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RESEARCH ARTICLE

This Is Why Magufuli Was Right to Be COVID-19 Vaccine-Hesitant: Lessons for Responses to Future Pandemics

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Abstract

Response to pandemics raises many pressing ethical issues, but key among them is the fundamental question on whether and how far the public health policy should guarantee the community health without the infringement of the individual freedom. This study used a phenomenological design to articulates the ethical issues surrounding COVID-19 vaccine mandates in Tanzania. The goal was to recreate pandemic experiences and learn from it so as to best prepare ourselves for future pandemics. One important lesson about vaccine mandates is to recognize value pluralism and not to reduce all things that matter to either a single or only two values, say consequential or deontological values. This implies that not only several values have roles to play in public health decisions, but also that some values are not reducible to a common super-value when considering policy options.

Keywords: COVID-19 Vaccines, Vaccine Mandates, Ethics, Lived Experiences, Value Pluralism.

1. Introduction

Once known as an anti-coronavirus nation, Tanzania only joined the World Health Organization's COVID-19 Vaccines Global Access (COVAX) after the death of President John Magufuli (Makoni, 2021). Magufuli was an ardent coronavirus sceptic who, at first, downplayed the severity and seriousness of the COVID-19 pandemic. He also boycotted the use of COVID-19 vaccines as recommended by the WHO and rather urged Tanzanians to pray hard and use traditional remedies (herbal steams, natural remedies, and exercises) to combat the coronavirus. Magufuli adamantly refused to lock down the country (when almost every leader around the world did so), expressing his doubts on the imported masks, testing kits and COVID-19 vaccines. He insistently argued that Tanzania would be ready to work with the international community in the fight against the pandemic only when all vaccine-related concerns were addressed (Hamisi et al., 2023).

However, after his death and with the ascension of the new president Samia Suluhu Hassan, a change of policy in the fight against COVID-19 was introduced. Tanzania swiftly joined the COVAX and the first batch of US-donated Janssen (Johnson & Johnson) COVID-19 vaccines arrived on July 24, 2021. It is like the government Tanzania quickly undertook the task of mass vaccinations by starting with priority populations and thereafter resumed sharing COVID-19 epidemiological data with the WHO. By then, many countries in Africa were on their third round of COVAX consignments (Makoni, 2021).

In order to get 60% of the populace immunized by the end of June 2022, Tanzania continued to develop various partnerships with international stakeholders and organizations, including WHO, the British Council, UNICEF, USAID, and the Centers for Disease Control and Prevention (CDC) for technical support. The ultimate goal was to ensure that Tanzania substantially contributes the global target of immunizing 70% of the world's population by the end 2022. However, with only 5.1% of the population

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fully vaccinated against COVID-19 as of June 2022, Tanzania had one of the lowest vaccination rates in the world and struggled to get its vaccination campaign on the rails even after the said efforts and initiatives (Van Espen et al., 2023). Many reasons were given for this low vaccine uptake, including skepticism and vaccine hesitancy (VH). Some studies, for example, reported COVID-19 vaccine hesitancy of up to 65% in the general population (Chilongola et al., 2022), and low vaccine confidence amongst health-care workers (Konje et al., 2022).

Because of the above situation, Tanzania was compelled to mandate COVID-19 vaccination as requirement to some individuals to act not only to promote their self-interest but also or even primarily to contribute to an important public good, like herd immunity. This was because vaccines have been widely accepted as vital public health interventions to halt pandemics (Hussain et al., 2020), although not without hesitation (Siddiqui et al., 2013; Peretti-Watel et al., 2015). Successful cases of the use of vaccine in fighting against pandemics include elimination and/or containment of smallpox, rabies, yellow fever, polio, measles and rubella also known as German measles (Offit, 2022, p. 9).

