

# COVID-19 immunisation practices and religious-related hesitation

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**Abstract.** Several vaccines to fight the COVID-19 pandemic have been licensed or approved for human use, and many more are in advanced stages of clinical development. Herd immunity is the key to a quicker exit from a health emergency. However, increasing numbers of vaccine refusals may reduce coverage rates and threaten existing herd immunity, exposing those who have not or cannot be vaccinated to dangerous diseases. Even so, vaccination has long been the topic of various ethical controversies, moral considerations, concerns or restrictions regarding vaccination in general, the research design process, or specific vaccine ingredients. This article highlights the main issues of moral concern about vaccines and summarizes the recommendations on new vaccines by religious authorities. Knowing the results of the ethical-moral debates of different religious communities can help explain the importance and necessity of vaccines and improve communication between science and the community.

**Key words:** vaccine refusal, health beliefs, religious exemptions, vaccination ethics, religious communities

## Introduction

The COVID-19 pandemic is causing increased mortality worldwide and the deep recession into which national economies have fallen (1-3). Current evidence suggests that SARS-CoV-2 spreads from person to person: directly; indirectly (through contaminated objects or surfaces); by close contact with infected people through mouth and nose secretions (respiratory secretions or droplets).

Even though the spread of virus might involve all age groups, a significant risk of developing severe diseases and dying affects more vulnerable people, such as the elderly, those with underlying medical problems, and or who have been vaccinated but without an adequate immunogenic response.

The deployment of COVID-19 can be mitigated through physical distance, using the face mask, avoidance of non-essential indoor spaces, increased testing, staying at home when sick, immediate quarantine of exposed persons, safeguarding vulnerable people, use of a contact tracing app. However, the risk of outbreaks remains equally high, as does the disruption of economic and social life.

Achieving immunity or providing effective vaccines to large portions of the world's population is the only way to reduce hospitalisation and severe diseases, and stop the transmission of the virus.

The number of susceptible hosts will be reduced to a level low enough to break the chains of transmission and eradicate the micro-organism through herd immunity.

Thus, the refusal to be vaccinated can create a gap in the herd immunity and allow the disease to be transmitted again (4).

Several vaccines for COVID-19 have been licensed or approved for human use (5), and many more are in advanced stages of clinical development, but people must be willing to get vaccinated (6).

Hesitation to assume vaccine is widespread in low-income and high-income countries, and sceptics are found in all socio-economic, religious and ethnic groups (7).

As a rule, refusal to take a vaccine stems from safety and efficacy evaluations. In this paper, the authors focus instead on religious motivations related to the production of COVID-19 vaccines.

### **Ethical concerns linked to refusals in Covid-19 vaccines due to religious reason**

The ethicality of vaccines has been the focus of attention of several religions long before the COVID-19 pandemic. Various considerations have prompted moral consideration on the theme of vaccines. The different confessions of the Christian world have long debated the question of abortion and human stem cells used, in the past, to produce certain vaccines, arguing for the involvement of the 'complicit' person in abortion. Vaccines such as chickenpox (Varivax), cell lines MRC-5 (Medical Research Council 5) and WI-38 (Winstar Institute 38), poliomyelitis (Polivax), several live vaccines against rubella (M-R-VAX, Rudivax, Meruvax), vaccines against hepatitis (HAVRIX and A-VAQTA) and smallpox (AC AM 1000) are some examples.

Jewish and Muslim communities have also discussed the use of pork gelatine in various pharmaceutical products. Other religions, mainly found on the Indian continent, such as Hinduism, Buddhism and Jainism, have addressed the debate with respect to the principle of non-violence applied to all living creatures.

As indicated by the report "State of Vaccine Confidence in the EU+UK 2020" (8) showing the results of an interview of the European population, including the UK, regarding confidence in vaccines and the importance, efficacy, safety and compatibility with their

religion, 79% of respondents answered positively and the report marks a 2% increase in confidence since 2018.

