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Exploring the Ethical Dimensions of Mandatory Immunization Discourse for School Attendance in Indonesia

Menggali Dimensi Etik dari Wacana Wajib Imunisasi untuk Kehadiran Sekolah di Indonesia

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ABSTRACT

Mandating complete vaccination for school attendance is still in the discourse for the future policy in Indonesia. Like any other policy, this discourse needs to be given an open space to be looked at in a critical point view of ethics. This article critically examines the ethical dimensions surrounding the discourse of implementing mandatory immunization for school attendance in Indonesia, employing a multi-faceted ethical analysis. A case study utilizing moral reasoning through the lenses of utilitarianism, Kantian ethics, virtue ethics, and principlism was employed. From a utilitarian standpoint, mandatory vaccination is ethically justifiable, emphasizing its potential to yield substantial health benefits for society, reduce healthcare spending, and contribute to economic growth. The straightforward nature of this intervention, unlike other complex public health measures, makes it an appealing strategy for increasing vaccination coverage. However, Kantian, non-maleficence, and autonomy perspectives introduce ethical complexities, as mandatory immunization may be perceived as infringing upon individual beliefs and personal choice. The article advocates for open and honest discussions, understanding religious perspectives, and fostering trust in governmental decision-making to address these concerns. Virtue ethics are explored to underscore the importance of cultivating social responsibility in the success of public health measures. It further emphasizes the need for a just implementation of the policy, treating the specific needs of regions. In conclusion, the article posits that while the benefits of mandatory immunization are substantial, ethical considerations demand a delicate balance between promoting public health goals and respecting individual freedom. It suggests that achieving immunization targets necessitates a comprehensive approach, including respecting individual choices, building trust, widespread education on vaccine benefits and risks, and ensuring sustainable financing and vaccine procurement across all segments of Indonesia.

Keywords: *mandatory; immunization; Indonesia; school; vaccination*

ABSTRAK

Kewajiban untuk melengkapi vaksinasi untuk kehadiran sekolah masih menjadi wacana untuk kebijakan masa depan di Indonesia. Seperti kebijakan lainnya, wacana ini perlu diberi ruang terbuka untuk dilihat dari sudut pandang etika yang kritis. Artikel ini mengkaji secara kritis dimensi etika seputar wacana penerapan imunisasi wajib bagi siswa yang bersekolah di Indonesia, dengan menggunakan analisis etika dari berbagai sisi. Studi kasus ini menggunakan penalaran moral melalui lensa utilitarianisme, etika Kant, etika kebajikan, dan principlism. Dari sudut pandang utilitarian, kewajiban vaksinasi dapat dibenarkan secara etis, dengan menekankan potensinya dalam menghasilkan manfaat kesehatan yang besar bagi masyarakat, mengurangi pengeluaran layanan kesehatan, dan berkontribusi terhadap pertumbuhan ekonomi. Sifat sederhana dari intervensi ini, tidak seperti tindakan kesehatan masyarakat yang kompleks lainnya, menjadikannya sebagai strategi yang menarik untuk meningkatkan cakupan vaksinasi. Namun, perspektif Kantian, prinsip tidak merugikan, dan prinsip otonomi menimbulkan kompleksitas etika, karena imunisasi wajib dapat dianggap melanggar keyakinan individu dan pilihan pribadi. Artikel ini menganjurkan diskusi yang terbuka dan jujur, memahami perspektif agama, dan menumbuhkan kepercayaan terhadap pemerintah sebagai pengambil keputusan untuk mengatasi isu ini. Etika kebajikan dieksplorasi untuk menggarisbawahi pentingnya menumbuhkan tanggung jawab sosial dalam keberhasilan upaya kesehatan masyarakat. Lebih lanjut, penerapan kebijakan yang adil, yang memperhatikan kebutuhan-kebutuhan daerah secara spesifik perlu dilakukan. Sebagai kesimpulan, meskipun manfaat imunisasi wajib sangat besar, diperlukan keseimbangan antara mendukung tujuan kesehatan masyarakat dan menghormati kebebasan individu. Hal ini menunjukkan bahwa mencapai target imunisasi memerlukan pendekatan yang komprehensif, termasuk menghormati pilihan individu, membangun kepercayaan, memberikan edukasi yang seluas-luasnya mengenai manfaat dan risiko vaksin, serta memastikan pembiayaan dan pengadaan vaksin yang berkelanjutan di seluruh segmen di Indonesia.