However, as in a war against an enemy, the history of vaccination is littered with casualties and human prices (Hussein et al., 2015). For example, in 1942 a growing incidence of jaundice was reported among the United States army personnel who by then had received a yellow fever vaccine that contained human serum as a stabilizing agent. The serum had been obtained from health care workers who had a history of jaundice and one of them was actively infected at the time of donation. When the dust settled, 330,000 service members had been infected and 1,000 had died from what would later be called hepatitis B virus. It was one of the worst single-source outbreaks of a fatal infection ever recorded (Offit, 2022, p. 8).

The same happened in 1955 when five pharmaceutical companies in America stepped forward to make Jonas Salk's polio vaccine. One of them made it badly, failing to fully inactivate the virus. As the result, 120,000 children were inoculated with live, fully virulent polio virus; 40,000 were temporarily paralyzed, 164 were permanently paralyzed, and 10 were killed. It was arguably the worst biological disaster in American history (Offit, 2022, p. 8).

Another tragedy followed in 1960s when a vaccine was made to prevent respiratory syncytial virus, much the same as Jonas Salk's polio vaccine was made in 1955. Researchers were hopeful that they had found a way to prevent a virus that killed five thousand babies every year in the United States. It did not work out as thought as early studies found that children who were vaccinated were more likely to be hospitalized and more likely to die from pneumonia when later exposed to the virus than those who were never vaccinated. A similar problem occurred with two early versions of vaccines against measles, both of which were quickly removed from the market (Offit, 2022, p. 9).

Knowing that the road to successful vaccination is often bumpy and occasionally with fraught dangers, the development and use of COVID-19 vaccines have gone with expectations of worst vaccine tragedies. It has not happened yet and it is said that the result of COVID-19 vaccines is far better than anyone could have predicted, although not without issues. There are claims that Johnson & Johnson vaccine is a very rare cause of clotting and the mRNA vaccines are a very rare cause of myocarditis (Offit, 2022, p. 12). Overall, the COVID-19 vaccines risks appear to be consistent with other common immunizations (Toback et al., 2022).

2. Ethical Issues

While vaccine mandate can be recommended and ethically justified in public health interventions, it also comes into tension with other values. The root of the ethical dilemma behind a vaccine mandate is the conflict between public health ethics and individual liberty or autonomy (Sween et al., 2022, pp. 224-225). What is at stake here are the two opposing values, utilitarian value of mandatory vaccine and deontological value of individual freedom of choice: commonly referred as tension between the duty to defend or preserve collective goals and the rights to individual self-determination (Gibelli et al., 2022). The subsequent and fundamental question is how far a policy should guarantee the public health without the infringement of the individual freedom during the period of pandemics?

In following public health ethics, an authority (political leader or government) may feel compelled to mandate through policies, regulations, or laws that all members of society must, against their choices, be vaccinated to prevent harm to others (Sween et al., 2022, p. 24). This is typically grounded on the Millian principle: "The only purpose for which power can rightfully be exercised over any member of a civilized community, against his will, is to prevent harm to others" (Mill,

1978, p. 9). This population-centered approach suggests that when immunization rates lead to greater good for all (reduction in virus transmission, lower rates of infections and hospitalizations, or community protection), then mandatory vaccination is reasonable, preferable, and justifiable (Sween et al., 2022, p. 24). It is also considered as a justice-driven approach, suggesting that right acts should produce the greatest amount of good for the greatest number of people over individual goals and aspirations (Hirose, 2023, p. 5).

But critics of the above approach contend that it is limited to value monism which utility is the only fundamental super-value and that other values, like individual freedom (liberty) or other human aspirations and beliefs (religious or philosophical beliefs) do not have the same moral value (Navin & Attwell, 2019). To reduce all discussion about value trade-offs to questions about the measurement of a single super-value (utility) is therefore considered as insufficiently attentive to idea that there are several human values which may be equally correct and fundamental, and yet in conflict with each other. Thus deontologists criticize consequentialists for overly prioritizing community interests against those of individuals and consequentialists criticize deontologists for doing exactly the opposite (Buchanan, 1989).

