



The ethical issues in COVID-19 vaccine distribution: A major public health challenge

Qasim Mehmood¹✉, Hashim Talib Hashim², Zanyar Qais³, Mustafa Ahmed Ramadhan², Joseph Varney⁴

¹ Medical Student, Faculty of medicine, King Edward Medical University, Lahore, Pakistan.

² Department of Medicine and General Surgery, University of Baghdad, Baghdad Iraq.

³ Medical Student, Medical University of Lublin, Lublin, Poland.

⁴ American University of the Caribbean Medical School, Cupe Coy, Sint Maarten (Dutch Part).

Keywords: COVID-19, Vaccination, Coverage, Public health.

Dear Editor,

COVID-19 is one of the most disastrous of all pandemics which have hit this world. The most reliable public health measure to eradicate COVID-19 globally is the development of an effective vaccine (1). It is a big challenge for the healthcare community to develop an effective vaccine against this deadly disease, considering principles of medical ethics (2).

Ethical considerations

Challenge test: One important step in vaccine development is the challenge test, which is a part of the pre-clinical trials in experimental animals. However, in the case of SARS-CoV 2, an animal model is not available. Performing these tests with human volunteers seems unsafe, but we have no other choice (1). Deliberately infecting healthy subjects is a big challenge as there is no approved drug therapy for COVID-19 disease. Thus, ethical considerations of skipping animal trials and voluntary infection of individuals with COVID-19 should be addressed properly (2).

Informed consent: The volunteers must be informed about the available risks and benefits of the trial and they should have a choice of refusal. Literacy levels of subjects from resource-poor settings, which may be a limiting factor in understanding the consequences of the experiment, and financial aid provided for participation in the trial, also need ethical considerations (2).

Prioritising HCP: Health care professionals (HCP) are prioritized to receive COVID-19 vaccines to protect patients from being infected by them. Vaccinated HCP are better able to provide patient care and they impose less risk of disease transmission to their patients. Safety concerns about the vaccine and doubts about its effectiveness are potential contributors to vaccine hesitancy among healthcare workers (3). People providing life-saving services to the general public, like firefighters and police officers are also preferred for vaccine distribution (4).

Confined communities: COVID-19 infection spread can be reduced by vaccinating people living in confined communities, who live in very close contact with one another, such as prisons and nursing homes. People with various comorbidities are also preferred

but principles of medical ethics should be kept in mind (4).

Vaccine nationalism: Many countries intend to initially provide vaccines to their own citizens (5). This approach, called vaccine nationalism results in an inequitable and unethical allocation of the vaccines. Developing countries take part in the development of vaccines but do not get subsequent advantages from them which is quite unethical (6). Retaining vaccines within their borders is a strong public sentiment in some countries, but a moral and ethical framework should be considered even in the face of these patriotic attitudes. Some think that national partiality is ethical, prioritizing their own citizens over foreigners for developed vaccines. Others think vaccine nationalism is unethical, as lifesaving resources should not be confined to national borders (7).

Vaccinating underdeveloped countries: Low-income countries with underdeveloped infrastructure and limited resources should be vaccinated using donations from high-income countries, considering ethical values (1). Several countries with high disease burden and denser living conditions, cannot afford vaccines and they don't have adequate healthcare systems and resources to vaccinate their masses. These barriers are exacerbated during a pandemic, by increasing vaccine price, worldwide scarcity of vaccines, and worsening circumstances. Therefore, fair allocation of the vaccine without having a solid ethical framework is challenging. Distributive justice, although seems infeasible, is not impossible (6).

Equal priority to all individuals: Another approach involves ensuring equal access of all individuals to vaccines, keeping in mind each individual's inherent moral equality. Vaccine administration may be done on a first-come, first-serve basis or by using a lottery system to select individuals for vaccination (4). Since infections do not consider national borders, it is imperative to widely distribute the vaccines (8). Similar individuals should be treated alike while distributing COVID-19 vaccines, and are not discriminated based on sex, race, and religion (7).

Fair distribution of the COVID-19 vaccine, considering moral and ethical standards, is the only way to overcome this deadly pandemic. Several developed countries prioritize their own citizens for vaccine deployment, which is not under the ethics of fair allocation. Distributive justice is the most

important consideration for equitable vaccine distribution (6). Countries with higher COVID-19 transmission rates should initially be prioritized, but all countries should eventually receive the vaccine to halt the disease transmission (7).

References

1. Wibawa T. COVID-19 vaccine research and development: ethical issues. *Tropical Medicine & International Health*. 2021 Jan;26(1):14-9.
2. Calina D, Hartung T, Docea AO, Spandidos DA, Egorov AM, Shtilman MI, Carvalho F, Tsatsakis A. COVID-19 vaccines: ethical framework concerning human challenge studies. *DARU Journal of Pharmaceutical Sciences*. 2020 Dec;28(2):807-12.
3. Gur-Arie R, Jamrozik E, Kingori P. No jab, no job? Ethical issues in mandatory COVID-19 vaccination of healthcare personnel. *BMJ Global Health*. 2021 Feb 1;6(2):e004877.
4. Gupta R, Morain SR. Ethical allocation of future COVID-19 vaccines. *Journal of Medical Ethics*. 2021 Mar 1;47(3):137-41.
5. Sharma O, Sultan AA, Ding H, Triggle CR. A Review of the Progress and Challenges of Developing a Vaccine for COVID-19. *Frontiers in immunology*. 2020 Oct 14;11:2413.
6. Liu Y, Salwi S, Drolet BC. Multivalued ethical framework for fair global allocation of a COVID-19 vaccine. *Journal of medical Ethics*. 2020 Aug 1;46(8):499-501.
7. Emanuel EJ, Persad G, Kern A, Buchanan A, Fabre C, Halliday D, Heath J, Herzog L, Leland RJ, Lemango ET, Luna F. An ethical framework for global vaccine allocation. *Science*. 2020 Sep 11;369(6509):1309-12.