Kata kunci: imunisasi; Indonesia; sekolah; vaksinasi; wajib

INTRODUCTION

Vaccination is one of the greatest public health discoveries in disease prevention. Despite its life-saving impact, getting adequate vaccination coverage is always a challenge. Due to low coverage, more threats to children are predicted, particularly in low-middle-income countries. The World Health Organization (WHO) estimated that

by 2021, 25 million infants worldwide did not receive basic immunization, with over 60% of them residing in countries such as India, Nigeria, Ethiopia, Brazil, and Indonesia (1). An even greater challenge is posed by the COVID-19 pandemic that has led to a substantial decrease in the achievement of basic immunization coverage, resulting in the highest number of missed vaccinations since 2009 (1,2). Reports of outbreaks of vaccine-preventable diseases in Indonesia are also increasing (3). This means that efforts to increase vaccination coverage should be prioritized.

In Indonesia, the government's plan to increase vaccination coverage is based on a strong commitment to the global aim of eradicating, eliminating, and reducing vaccine-preventable diseases. The immunization program is regulated and regularly implemented for vulnerable populations through a program called complete routine immunization program (Ministry of Health [MoH] Republic of Indonesia, 2017). Additional immunization programs are also carried out to protect specific groups and society from diseases, including disease outbreaks.

Children are among the most vulnerable groups when it comes to infectious diseases and, therefore, should be protected. However, ensuring sufficient vaccination coverage for children always presents a challenge. In response to this, in recent years, there has been a discourse in Indonesia regarding the mandate for children to have complete basic immunization as a prerequisite for school enrollment. Though not yet been officially discussed as a national policy, this discourse has been covered and pictured by several online media outlets in the past few years such as jawapos.com (5), kompas.com (6), beritagar.id (7), tirto.id (8) as a promising way to increase vaccination coverage. Several areas in Indonesia have also reported implementing such discourse, including Batam (9) and Mojokerto (5,10) even though not as a basis of school acceptance. The capital city, Jakarta, even enforced a strict measure at one point, denying school admission for children without a complete record of basic immunization. However, this measure was later revoked after several months due to public controversy in Jakarta (11,12).

Fast forward to the era of Covid-19 pandemic, the discourse on mandating children to receive vaccination (such as the Covid-19 vaccine) for school attendance was raising in the public discussion again (13), although the government through the Ministry of Education (MoEC) affirmed that vaccination is not a requirement for attending onsite learning (14). Despite the fact that mandatory vaccination for school acceptance has not been enforced to date, whenever encouragement to have a complete or to introduce new immunization is given in the school context, Indonesian officials still vulnerable to face resistance and unwillingness from the parents and community (15–18).

Nowadays, the nature of this discourse is still a discourse for the future policy in Indonesia. A similar measure seems still in the national level agenda. Although a clear statement about this is difficult to be found in public, some short explanations have already been published in the media. What has been known is, to this date, vaccination status is not a basis of acceptance or rejection to school attendance, but to help public health officials to track the completeness of basic immunization among young children thus targeted efforts can be made for those record incomplete (7). By this, parents or caregivers will be asked to attach their child's basic immunization certificate to the school admission and a catch-up immunization will be held if children are found to have missed vaccinations before starting school years (7). In the context of health crises such as in the Covid-19 pandemic, the Indonesian government through MoEC also stated a similar position. The Covid-19 vaccination status was not required for children to be able to attend face-to-face learning in school. The government's position is focused only on educating, endorsing, and facilitating Covid-19 handling in school, which includes vaccination in it (14).

Like any other policy, the discourse of mandating vaccination for school admission in Indonesia needs to be given an open space to be looked in a critical point of view of ethic. Moreover, considering that vaccination is one of many moral dilemmas constantly debated for decades since its discovery, it is essential to evaluate it through moral lenses for effective policy-making. This is because both policymakers and the policy targets are moral beings who can perceive and judge an action as good or bad. Furthermore, in a setting which values a democratic view, the decision-making process will not always be smooth. To listen and allow different interests and understandings from various stakeholders as much as possible is an obligation.

Moral reasoning, in this situation, can serve as a guide to help both parties think through the continuum of the policy discussion. Moral reasoning helps construct a dilemma from different ethical perspectives, which is imperative to balance and

build a more critical decision about whether to 'go' or 'no-go' with the policy. And if so, to construct a good anticipation as carefully as possible. This article will position itself in the deliberation of what several ethical perspectives might say and suggest to the policy discourse of mandating vaccination for school attendance in Indonesia.