The above tension is so telling given that rights are on their way to becoming the accepted international currency and political debate (Sumner, 1987). Rights have attracted a great deal of attention in the recent philosophical literature (Stuurman, 2004). Rights dominate the modern understandings of what actions are permissible and which institutions are just. Indeed, rights structure the form of governments, the content of laws, and the shape of morality as many now see it. To accept a set of rights is to approve a distribution of freedom and authority, and therefore to endorse a certain view of what may, must, and must not be done (Harrison & Boyd, 2018, pp. 195-213).

In liberal societies, and perhaps elsewhere, both the philosophical community and the public have come to take rights very seriously indeed. The concept of rights is politically attractive because it seems peculiarly well suited to expressing some of the ideals and ideologies at the heart of liberal political theories. Moreover, the idea of rights is sufficiently intricate as it puzzles and challenges philosophers, both who are friendly to the liberal tradition and those who are not. Both in politics and in philosophy, therefore, rights are to here to stay (Edmundson, 2012).

Yet, appealing more to self-interest and individual liberty for vaccination may seem to erode the sense of solidarity in public health and the willingness to take risks for the common goal or common good (Groppe, 2021). While utilitarianism is commonly criticized on the ground that it does not take moral rights seriously; that it cannot account for the rights we have, and for their role in determining our individual pursuit of the common good (Copp, 1989), it is also arguable that sometimes to realize the best utilitarian outcome may require the violation of moral constraints against harming others – that is, violating the individual rights. There is no reason to expect common-sense moral rules to always coincide with the best ways to act according to utilitarianism; sometimes they conflict (Thomson, 1976, p. 206).

For ethicists, therefore, vaccines and vaccination create several ethical questions and dilemmas. Whose responsibility is health? To what extent can it be justified to coerce people to accept vaccination for themselves and others? Do citizens have a responsibility to accept vaccination and contribute to population-level immunity that benefits everyone? Is it purely a matter of individual choice or do governments have a role to play in response to pandemics? Discussion on these ethical questions may reveal a spectrum of issues, varying from a consideration of people's freedom to challenge what may be perceived as needless orders from a nanny and pernicious state/government to stating the need for the state/government to protect the public from health hazards such as pandemics of infectious diseases (Krebs, 2008).

This study, therefore, articulate the ethical issues surrounding COVID-19 vaccine mandate in Tanzania. The aim is to learn from it and better prepare ourselves for future pandemics. This is particularly important given that there are no substantive studies in Tanzania which explore and understand vaccine mandate from the perspective of those who have experience it. It is fair to say that the existing information about vaccine mandates often comes from outside or foreign perspectives such as elite physicians, policymakers and other privileged commentators. As a result, we rarely hear or take seriously the voices of laypeople recounting their experiences of vaccine mandates from their own voices and perspectives. This shortcoming leads to stereotypes which perpetuates skewed perceptions and connotations, categorizing vaccine-hesitant and doubtful people as deviants and vicious, thus reducing them to numbers for the purposes of creating an 'other' group of people to be controlled (Quinn & Rosenthal, 2012).

Although the focus of this study is the ethical issues surrounding COVID-19 vaccine mandates in Tanzania, the subject matter is not confined to it alone. The study includes many ethical responses to cases of outbreaks, epidemics, and other pandemics. In general, this study is on the ethics of pandemics. But specifically, the study focuses on the experience of the COVID-19 because we can learn many important ethical lessons from it and better prepare ourselves for the next pandemic (Hirose, 2023, p. 2). Since pandemics of infectious diseases are a reoccurring event, it is very likely that we will see more pandemics in our lifetime (Donthu, 2020). To better prepare ourselves for the next pandemics, it is essential to think, understand, and discuss some of the pressing ethical issues arising from them, even after the COVID-19 pandemic is over.

3. Materials and Methods

This study utilized a phenomenological design; a form of qualitative research that focuses on subjective experiences of the world. As a methodology, phenomenology attempts to understand problems, ideas, and situations from the perspectives of those who have lived the experienced (Thurston et al., 2014). In other words, phenomenology is about understanding how human beings have experienced their world, and this method is widely accepted as the best suited and powerful approach which helps scholars to understand past subjective experiences of the world (Austi, 2014), and learn from those experiences (Neubauer et al., 2019, p. 90).