The largest study of global attitudes towards science and health, the "Wellcome Global Monitor" (9), collected more than 140,000 interviews from people in over 140 countries. It showed the highest percentage of people who say science disagrees with their religion is in high-income countries, such as the US and southern Europe (59%).

Globally, 64% of people who have a religious belief and say religion is an important part of their daily lives believe religion over science when there is a disagreement between them. In the United States, religious people are almost twice as likely to choose faith (60%) over science (32%) when the two disagree, and in southern Europe 59% believe that science does not fit with their religious values.

The study also found that some of the religious communities' objections to medicine in general, including vaccines, contributed to the increase in the number of measles cases in the last year detected.

In a recent review, Grabenstein classified over 60 papers of outbreaks of vaccine-preventable infectious diseases affecting religious communities or propagating from them to wider communities. However, the study did not identify any doctrines that led to religious objection to vaccines (10).

The issue of choosing between religion and science is also debated in some Muslim countries where fundamentalism undermines vaccination campaigns by promulgating the idea that vaccines are a trick of the United States to sterilise the population or that they go against the will of Allah.

This evidence is confirmed by Lo Giacco's recent study which shows that the doctrine of the world's major religions does not contain any prohibition on vaccination regardless of the legal provision of their possible mandatory (11).

Like the Catholic Church, some religions have established very clear support for vaccination because the risks of not vaccinating outweigh the religious concerns of using them.

In 2017, Islamic leaders signed the "Dakar Declaration on Vaccination" that expressly recognizes that vaccination remains to date the most effective method

of protection against a variety of mankind's illnesses and epidemics. This document supports efforts to vaccinate children in every part of the African continent and establishes religious jurisprudence on the use of vaccines (12).

Supporting respect for life and the principle of non-violence (*ahimsa*), Hinduism has no prohibition against vaccines, which are therefore allowed in all predominantly Hindu countries. In addition, Hindu society believes that divinity permeates all beings, including non-human plants and animals. In particular, the cow is venerated because it is traditionally identified as a caretaking and maternal figure. Although Hindu acknowledge all life forms' value, trace bovine components of certain vaccines have not been identified as a theological concern (10).

However, there may be theological considerations, concerns or restrictions regarding vaccination in general, or specific vaccine ingredients (10). For example, according to some groups attributable to the Indian religion of Jainism, which opposes any form of violence against any living being, vaccination should also be considered illegal, as it involves violent action against viruses, which are living beings (13). In considering vaccination, the Jain religion regards self-defence as a reason that justifies violence only to the extent that it is indispensable for human survival, for example to prevent a severe illness.

Religious groups that prohibit vaccinations for their members are mainly present in US society (11).

State laws in the United States require children to be vaccinated to attend school and need health care workers to vaccinate (14). However, the regulations include exemptions for medical reasons, and for religious and/or philosophical reasons (15). Following the 2015 measles outbreak at Disneyland in California that spread throughout the United States and Mexico, several states banned exemptions on non-medical grounds. This and other events sparked a worldwide debate regarding vaccination, legal possibilities for exemption, and possible consequences. In particular, heated controversy ensued when officials in Rockland County, NY, took an unconventional stance against the ongoing measles epidemic by declaring a state of emergency and proposing a 30-day ban on unvaccinated minors entering public places (16).

Traditionally, those who most vigorously resist science when it interferes with their values are members of religious groups, mainly Protestant Christian congregations. In the case of vaccination, they argue that it interferes with divine providence.

The Church of Christ, Scientist (whose adherents are known as "Christian Scientists"), founded in the United States in 1892 by Mary Baker Eddy, declared to appreciate vaccination exemptions pointing out their conscientiously and responsibly use. One of the fundamental teachings of this Christian denomination is that disease can be prevented or cured by focused prayer. In case of illness, the faithful do not turn to the physician but to the figure of a Christian Science practitioner, an individual who prays for others according to the teachings of Christian Science. However, church members are free to make their own choices on all life-decisions, in obedience to the law, including whether or not to vaccinate their children. These aren't decisions imposed by their church (17).

Concerning blood components, pharmaceutical excipients of porcine or bovine origin and cell culture media with remote foetal origins are being evaluated for perceived religious restrictions.