RESEARCH METHODS

This article is a study case with focus on its ethical deliberation. The policy discourse of 'mandating vaccination for school attendance in Indonesia' will be discussed using the following four moral reasoning approaches: (1) Utilitarianism, (2) Deontology, (3) Virtue Ethics, and (4) Principlism. Supporting literature will be used as a basis of deliberation in the writing.

RESULTS AND DISCUSSION

Utilitarianism

Utilitarianism, one of moral approaches, was proposed by an English philosopher, Jeremy Bentham. His viewpoint suggests that the morality of an action can be evaluated through its consequences. According to him, judging whether something is right or wrong involves examining whether it can produce *the greatest good for the greatest number* (19). Departing from this view, the discourse of mandating a complete immunization and a catch-up immunization for those unimmunized and partially immunized children before starting school can be examined in terms of its consequences. The core question from a utilitarian perspective would be: *do the benefits of* '*mandating vaccination for school attendance in Indonesia' outweigh the costs?*

From a disease prevention viewpoint, the answer is an undoubtedly 'yes' to this question. The rationales behind mandating vaccination for school attendance in Indonesia are highly reasonable. Vaccination itself is one of the most successful inventions in the disease prevention realm. Globally, up to 3 million lives of young children can be saved through vaccination every year (20). Vaccines are essential to save many children from highly infectious, potentially deadly, and debilitating diseases. A sample phenomenon in the United States demonstrated a devastating disease outbreak which was more concentrated among unvaccinated children (21). In Indonesia, some studies also stated that during outbreaks, unvaccinated children faced greater risks (22,23). Children who did not receive proper immunization also experienced a higher risk of other diseases e.g. acute diarrhea (24). Moreover, if enough children were vaccinated, herd immunity to certain diseases would be built, protecting not only the vaccinated but also the population at large, including those too sick to be vaccinated (25).

Using the school as the setting is also justifiable because schools are high-risk settings where many children can have close contact. Studies show potential outbreaks are linked to close-contact in a school context (26,27). Taking measles as an example, schools can be a perfect location for its rapid transmission. In the United States, measles outbreak was found mostly in schools that have more unvaccinated children (28). Another study in Germany shows that the measles outbreaks were clustered more in school areas with low vaccination coverage (29). In Ethiopia, another disease outbreak in a school, such as rubella, was also found to be concentrated more in unvaccinated children (30). A study performed in Estonia also showed that low vaccination coverage played a pivotal role in the pertussis outbreak in schools (27). Not only is coverage among school children is important, but also proper vaccination in terms of completeness in primary and boosters were shown to be important to prevent sustained transmission within the school (31,32). Nevertheless, when outbreaks within schools happened, studies also show that vaccination, even a single dose that taken years ago, was able to protect children against severe cases of disease (33).

In the case of health crises, such as Covid-19, vaccination will also benefit children in many ways (34). Protecting children will not only allow them to receive substantial benefits for their physical well-being in times of crises, such as illness prevention, post-infection syndromes, and minimizing transmission to high-risk individuals, but also to allow for social reintegration in school, youth sports, and group activities (34). Moreover, primary, and secondary school have been associated with substantial reductions in effective reproduction number (Rt) across countries and time periods, suggesting that mitigating children's risk to Covid-19, for example through vaccination, has an important role in the transmission risk that will benefit the whole community (35).

Mandating children to have proper immunization will also be considered as beneficial and far less costly for government and public health officials in terms of efforts given to the community and future

economy. The World Health Organization has addressed that vaccination is the most cost-effective way to eradicate the incidence of life-threatening diseases (36). If the coverage is good enough, the herd immunity it produces makes vaccination able to protect all school-age children from the chance of outbreak and thus reduce health spending (37). Measles vaccination alone had averted over 23 million deaths between 2000 and 2018, meaning that potential spending on handling outbreaks or diseases due to measles were enormously canceled. Studies conducted in some countries, including Mozambique, Peru, and Indonesia, reported that vaccination had saved millions of dollars in healthcare costs (38–40). Indeed, the cost the government will put into all its implementation phases will rise, yet this discourse can still be looked at as an efficient and cost-effective way. In terms of economic growth, vaccination towards children would also act like a 'large shield' that will keep a healthy generation, prolong children's life opportunities to be productive economically and socially in the future (37,41).