Despite the fact that humans are one of few animals who can learn from the past experiences of others, we are often loath to do so. Perhaps this is because we assume that similar circumstances could never befall us. Perhaps because we assume that, if placed in the same situations, we would make wiser decisions. Perhaps it is because we assume that subjective experiences of an individual are not as reliably informative as objective data collected from external reality (Neubauer et al., 2019, p. 90).

Yet, it is essential for scholars, particularity from the fields of philosophy and social sciences, to learn from the past experiences of others. In fact, it is a foundational premise of our research which involves detailed study of subjects (individuals, groups of individuals, societies, or even objects) so as to discover information and achieve a new understanding of issues (phenomena) that affect them (Neubauer et at., 2019). This often involves learning from the perspective of those who have experienced and lived a particular phenomenon or issue, such as pandemics (Neubauer et al, 2019, p. 91). As a methods, theretofore, phenomenology seeks to describe and interpret the essence of the phenomenon from the perspectives of those who have encountered it, so as to discover information and achieve a new or better understanding (Crotty, 1996).

Although there are different kinds of phenomenology, each rooted in different ways of conceiving of the what and how of human experience (Neubauer et al., 2019, p. 91), almost all of them hold a similar definition: a study of phenomena as they manifest in our lived experiences, of the way we perceive and understand those phenomena, and of the meaning the phenomena have in our subjective experiences – as we encounter them on our daily bases (Smith, 2003). More simply stated, as phenomenology examines an experience as is subjectively lived, new meanings can be developed to inform, or even reorient, how we understand that experience (Laverty, 2003).

And since there evolving evidences from literature associated with this study which suggest that many people around the world are genuinely COVID-19 vaccine-hesitant, and some are choosing not to be vaccinated (Offit, 2022, p. 12), I chose vaccine hesitancy (VH) a pertinent framework to discuss the ethical issues surrounding COVID-19 vaccines than colleting new empirical data. As already pointed out, Tanzania was once known as an anti-coronavirus nation and an ardent coronavirus sceptic. The late president Magufuli refused COVID-19 vaccines and urged Tanzanians to follow suit out of fear that the vaccines were not safe. He insisted, as a nation, Tanzanians must reject COVID-19 vaccines, arguing that the western nations that promoted the global campaign to vaccinate were harboring an evil agenda against Africans.

The above founded and non-founded fear for COVID-19 vaccines is the cause of major issue in public health, called vaccine hesitancy. For example, many people are honestly concerned with the dealing of some pharmaceutical companies that make a profit out of COVID-19 vaccines and therefore have an interest in governments implementing coercive vaccination policies (Giubilini, 2019, p. x). While coercive vaccination policies are either right or wrong, morally speaking, lobbying and bribery by private for-profit companies are wrong, particularly when governments take no measures that are in the public

interests (Giubilini, 2019, pp. x–xi). As a result, some people luck trust in vaccines, the system that delivers them, and the motivation of policymakers (Giubilini, 2019,p. x).

In the past, it was often religious convictions that led people to refuse vaccination, but nowadays the main grounds for hesitance or refusal of vaccines are based on multifaceted factors and explanations. Based on the global record rates of VH, is perhaps fair to say that respect for autonomy is the main reason to why some individuals and communities disagree with mandatory vaccination, although several other arguments exist. These other arguments include questions on vaccine research and development; vaccine safety; distribution and accessibility; subjective values and/or interests; and trust issues. Often these apprehensions are triggered and sustained by misinformation, luck of trust in, the system that delivers them, and the motivation of policymakers (Galagali et al., 2022).