Like many other world religions, Buddhism is divided into many traditions, systems of thought, spiritual, individual and devotional practices and techniques, which have evolved from different interpretations of these doctrines. However, the first precept of Buddhism is the principle of non-violence. Different are the expressions of life and each life is fundamental regardless of the external form of being. Modern Buddhists generally use vaccines to ensure that their health is protected. In accordance with Buddhism's fundamental doctrine, however, if the vaccine is derived from any form of life, its use is arguable. The modern view of Buddhism will emphasise the importance of saving life rather than taking life. In general, Buddhist thinking is quite conservative in using any form of life to produce the vaccine.

Recently, the Catholic Church has also intervened on the vaccination issue which uses aborted foetal cells. As Wadman reports (18), at least five potential anti-Covid-19 vaccines have been developed using cell lines from direct abortions performed in 1972 (HEK-293) and 1985 (PER.C6). Of these, two have been ac-

cepted for clinical trials: the one from the University of Pittsburgh and the one from the University of Oxford, developed using the HEK-293 cell line. Among the ethically sensitive vaccines are the BioNTech/Pfizer and Moderna vaccines tested on the HEK-293 cell line.

Assuming that a vaccine is safe and effective, if it has been developed using cell lines from tissue obtained from direct abortions in the production and/or testing process, is its use morally legitimate?

The Congregation for the Doctrine of the Faith issued a statement - at the end of December 2020 - on the moral legitimacy of the use of certain anti-Covid-19 vaccines, which in the course of research and production have used cell lines derived from tissues obtained from abortions in the last century (19). These cells have already been used in the preparation of vaccines now widely used against rubella, chicken pox, hepatitis A, polio, and in the preparation of important drugs against haemophilia, cystic fibrosis and rheumatoid arthritis.

Using a product, made thanks to an act that Catholic doctrine judges as a serious sin, could constitute a form of collaboration in that evil which, even if committed by others, makes those who use it materially complicit. The note expressly refers previous documents confirming that, if any cells from aborted foetuses were used to create cell lines for use in scientific research, *“there exist differing degrees of responsibility”* of cooperation in evil (20).

This document emphasises that it is morally acceptable to use vaccines that have used cell lines from aborted foetuses in the research and production process, when ethically unobjectionable vaccines are not available (e.g., lack of availability of alternatives that do not present ethical problems or difficulties in their distribution due to special storage and transport conditions). It should be emphasised that abortions were not carried out to obtain biological materials for research. These are modified cells, designated Hek293 and Per.C6, and ‘eternified’ to be reproduced indefinitely in the laboratory and can be used in a standardised way for biomedical research, but also in food industry processes.

No ‘fetal parts’ are present in these “eternalized” cell lines and no other fetal tissue is used or needed for

the maintenance of these cell lines. Currently, Pfizer-BioNTech and Moderna vaccines only use these cell lines for testing, while AstraZeneca and Johnson & Johnson also use them for production.

The primary motivation for using these vaccines morally acceptable is the large time gap that has elapsed between the cooperation in evil of those who use the vaccines (passive material cooperation) and the procured abortion from which these cell lines originate. Furthermore, the moral duty to avoid such passive material cooperation is not mandatory if there is a severe danger, such as the otherwise irrepressible spread of a serious pathological agent.

The moral duty to not engage passive material cooperation falls away if there is a serious danger, such as the spread of a severe pathological agent that would otherwise be uncontrollable, which is precisely the case with the pandemic spread of the SARS-CoV-2 virus causing Covid-19) (21).

As stated in the note, vaccines recognised as clinically safe and effective can be used *“in good conscience with the certain knowledge that the use of such vaccines does not constitute formal cooperation with the abortion from which the cells used in production of the vaccines derive”*. However, the document confirms the immorality of the practice of abortion. The Catholic doctrine has always made a distinction, however, between formal (deliberate) involvement in an immoral act and material involvement, which may be incidental and remote.

On the ethical side, the morality of vaccination depends not only on duty to protect one’s own health, but also on duty to pursue the common good.