Other benefits could also be seen in terms of its delivery to beneficiaries. Immunization does not need a child to have a major change in his or her lifestyle unlike other health interventions such as washing hands with soap, eating healthy, or being physically active. Even though the latter strategies should be taken in parallel considering the complexity of disease control (42), in comparison, vaccination can be considered a relatively short and straightforward type of intervention.

Another reason that shows the benefit of the policy discourse is the requirement of every country to follow the global commitment to eradicate vaccine-preventable diseases. The incident of emerging and re-emerging infectious disease in a region is now a threat to the global level. This is not an easy mandate. The fact is that it is not 'one' but 'many' diseases that can affect up to the global health level, thus adding more urgency and complexity to vaccine delivery in the field. Indonesia is indeed sounding a strong commitment in this issue. Following WHO recommendation, the Ministry of Health Republic (MoH) of Indonesia, through Immunization Implementation Act number 12/2017 regulates routine immunization elements consisting of several types of vaccines with its scheduled administration required. New vaccines have also been introduced to the public to strengthen public health status (4,43) (Table 1).

Based on Indonesia Basic Health Research report (Riskesdas) 2018, however, the national complete basic immunization coverage is still far from national target. Among children 12-23 months, the coverage is declining from 59.2% in 2013 to 57.9% in 2018, far from the national target which is around 90% in 2019 (44). Around 32.9% is known to have incomplete vaccination, whereas 9.2% remained unvaccinated. Moreover, 17 out of 34 provinces (57.9%) in Indonesia are also below the national coverage in 2018. And only a small difference is found between coverage in urban areas (61.5%) and villages (53.8%) (44).

When pointing to highly infectious diseases such as measles, diphtheria, and pertussis, vaccination coverage is still far from its recommended Herd Immunity Threshold (HIT) (Table 2). HIT is "the proportion of the population that needs to be vaccinated to stabilize transmission" (46). Taking measles for example, it is recommended to have 90%-95% coverage to guarantee herd immunity (more details in table 1); however the national study

Table 1. Types of vaccines required before school-age* and the targeted diseases (4,43)

Type of vaccines	Age	Targeted diseases
HB-0	0-24 hours (can be administered up to 7 days)	Hepatitis B, Liver Cancer
BCG	1 month	Tuberculosis
OPV1-3, IPV1, IPV2**	Basic: 0-1, 2, 3, 4, 9 months Booster: 18 months	Poliomyelitis
DPT-HB-Hib 1-4	Basic: 2, 3, 4 months Booster: 18 months	Diphtheria, Pertussis, Tetanus, Hepatitis B, and Haemophilus influenzae type B (Hib) infection such as meningitis, arthritis, epiglottitis, and cellulitis
MR/MMR	9, 18 months	Measles, Rubella, Mumps
RV1/RV5**	2, 4, 6 months	Diarrhea
PCV 1-3**	Basic: 2, 4, 6 months Booster: 12-15 months	Pneumonia

**6 years old*
***not yet stated in the MoH Indonesia Regulation number 12/2017, yet started to be introduced in national program* (43,45)

revealed that only 77.3% of young children (12-23 months) had it complete (44). This is even lower than the 2013 coverage, which reached 82.1% (47). In fact, the coverage rate of 4 out of 5 types of vaccines for basic immunization listed in MoH Indonesia's 2017's regulation at that age decreased in 2018, compared to 2013 (44) (Table 3). The Covid-19 pandemic also worsened the situation of vaccination coverage in Indonesia significantly (2). In 2022 alone, 12 provinces announced the outbreak of measles due to the low vaccination coverage impacted by the pandemic (48). This is a significant homework, let alone the need to ensure that enough children receive the Covid-19 vaccine in the midst of the crisis.