Thus researchers investigating the ethics of vaccines are now abandoning expressions such as "vaccine resistance" or "vaccine opposition" and increasingly replacing them with VH to describe the spread of vaccine reluctance (Peretti-Watel et al., 2015). In its broader use, VH embraces heterogeneous situations, categories, and explanation factors that regroup people who share varying degrees and motives of indecision and who hold an intermediate position along a continuum ranging from full support to strong opposition to any vaccine and /or vaccination (Gowda et al., 2013). These people are characterized by what we may call reluctant conformism and vaccine-specific behaviours (Dubé et al., 2013). They may decline a vaccine, but they may also delay it or even accept it in due time despite their doubts and reluctance, and may display and/or endorse a wide range of non-specific behaviours all of which can result from something else than VH itself (Peretti-Watel et al., 2015).

From the above perspective, two different kinds of vaccine-hesitant people can broadly be distinguished. First, people with poor knowledge of and indifferent to vaccination issues, but with erratic vaccination behaviours. Second, people who are very interested and committed to vaccination issues, but prone to information seeking and balanced decision-making (Peretti-Watel et al., 2015). This axis echoes two loci of controls: external locus of control made of people who endorse a more fatalistic attitude, tending to believe that their life is driven by forces outside themselves, and internal locus of control made by those who believe that they can control events related to their life, particularly health matters (Wallston & Wallston, 1982).

The internal locus of control echoes two cultural features of contemporary societies – risk culture and healthism. Both Giddens (1991) and Foucault (2008) have observed that some parents, for example, frequently claim that they prefer to rely on their own research on vaccines to come to an informed decision, rather than deferring to their child's doctor, which captures an aspect of commitment to risk culture (Opel et al., 2011). Conversely, parents' reluctance to get their child immunized has been used as a typical example to illustrate contemporary healthism (Greenhalgh & Wessely, 2004). This why VH is also regarded as a decision-making process (how/why do people come to accept, refuse, or delay vaccination) which is influenced by various contextual factors, including cultural factors (Streefland et al., 1999), and leads to a variety of behavioural outcomes (Peretti-Watel et al., 2015).

What is important in the above observations is that people, in the contemporary societies, are more encouraged to exert autonomy over their own lives, to use available expert knowledge to stay continuously aware of risks and opportunities in their daily life in order to make their future secure, particularly on matters related to health which has become a super value – healthism (Crawford, 1980). This, in return, spreads a rhetoric of self-empowerment which praises enterprising of and entrepreneurial individuals who use information spread by health authorities to exercise control over their own behaviours and maximize their life expectancy (Lupton, 1995).

As contemporary individuals are exhorted to become "entrepreneur" of their own life, they must do so in a context characterized by trust, as many, if not all, aspects of our daily lives are increasingly depending on machines or systems that are distant from us and beyond our understanding (Giddens, 1991). Depending on things and/or people that are not under our direct scrutiny or not fully understandable to us induces anxiety, and we must trust them, trust a whole expert system, through a leap of faith. This is even more critical in our contemporary world which is increasingly becoming characterized by overspecialization and disembedding of social relationships which lead to wider untrustworthy cultural and structural embeddedness (Peretti-Watel et al., 2015).

In the above context, Beck's (1992) has observed a society which is characterised by reflexive scientization and scientific scepticism, which eventually lead to demonopolization and/or feudalization of scientific knowledge, with conflictual equalization tendencies in the gradient of rationality between experts and lay people. Sciences, quasi-sciences, and pseudo-sciences are now competing sources that produce a flood of overspecialized, hyper-complex, and contradictory findings. Consequently, distrust toward science is no longer a sign of ignorance or even obscurantism, but is also endorsed by highly educated individuals (Peretti-Watel et al., 2015). People who endorse risk culture and decide to take their health in hand (healthism) are therefore confronted with discordant sources of knowledge and are compelled to distrust "official" sciences and experts, and put their faith in "alternative" sources of information or medical practice, such as homeopathy or acupuncture (Peretti-Watel et al., 2015).