To protect the most vulnerable and exposed, in the absence of other means of stopping the pandemic, the common good may recommend vaccination.

For reasons of conscience, those who refuse to take vaccines produced from cell lines derived from aborted foetuses must nonetheless endeavour, using other prophylactic means and adopting appropriate behaviour, to reduce the transmission of the infectious agent.

This document is in line with what is expressed by the Catholic doctrine over the past few years.

In the statement entitled *“Moral reflections on vaccines prepared with cells derived from aborted human foetuses”* of the Pontifical Academy for Life, the Roman

Catholic Church has already addressed this issue (5 June 2005). Further, this Congregation expressed itself on the matter with the Instruction *Dignitas Personae* (September 8, 2008). On July 31, 2017, the Pontifical Academy for Life, in collaboration with the “*Ufficio per la Pastorale della Salute*” of Italian Bishops’ Conference and the “*Association of Italian Catholic Doctors*” referred again to the theme with a specific note. Such document emphasizes the moral responsibility to guarantee the vaccination coverage necessary for others’ safety, especially those who are weak and vulnerable (e.g., pregnant women and those affected by immunodeficiency who cannot directly vaccinate themselves against these diseases).

These documents, albeit with different formulations, agree that the use of such vaccines constitutes a “*material passive mediated cooperation*” in abortion, Catholic doctors and families are asked to use, where possible, vaccines prepared without the use of such cells or to sensitise pharmaceutical companies and government health agencies to produce vaccines that cannot cause conscience problems in health professionals and the people to be vaccinated, i.e., ethically acceptable vaccines.

However, the transfer of the negative moral value of the act and the degree of guilt itself depend on numerous subjective and objective factors. For example, “*in organizations where cell lines of illicit origin are being utilized, the responsibility of decision makers to use them is not the same as that of those who have no voice in such a decision*” (20).

However, according to the Catholic Church, parents, in the absence of valid alternatives, have a moral responsibility to vaccinate their children since vaccines, even those that raise moral issues, are intended to protect the children's health and the community. The right request to take advantage of preparations that do not conflict with one's religious principles must therefore not affect the health of children and the needs of solidarity (22).

In the past, Jehovah's Witnesses have also opposed vaccinations, but since 1952 their attitude has changed and today vaccinations are accepted and promoted to avoid infectious diseases.

Dutch Reformed Congregations has a tradition of declining immunizations. Some members have ob-

jected to and declined vaccination on the basis that it interferes with divine providence. However, others within the faith accept immunization as a gift from God to be used with gratitude.

The presence of swine origin excipients also represents an important criticality for some religions that consider them illicit.

Jewish scholars consider the intention to save personal and other people's lives as a divine command's fulfillment. It is emphasized that the ban on ingesting non-kosher foods does not apply to vaccines that are normally injected through the skin and, in any case, all medicines that are used to save life are legitimate, even if they are not kosher (10).

The Qur'an and the Islamic tradition prohibit the use of medicines or ingredients from haram sources. Porks are one of the animals declared not permitted in Shariah law. Other beings are lawful (halal) depending on which way they died. This prohibition has serious repercussions in medicine, particularly concerning the utilisation of gelatine in therapeutical products. The use of their parts and derivatives in drugs cause the products to be non-halal (non-permissible) for consumption by Muslims. However, even Islamic scholars, applying the principle of transformation to the question, believe that a product, originally impure, can become halal. In addition, in particular circumstances, recognized by the Islamic law, necessity overrules prohibitions: a believer does not commit sin by eating forbidden food, if he/she has no practicable alternatives (23). Consequently, Islamic law allows the administration of vaccines, even if they contain substances originally haram, based on three principles: the right to protect life, the duty to prevent danger (*izalat al-dharar*) and the protection of the public interest (*maslahat al-ummah*).

In 2003, a study of the European Council of Fatwa and Research ruled that polio vaccination also produced with an element of porcine origin (trypsin) is permissible, since following the transformation process there is no longer any link between the pig and the derivative use for medical preparation (24). Vaccines containing impure substances such as gelatine of porcine origin in many Middle Eastern countries may be consumed provided the impure substance is sufficiently altered to another substance other than its

origin that is permissible for observant Muslims (25).