Table 2. Vaccination coverage for several well-known infectious diseases in Indonesia and the recommended Herd Immunity Threshold (HIT)

Disease	Vaccination coverage* (%)	Recommended HIT** (%)
Measles	77.3	90-95
Diphtheria	61.3	82-87
Pertussis	61.3	90-95
Poliomyelitis	67.6	82-87

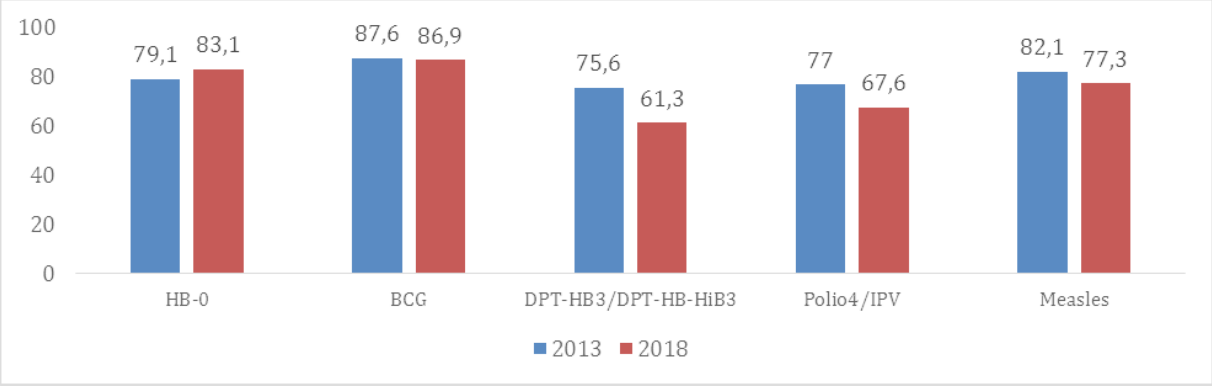
**MoH Indonesia, 2018* (44)
***Milligan & Barret, 2015* (46)

The above numbers conclude that Indonesia needs a substantial increase in the number of children receiving vaccines to lower its vulnerability to potential outbreaks that are life-threatening to children. Given this seriousness, a compulsory mechanism to have children show complete basic immunization at the school entry would help ease the complexity of vaccination delivery. Through this mechanism, the urgency and responsibility are shared even more, both at the hands of the top level and the community level. Linking the discourse to the school is like placing it in the wrap of another fundamental need of the society which is education. In this context, the community, particularly parents and caregivers, may now see immunization, even more than before, as a basic duty that needs to be accomplished.

There are, however, possibilities of costs in this policy discourse. First, improvement in immunization coverage means there is a chance of an increased report of Adverse Effects Following Immunization (AEFI) (or *Kejadian Ikutan Pasca Imunisasi* / KIPI in Indonesia). Although AEFI does not necessarily result from the vaccine or immunization process (49), the presence of any adverse event could raise anxiety and issues of trust, which could potentially increase hesitation to vaccination (50). The reactions could be classified as local, systemic, and other reactions; from mild to serious reactions. Some mild effects may include pain, swelling and/or redness, a scar, low-grade fever, irritability, malaise, rash, diarrhea, and headache. Other serious reactions may include anaphylaxis or seizures (49).

Following utilitarianism, will AEFI incidents outweigh the benefits of mandating complete vaccination? First, looking at safety, all evaluations of the immunization schedule safety for children showed that the advantages of vaccines are always significantly higher than the issues they can cause (51). According to studies, the probability of serious cases of AEFI in vaccine administration is apparently known to be very rare (49,51) and generally does not result in death of long-term disability (49). Moreover, most vaccine reactions are minor and subside on their own (WHO). During crises such as Covid-19, the prevalence of AEFI in the Covid-19 vaccination among school-age children in Indonesia was mostly mild and

Table 3. Basic immunization coverage in children 12-23 months in Indonesia (44,47)



comparable to the risk that has been reported during the vaccine trial (52). In addition, in terms of cost, economic evaluation showed that the cost of AEFI per vaccine could reached 150 times less than the average cost per disease (53). Therefore, it can be concluded that the benefits would still be higher than the risk.

It is important, however, to note that following the utilitarianism view, it is critical still to maintain the effectiveness and safety of vaccine delivery in the first place. Before it is introduced to the public, the assessment of vaccine safety needs to be the key step in all phases of individual vaccine development (51). Post-licensure surveillance is also essential (51). A well founded surveillance system to monitor AEFI reactions is needed to be established to see in what categories the AEFIs occur (49). The ability of health workers to manage AEFI cases and communicate the risk and the advantages of vaccines appropriately to the community is also needed. Both of these are even more needed if mandating vaccines is encouraged amid more new vaccines that are introduced in the community.