Some authors have combined healthism and trust to refer to individuals who seek to control their health, who want to become informed and rational entrepreneur, but also express strong doubts about medical authorities and mainstream medicine and are more prone to turn to alternative experts (Greenhalgh & Wessely, 2004). In the context of this study, people may not distrust vaccines per se, but rather distrust health authorities who are believed to be strongly influenced by vaccines producers (Yaqub et al., 2014). Thus trusting blindly is considered as the biggest risk of all (Hobson-West 2007), particularly in countries like Tanzania where there are historical, structural, and other hostile systems that underpin VH among people (Callaghan et al., 2021). One particular historical event is the colonial medical research which intensifies the use of experts and diminished the culturally informed understandings of vaccines (Mutombo et al., 2022). In this situation, some studies have found a positive correlation between VH and use of alternative medicines such as acupuncture, homeopathy or naturopathy (Siddiqui et al., 2013).

4. Discussion

From the above exposition, it is fair to say that public health initiatives, like vaccine mandates, are bound to be unpopular particularly amongst people who perceive them to be hostile to, and interfere with their ability to make choices which individuals would otherwise make on the basis of their values (Lewandowsky, 2021). This explains in part why some democratic governments are often reluctant to impose coercive health measures, regardless of their theoretical justifications (Robinson et al. 2021).

While the "greater good" argument of utilitarianists appeal better in debates about vaccine mandates, it is also important to consider other values alongside and/or in opposition to it. A common objection to mandatory vaccination is that it is more of one-dimensional and therefore is committed to value monism which hinders other human values and aspirations, including liberty, responsibility, justice, and more others (Rawls, 1999). It is too reductive to curtain and limit discussion of the diverse, plural and multiple dimensions that naturally intersect with public health questions by simply imposing a single super-value in terms of utility (Olick et al., 2021).

Governments and societies should therefore be wary of trading people's values in exchange for increases in overall welfare, as utilitarianists propose. It is both helpful and useful for political leaders and governments to understand how diverse and complex values, norms, ideals, duties, and virtues are irreducibly interlinked. Given that norms are widely interwoven with other human dimensions, it is rather unlikely that a theory unified around a single moral view will account for all human aspiration, interests, and values in the context of public health interventions (Beauchamp & Childress, 2001).

Consider, for example, that people who embrace vaccine mandate often invoke community protection against diseases while those who oppose it often value personal autonomy. But this relative importance of community protection and autonomy should not only be assessed in terms of utility versus individual rights. Trade-offs between values may sometimes be justified, but that cannot be because doing so maximizes an overall good (Navin & Attwel, 2019, p. 2). While we accept that the trade-offs between goods may sometimes be justified, this will not always be the case because these goods cannot be reduced to a super-value (Navin & Attwell, 2019, p. 2). One could anticipate some incommensurability in the interaction of vaccines and the other values such as religion, education, public trust, fairness, and harm prevention.

It is not surprising that some contemporary guidelines and research in public health are now permitting the above translation into practices. What is becoming prominent in the current public health literature is the attention to human values. The Least Restrictive

Alternative (LRA) principle, for example, provides special protection for liberty in policy deliberations (Leask & Danchin, 2017). According to this principle, when choosing between public health policies that are equal in respect to their outcomes, one should choose what least restricts liberty (Gostin & Wiley, 2016). It therefore calls attention to liberty as a distinct value in building trust and assuring effectiveness of a public health policy (Navin & Attwell, 2019, p. 3).

Closely connected to the LRA principle is the idea that one can rank potential public health policies according to how restrictive they are of liberty, and that such a ranking can aid policy deliberations (Navin & Attwell, 2019, p. 3). The Nuffield Council on Bioethics' (NCB, 2007) intervention ladder, for example, shows how one can "move up" the ladder and impose more restrictive policies if the desired outcomes cannot be achieved by a less restrictive policy. This, in return, presents a modified form of liberalism in which individual liberty to decide and act is given a central role, but it is not the only important thing, nor is it always the most important thing (Dawson, 2016, p. 510).