The same principle applies, for example, to the alcohol contained in some drugs and to insulin from pigs. Halal certificates from The Islamic Food and Nutrition Council of America (IFANCA) and Halal Food Council of Europe (HFCE) for their halal certification are accepted (26).

Disease prevention, through vaccines, is - in accordance with divine law - and, in some circumstances, it is necessary (i.e., on the occasion of the annual pilgrimage to Mecca) to prevent the spread of epidemics between the great mass of pilgrims who flock to the holy places (10).

In response to growing concerns among Muslims over the halal status of the Covid vaccines and following a request for an advisory opinion addressed by the Minister of Religious Affairs of Malaysia, the United Arab Emirates Fatwa Council, the highest Islamic authority, has recently ruled that coronavirus vaccines are permissible for Muslims even if they contain pork gelatine because of the higher need to “*protect the human body*”.

The Council declares that “*Coronavirus vaccination is classified under preventive medicines for individuals, as recommended by the Islamic faith, particularly in times of pandemic diseases when the healthy happen to be prone to infections due to the high risk of contracting the disease, therefore posing risk to the entire society*” (25). In addition, the Fatwa Council added that even though the vaccine in question contains non-halal ingredients banned by Islam, it’s permissible to use it in implementation of the Islamic rule that permits the use of such products in case in which there are no alternative. In this case, the pork gelatine is considered medicine, not food, with multiple vaccines already shown to be effective against a highly contagious virus that “*poses a risk to the entire society*”.

After cited the highly contagious nature of the disease as a justification to use the vaccines owing to the dire consequences the pandemic has inflicted in terms of fatal physical and material damage.

In general, the absence of a single authority on doctrinal issues in the Islamic world creates a certain fragmentation, but the consensus among religious authorities is that vaccines using pork gelatine are admissible. Bahrain is the second country in the world

for the number of people vaccinated in relation to the population, after Israel.

In their analysis of the influence of religious factors on the choice to undergo vaccination, Pelčić et al highlighted that parents often use religious objection as an excuse to refuse to have their children vaccinated (27).

## Conclusions

Vaccination is a decisive tool to protect oneself and others from the virus, in particular to safeguard the frailest and elderly. Achieving herd immunity will allow us to emerge from the health emergency as soon as possible. Promote a culture of vaccination practices in the general population and especially among health-care professionals require a deep consideration of all the aspects able to promote a layered and widespread information network (28, 29).

Research shows that no religious community today opposes the use of vaccines. Respecting life as a fundamental value, most religions have been discussing the ethicality of vaccines long before this pandemic. They did so because of several factors. The various Christian denominations have been debating abortion and human stem cells used in the past to produce certain vaccines. Jewish and Muslim communities have grappled with the use of pork products in various drugs. Finally, communities such as Hinduism, Buddhism and Jainism have had to choose whether to practice nonviolence over viruses and bacteria. However, the discriminating factor is that if getting vaccinated saves more lives, this is allowed.

Individuals, especially if they are not well informed, can still present their own ethical and moral doubts by linking them to the religious sphere.

They also stress the need not to underestimate the religious factor in activities to counter vaccination refusal.

Seeking collaboration with religious leaders could be an element to be integrated into prevention strategies. 21st century society has often used religion as an excuse to discriminate and to fight wars, just like many human groups and cultures in history, now also as an excuse to refuse vaccination.

Migrants may find that they do not have access to certain information about ongoing debates in their communities of origin, especially when their migration process is not recent. Therefore, they may therefore have doubts about the use of vaccines that do not exist in their country or community of origin.

Knowing the results of the ethical-moral debates of the different religious communities, helps us to explain the importance and necessity of vaccines to individuals from different backgrounds. Showing interest in it and awareness of the religious ethical debate in different communities can also improve communication with the workers, leading them to express their doubts about safety issues later on, rather than hiding them and violating the rules.

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