



The Equity in Access to Coronavirus Vaccination; An Ethical, Scientific and Economic Rationale

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More than a year after the onset of the coronavirus outbreak, the number of worldwide daily deaths reported from coronavirus disease 2019 (COVID-19) has remained significant (1). From the outset, efforts have been made to find effective preventive measures, legislation, appropriate treatments, and vaccines. These days, despite improving discipline and protocols, the effectiveness of some treatments, and preventive measures, the number of reported confirmed deaths per day has reached about 15,000 (1). While the virus has so far infected all countries and caused great harms to all societies, sparks of hope have emerged with the limited start of vaccination (2).

Vaccines trials results favoured the efficacy and safety of some of them, so several agencies and governments approved them for use in the emergency. In addition to these approvals, pre-purchases of the vaccines have been made - mostly varied, due to the uncertainty about efficacy and safety (3). Now vaccination has begun in some countries in a limited way (2). Most countries that have pre-purchased vaccines and started vaccination are high-income countries, and many people in low-income countries will have to wait until 2024, according to the Duke Global Health Innovation Center in Durham (4).

Despite promising results from phase III vaccines trials, there are some considerations. First, asymptomatic infected individuals have not been followed up in studies, so vaccines' prevention from transmitting the infection from these individuals is not definitive. Second, the herd immunity threshold has not yet been determined. Third, the viability of memory immune cells after vaccination is unknown. Fourth, in trials, the result of close maskless contact with an infected person was not investigated. Fifth, vaccines do not cause immediate immunity, and it takes some time for immunity to develop. Sixth, there may be problems in transmitting vaccines and injecting them to the whole populations, while in trials, factors such as suitable facilities for storing vaccines, people trained to inject vaccines are observed. Seventh, it may not be possible to inject certain vaccines into allergic individuals, immunocompromised individuals, and pregnant women. Eighth, the efficacy of vaccines in people with the underlying disease is unknown (5). In light of the above, scientifically, overcoming coronavirus requires a global solution.

Ethically, giving priority to essential health care workers, people at

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