The above public health frameworks and consideration appeal to a particular interpretation of John Stuart Mill's political views on the important role for liberty, even while it is clear that other considerations are significant when faced with questions such as distribution, effectiveness, precaution, and proportionality (Dawson, 2016, p. 510). Henceforth it remains rather unclear how exactly these various elements are meant to be combined and yet weighted in the general framework when deciding about vaccination. In other words, clarity is needed as to how the LRA and intervention ladder can be enlightening to claims for pluralism in public health decisions (Navin & Attwell, 2019, p. 3).

Although it is claimed that, in proposing the intervention ladder, the NCB aspired it "[t]o assist in thinking about the acceptability and justification of different policy initiatives to improve public health" (p. 41), it hard to justify if the framework is committed to value pluralism (Dawson & Verweij, 2008; Coggon, 2011). The same can be said about the LRA which take liberty as a fundamentally distinct value from the other values associated with public health, thus deserving special protection (Navin & Attwell, 2019, p. 3). We should therefore be wary of the usefulness of both the intervention ladder and the LRA when faced with complex ethics of vaccine mandates (Navin & Attwell, 2019, p. 3). Consider, for example, that the LRA principle can be action-guiding only in cases in which policy-makers choose between options that are equal in other relevant ways besides liberty. In the first place, it is unlikely that two distinct potential public health policies will equally have the same force in either promoting or undermining other values (Saghai, 2014). But even if this were true, it seems unlikely in the case of mandatory vaccinations. Even small differences between vaccination policies can have a significant impact on values as wide ranging as religion, education, public trust, political stability, fairness, and women's economic status, to mention but a few values. Focusing on a value or ladder, say of liberty restriction, ignores the relative importance or significance of other values and the ladders on which other values sit (Navin & Attwell, 2019, p. 3).

It is perhaps fair to say that both the intervention and the LRA presuppose a narrow conception of values that are relevant to public health initiatives and policies (Dawson, 2016). The mere fact that a possible policy can promote public health at a minimal cost to liberty is insufficient reason to embrace that policy, given the complex interconnectedness of the many dimensions that may either be promoted and/or undermined. Failure to grant solid weight to other values and grant special status to liberty is a significant weakness of both the intervention ladder and the LRA (Haire et al., 2018).

Certainly, freedom is important, but so are fairness and other human aspirations and interests. In this respect, we may choose to agree with Dawson and Verweij (2008) who have argued that the LRA and intervention ladder express the liberty-fetishizing views of John Stuart Mill, views that are not widely embraced, since liberty is not the only worthy value in need of consideration. Even when liberty should be systematically prioritized over other values, it does not follow that all liberties are worthy of similar protection (Navin & Attwell, 2019, p. 4).

What is implied in the above discussion is that a framework in public health intervention, like vaccine mandate, should not be developed independently of what people think about moral values. The fact that our human values, thoughts, and experiences are diverse, pluralism of world views should be accepted in any public health program, particularly vaccination program (Schaber, 2005). This is because of the fact that there are many more irreducible values relevant to vaccination than what the popular utilitarian and coercive immunization approaches often suppose

(Grill & Dawson, 2017). Pluralistic arguments for mandatory vaccination will therefore need to attend to several ethical questions and issues that concern enforcement and exemptions (Navin & Attwell, 2019,p. 1).

5. Lessons for Responses to Future Pandemics

This study can help us learn many important lessons to better prepare ourselves for future pandemics. The most important lesson about vaccination is to recognize value pluralism and not to reduce all things that matter to either a single or only two values, say consequential and deontological values. This implies that not only several values have roles to play in public health decisions, but also that some values are not reducible to a common super-value when considering policy options (Mason, 2018).

As is so far evident, there is a risk that the decision to enforce vaccinations based on a super-value (monism) may be viewed as further evidence to support libertarian arguments against government overreach and authoritarianism (Saunders, 2022, p. 222). This may further disenfranchise citizens and embolden anti-vaccine movements (O'Connell, 2022), which could also impair individuals' efforts to enact their preferred behaviours to achieve collective health-related goals for the common good (Giubilini et al., 2018).