Secondly, given the introduction of new vaccines in the national program and the commitment to accelerate the global initiative in the elimination and control of disease through vaccines, the increasing trend of immunization program costs will occur in the future (54). Since Indonesia is now one of the fully-self-financing countries that no longer have access to extensive Gavi support, high vaccine prices may occur (54,55). In addition, Indonesia is also challenged with the issue of vaccine procurement which has led to stockouts of some vaccines (56). With high demand towards mandating vaccines, the previous reasons can serve as barriers to vaccine access, deteriorating immunization performance. Developing strategies to overcome with this issue is needed. Despite these challenges, vaccination is still one of public health efforts which has benefits that outweigh its economic spending. To overcome this, a sustainable self-financing immunization system and procurement strategies are suggested (54,57).

Taking into account the above reasons, if immunization status is made compulsory as the prerequisite to attend school in Indonesia, utilitarianism shows *the pleasures* this discourse has (i.e. increasing the number of productive days among children and the society, preventing future costs because of illnesses, reducing the complexity of vaccine delivery, and achieving Indonesia's commitment in the global health agenda) are far beyond *the pains* (short period and low ratio of severe AEFI to vaccine administration and financial burdens). Many parties will be favored. Not only children themselves consume the benefits, but the future society will also be protected. Government and public health officials can also save their spending on resources and the complexity in achieving high coverage in vaccine delivery can be reduced. It can be said that utilitarianism predicts that a desired coverage of immunization may be reached and the society will be more protected from devastating outbreaks. However, utilitarianism also suggests that if this discourse is implemented, the efforts to maintain vaccine effectiveness and safety should be always be the priority. Pre and post licensure vaccine surveillance must be strong. In addition, a sustainable self-financing immunization and vaccine procurement strategies are needed.

Deontology

In contrast to Bentham, according to Immanuel Kant, the founder of deontology, the morality of an action is determined not by its consequences but must be seen from a motive that moves the person. Kant's principle is known as the Moral Law, or also called Categorical Imperative (19). Through Kant, the determination of the moral merits for *mandating vaccination for school attendance in Indonesia* can be investigated further than just by observing the cost-benefits consequences. The first formulation of the Categorical Imperative is whether this discourse can be consistently acted upon by all, or in other words, whether it will pass the universalizability test (19). The second formulation of Kant argues that humanity should be respected in this discourse. The discourse should treat humanity as its purpose, never merely as a means (19).

The doubt is whether the maxim of this discourse will pass the universal law. The maxim, which is also the moral dilemma, is the 'mandatory' aspect within this policy. What is a 'mandate'? From its original Latin word, the meaning is "a command or an order, handed down from a superior to underlings" (58). There are "superiors" and "underlings" in this term that contain a power relation between the one who gives the command and the one who receives the command. Moreover, the "command" or an "order" contains that there is an obligation to follow. In another word, some enforcement should be made, such as a penalty whatever mild, needed to encourage compliance (58).

Under the Kantian base, could this view of 'mandate' pass the universalizability test? The

common universal values in Indonesia, placed in the *Pancasila's* philosophies, could help structure the thinking process. As explicitly written in this philosophy, the first critical thing is if the maxim passes religious values. The first value in *Pancasila* means that Indonesia confesses that God is the reason for all the existence of this country, nation, and human beings inside it and trusts God as the source of all goodness. Therefore, regulations should protect each religion from any form that may make its followers uncomfortable and laws should not deviate from religious values (59). This would mean that to pass the universalizability test, the order giver needs to consider how various religious beliefs that exist in Indonesia process the discourse. All religions need to be given a space and room to theologically explore the discourse from their perspective and address the results. One fundamental discussion is, will mandating vaccination respects the choice based on people's beliefs. The fact is that there is still anti-vaccine sentiment in Indonesia, even up to recent years (56). Although the spirit of not immunizing children could be related to other reasons, religious belief was one reason that underlying parent's reasons for unimmunized children (50). Mandating vaccination before school attendance as a "command" with penalties or consequences whatever mild could be regarded as the government's lack of respect and understanding to individual religious belief, potentially resulting in inconvenience and conflicts. Therefore, making it mandatory in this view, without consideration to particularly religious conviction, fails the universalizability test.

