due to health conditions, this is particularly important as they often display the most severe symptoms when infected. Thus, because people recognize that society owes the vulnerable priority in terms of protection and certain privileges, their overall right to wellbeing outweighs anti-vaccine activists' bodily autonomy.

3.4. Effectiveness of blocking disease transmissions

Anti-vaccine activists often talk about the responsibility of other people, arguing that if people around them are vaccinated, the unvaccinated are not likely to become infected. They further claim that individuals who choose not to be vaccinated are solely responsible for their health outcomes. However, disease transmission is not eliminated merely because most people in a community have been vaccinated. Even when one person has been vaccinated during social interactions, the risk of transmission remains, albeit reduced. This highlights that a significant proportion of the population must be vaccinated to effectively protect those who cannot receive vaccines due to medical and economic conditions. Another way of blocking transmission of diseases, wearing masks, provides illustrations for the nonzero infection rate: in an interaction between a COVID-19 carrier and a healthy person, if both individuals wear masks, the probability of infection drops to approximately 1.5%; in contrast, if the person who carries the virus does not wear a mask while the healthy person does, the probability of infection rises to 30%, which is substantially higher [17], showing that such public health measures are not infallible, which underscores the necessity of collective community engagement to ensure their effectiveness.

4. Conclusion and limitation

Even though forcing vaccines significantly reduces infection rate, prevents the formation of large anti-vaccine groups, and protects people in underprivileged positions, many social interactions occur outside settings like schools and workplaces, leaving significant gaps in community protection. To address these limitations and raise awareness about vaccination among the general public, governments and social institutions should develop educational programs to fight against misinformation in both effectiveness and side effects of vaccines. Through targeted educational efforts, coupled with expanded access to vaccines, communities can ultimately achieve the herd immunity, which could protect all members of society.

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