And since there are adverse impacts that vaccination could have on public confidence and trust, mandatory vaccination should be considered, first and foremost, only if it is necessary and proportionate to the prevention of high risks or morbidity and mortality. It may seem reasonable to support mandatory vaccination only when every other feasible options have been exhausted and only when there is high chance of gaining significant and unequivocal public health benefits (WHO, 2022). Even when vaccines are considered sufficiently safe, vaccine-related harm can still happen and therefore a non-fault compensation scheme would have to be in place if mandatory vaccination were to be introduced (O'Sullivan, 2022). This is particularly pertinent for vulnerable and/or marginalized populations who may be historically disadvantaged and often subjected to structural inequalities (Schwartz, 2020).

6. Conclusion

This study has shown that vaccine mandates may be viewed as further evidence to support libertarian arguments against government overreach and authoritarian policies which may further disenfranchise vaccine-hesitant people and embolden antivaccine movements. For this reason, therefore this study recommends a range of less intrusive and/or coercive means for promotion of vaccination uptake, when vaccination is considered necessary and proportionate to reduce and/or contain pandemic of infectious diseases (prevent high risks and/or morbidity and mortality).

Probably the least intrusive option is education which simply means imparting facts as neutrally as possible. This can increase awareness of and about vaccines, including dispelling certain fears and misconceptions. While education does not aim to change people's minds, it simply allows people to make informed vaccination decisions. In public health communication, education may also involve persuasive campaigns to promote vaccination uptake, say by portraying it as a civic duty. In this vein, persuasive educational campaign (communication) may aim at influencing individuals' vaccination decisions and behaviours.

However, education and persuasion ought to be used with care as there are evidences in place suggesting that they can also backfire (Bester, 2015). One problem here, as already pointed out, is a potential lack of trust either in governments or healthcare professionals, which is an important influence on vaccination decisions (Jennings et al., 2021). That is why building trust should be an important part of any educative and persuasive strategies in public health communication (Saunders, 2022, p. 222). Importantly, distinguishing features of persuasion should be both non-coercive and non-manipulative. In other words, persuasion must not infringe, to a certain extent, upon individuals' autonomy by not bypassing their capacity for autonomous decisions. It should rather preserve individuals' autonomy by relying merely on provision of factual information and of reasons for engaging in a certain behaviour. This means that individuals should generally maintain the capacity to overcome the influence to which they are subjected. For example, a person could be exposed to messages concerning the safety and benefits of vaccines, which provide him with *pro tanto* reasons to vaccinate; however, if his antivaccination beliefs are deeply held or his antivaccination sentiments are strong enough, he should be able to probably maintain his capacity to make an autonomous decision not to vaccinate, in spite of such messages.

Efforts should also be made to demonstrate the health risks of not being vaccinated. The known benefits for

the exercise should be explained in order to get the greatest possible acceptance of the vaccination. No doubts, there is room for many methods as part of a complete vaccination strategy. However, while these approaches may have advantages over mandates, they have potential problems of their own. What is important is that policy makers should use less intrusive means or methods to encourage voluntary vaccination. Mandatory vaccination should therefore be considered only after all efforts aimed at co-operation and voluntariness have been fully explored and exhausted. Additionally, there should be sufficient reason to believe that this alone will not be enough to achieve important societal or institutional objectives.

Last but not least, a number of ethical considerations should be explicitly discussed and addressed through deep analysis when evaluating whether mandatory vaccination is ethically justifiable as a policy option. Just as it is the case for other public health policies, decisions about mandatory vaccination should be supported by the best available evidence and should be made by legitimate decision-makers in a manner that is transparent, just, fair and non-discriminatory to the point that it must involve the input of affected parties. And when it is almost impossible to come up with a set of ethical claims and recommendations that would satisfy all ethical theories and all involved parties, it is important to come up with a set of recommendations that would satisfy two or more major ethical theories in the context of pandemic response (Hirose, 2023, pp. 8-11).

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