The other values from *Pancasila* as national principle are humanity and democracy. The question is, will mandating vaccination for children fits these principles? In terms of humanity, it would be easy to see this as a humane approach. The description of biomedical and socioeconomic benefits, as discussed previously in the utilitarianism part, supports this view. Yet, concerning democracy, issues of respect to the dignity of choice could arise if vaccination is mandated. This is because, there are many personal reasons behind the decision to have or not to have vaccination. Other than religious conviction, beliefs in the strength of natural immunity and the use of alternative medicine are other reasons for parents not immunizing their children (50). For the hesitant group, the reasons could be due to lack of awareness or worry for the safety or side effects (50). For these groups, commanding obligation to vaccination can be considered as a coercion or a threat. Rather than humanity and democracy, the approach may be seen as autocratic, abandoning the belief and respect for consent. By this, again the universalizability test is hard to pass. Not only universalizability, this also conflicts the second formulation of Kant. Through *"act so as to treat humanity, in your own person as well as in that of anyone else, always as an end, never merely as a means"*, Kant argues that the autonomy of a person should be respected (19). By mandating vaccination for school attendance, this policy reflects a paternalistic spirit towards the human body, where personal choice is blocked and disturbed.

Next, in the national philosophy, social justice must be attempted. The provision of education should be made as easily as possible for all the people, despite their choices regarding vaccines. Article number 26 from The Universal Declaration of Human Rights states that the primary education shall be compulsory and equally accessible (60). Additionally, in Indonesian context, the constitution clearly declares that education is one of the basic rights of every Indonesians and primary school is a compulsory level of education (61). Adding a mandate condition such as vaccination to another compulsory thing would make the accessibility to education become questionable. The discourse may be seen as bartering for education, which in reality, may be difficult to be applied to all Indonesians, especially for the 'hesitant' and the 'anti-vaccine' individuals. This illustrates that the maxim does not pass the universalizability test for a third time.

An additional thing to discuss under the Kantian approach is in the form of a question that may be difficult to justify in this stage, which is *what is the true motive of mandating immunization for school attendance?* The motive that becomes the bottom line of the birth of this policy shall be based on 'good will'. In other words, the goodness of the health policy is determined by how carefully the policymakers assess the underlying factors of an issue and to what extent they use it to endorse the creation of the policy. As this discourse is not yet officially a policy, it is still difficult to discuss the underlying reasons, especially what can be found is still limited in the mass media, a secondary source. A thorough consideration as to why this policy will sound like a good motive before the society should be set up. A comprehensive study involving the society regarding what is seen as good motives is needed. Moreover, a clear background needs to be made explicit by the government unless it would be

harder to bring a decision to support the discourse from the side of society. Moreover, to trust the good will would also be based on the nature of long-term hierarchical relationship between the order giver (government) and the order receiver (society). A good relationship and mutual trust must be built for the superior's motive to be received as good by the underlings. Building trust so that people would believe that no other motives rather than the good ones, that are trying to be imposed, is a long-term art and effort. Negative labels or distrust toward the order giver should be minimized and the order giver should first and foremost show a good example that is coherent with the policy.

Virtue Ethics

According to virtue ethics, moral life is about exercising virtues, the praiseworthy character traits (19). One of the virtue ethics in any public health program, especially disease prevention program, would be social responsibility. This virtue is about being responsible to one's health therefore the health of others. Baron (62) argues this as an altruist principle. Cultivating this virtue in the society through a mandatory approach will not giving a long-term desired impact for the learner and may also create reactance on some people. Unless, the cultivation is built along the efforts to build awareness and knowledge. Improving awareness and persuasively emphasizing the benefits of taking or not taking the discourse by any means is needed.

Principlism

Another moral approach that can be used is Principlism, founded by Tom Beauchamp and James Childress. Principlism is a synthesis of utilitarianism, deontology, and some from virtue ethics (19). Therefore, some points below may already be mentioned before. However, there will be an emphasis on critical principlism points.

Non-maleficence

Non-maleficence means that a person must not generate harm to others (19). Several challenges regarding harm can be explored while having mandatory immunization before school attendance. The safest mode of an obligatory sound policy can only be reached if the policy does not pose any danger to the executant and the recipient. Therefore, the question is, can this discourse survive after it has been set as a policy? Can it guarantee 'safety' to its users? Based on health knowledge, as what has been stated before, Adverse Events Following Immunization can occur. Even though the fatality is found to be low (49,51), explaining this 'low-ness' when speaking about the human body involved may not be enough. Even a little chance of experiencing an adverse effect may already be enough for laypeople to say that vaccination inflicts 'harm'. However, the World Health Organization states that there is no perfect vaccine that can be entirely safe for everyone (49). Even though vaccines have made a great success story in controlling diseases, no vaccine is perfectly safe since everyone's immune system reacts differently to vaccines. Therefore, there is no 100% guarantee that all vaccine users will be free from harm when they follow this discourse. According to Indonesia' National Health Research in 2018, 42.3% of children aged 12-23 months who received vaccination experienced AEFI (44). The AEFI are various from high fever (the majority), purulent, convulsion and others (44). Unless, related protocol to prevent AEFI and to handle AEFI is practiced with commitment and care among health care providers and the government, the AEFI could be a threat to this discourse.

Beneficence

Beneficence informs that everyone should do good to others and promote what is good (19). Doing good in the purpose and the delivery of vaccines should be pursued. This has been well delivered in the utilitarianism and deontology views above.

Autonomy

Based on autonomy, which means everyone should respect the authenticity and uniqueness of others and especially their own choices as far as possible (19), making 'mandatory' for whatever reason already conflicts with the autonomy. Especially, the requirement to have complete immunization status set before the school attendance, which may be perceived by some as a force mechanism to say *yes,* thereby putting the respect of choices into a narrower perspective. Furthermore, implementing medical intervention in a paternalistic style may not be seen as a popular choice, especially in this era where the user's decision is being more respected. Autonomy sees everyone has a right to decide what will expose his or her body. A sound and sufficient knowledge regarding the pros and cons about the impacts must be behind this policy, and there is a room and time for an open and honest discussion available.

Justice

Justice means that all actions should be aimed at a fair treatment of others and at an equitable distribution of costs and benefits (19). If the policy would be applied, then the vaccination mandate shall be applied fairly to the population and guarantee the accessibility and affordability to all citizens. In Indonesia, the implementation of immunization programs is highly decentralized, where the program relies heavily on sub-national administrative levels. To improve justice, the system should be seen as one body, in which if one structure is defective, other structures will be affected. Ensuring the quality of both man and materials should be made to prevent missed opportunities to identify and target the un- and under-vaccinated children (56). A certain segmentation, in terms of provinces or regions with low coverage, low resources, and challenges in vaccine delivery, which will need more care should be given attention in the first hand. The resources that are close to this segmentation must be ensured to work. Furthermore, ensuring justice also means that all must obtain easy access to information and be fully informed about the cost and benefits, before this discourse is implemented.

CONCLUSION

From the utilitarian perspective, the discourse of having a mandatory immunization for school attendance is ethically sound because it will produce great health benefits for children and the society, reduce health spending, and boost economic growth. Unlike other public health measures that need behavioral intervention and lifestyle change, mandating vaccination could be seen as a short and a straightforward type of intervention. Making it a mandate will also ease the effort to increase vaccination coverage since urgency and responsibilities are shared both to the community. Immunization will be seen as a basic duty to be accomplished when it is wrap in the education need. Still important, however, is to monitor the AEFI and ensure sustainable financing and vaccine procurement. From the Kantian shoes, the non-maleficence and autonomy principles, however, making vaccination a mandatory may be seen as not respecting beliefs and personal choices, and creating freedom to human rights (i.e. education) questionable. Allowing time for an open and honest discussion to understand all religious perspectives in Indonesia and having sufficient knowledge at hand regarding the positive and negative impacts behind the policy need to be made available. Equally important is to cultivate society's trust in the government as the command giver in the long-term. Trust will guide society to be positive in the policy, despite the true motives of good-will remaining unclear. From the virtue ethics perspective, what also should be noted is that, in terms of public health measures to be successful, cultivating the virtue of social responsibility is essential. Using a mandatory approach may not be able to cultivate this virtue unless a continuous awareness and knowledge building are made for the society. Finally, to be ethical, the implementation of this policy in the future should be just, accessible, and affordable for all. Indonesia should be seen as one body. The segments that needed more care must be ensured to receive just attention.

From the above moral reasoning, it can be concluded that the discourse of having a mandatory immunization for school attendance would not be morally acceptable for all segments, even though the benefits are enormous to the children, society, and Indonesia's commitment to the global initiative. Promoting public health goals and respecting individual liberty must be balanced (63). Respecting people's choice, while continuously making efforts to develop people's trust, not only toward vaccines but also towards the government, actively promoting and educating the society regarding vaccine benefits and risks in every channel possible, and providing a sustainable financing and vaccine procurement in all parts of Indonesia, can be seen as keys to achieving immunization coverage.

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