



Mandatory COVID-19 Vaccination for Healthcare Workers: Need of the Hour

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The world is in the midst of an ongoing coronavirus disease 2019 (COVID-19) pandemic caused by the emergence of a 2019-novel coronavirus (2019-nCoV) or severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), as it is now known.¹ The global health crisis caused due to the COVID-19 pandemic and the damage to health, wealth, and well-being have been enormous. The consequences of the same have been far reaching, particularly among the healthcare workers (HCW), who got infected and succumbed to COVID-19 globally. The overall global magnitude of COVID-19 among HCWs during the first wave was recently documented in a survey from 37 countries, wherein the authors have documented 2,736 HCW deaths.² The World Health Organization (WHO) Director General, Dr. Tedros Adhanom Ghebreyesus, also emphasized during the announcement of the WHO Health Worker Safety Charter September 17, 2020 that “thousands of health workers infected with COVID-19 have lost their lives worldwide.”³ According to the WHO, 14% of the COVID-19 cases reported worldwide were among HCWs and in some low- and middle-income countries the number has been as high as 35%.⁴

HCWs, particularly the doctors and nursing staff, are at highest risk of acquiring COVID-19 infection or spreading it to their patients. The situation turns out to be more challenging in low- and middle-income countries where the healthcare systems are already weak but overwhelmed and the HCWs are working under stressful conditions, sometimes even without proper personal protective equipment (PPE). A recent review published by Mhango et al identified lack of and/or inadequate PPE, exposure to infected patients, work overload, poor infection control practices, and pre-existing medical conditions as important risk factors for COVID-19 infection among HCWs.⁵ The

capability of SARS-CoV-2 to be transmitted from asymptomatic and presymptomatic individuals may also contribute to the increased risk among HCWs. Estimates based on pooled serological studies performed in different countries suggest that 7 to 8.7% of HCWs were infected by SARS-CoV-2.⁶ Data available from various other studies also suggested that frontline HCWs had greater exposure to SARS-CoV-2 infection as compared with nonclinical staff.^{7–9} As per the data available from Indian Medical Association, while 748 doctors died in the first wave of COVID-19 last year, 776 doctors have succumbed to COVID-19 during the second wave across India.¹⁰ Moreover, the shortage of HCWs in India, with only one doctor for every 1,511 people and one nurse for every 670 people, which is well below the WHO's minimum norms, is another crucial challenge for the country.¹¹

As the highly effective and safe COVID-19 vaccines are now available and with the ongoing worldwide vaccination drive, not only the active cases of COVID-19 have declined but the number of patients seeking hospitalization has also decreased substantially. Mounting evidence suggests that the vaccines are associated with decreased asymptomatic infections and transmission of SARS-CoV-2.¹² Moreover, among those who have been vaccinated but still got infected, the severity of infection has been considerably low and the hope of the return of healthcare system to pre-COVID-19 era has grown stronger. As of now the pandemic is still rapidly increasing in some parts of the world and the protection of HCWs is imperative as they are at the forefront of fighting the pandemic. The formulation of effective and efficient occupational health policies for HCWs especially in the context of COVID-19 pandemic is the need of the hour. Mandatory

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COVID-19 vaccination for all the HCWs is one such important preventive measure, and if implemented it will not only be helpful to mitigate HCWs exposure risk to COVID-19 infection but will also ensure the safety of their patients, family members, and fellow HCWs. A study from United Kingdom reported a lower risk of COVID-19 infection among household contacts of vaccinated HCWs compared with household members of unvaccinated HCWs.¹³ A recent report of COVID-19 outbreak in a skilled nursing facility attributed to an unvaccinated HCW underlines the risk unvaccinated HCWs can pose to their patients and other HCWs.¹⁴

The recognition of HCW vaccination as an essential component of patient and HCW safety programs emerged during in mid-2000s with a focus on influenza vaccination. Mandatory influenza vaccination programs for HCWs have been associated with high vaccination rates and a significant decrease in healthcare associated influenza among hospitalized patients as well as among HCWs.¹⁵ Similar policies can be adopted for formulating mandatory COVID-19 vaccination scheme for HCWs; however, there are several logistic concerns that need to be addressed. First, it is still unclear that any vaccine approved under Emergency Use Authorization by U.S. Food and Drug Administration can actually be mandated or not. Second, separate provisions be made for HCWs who cannot be vaccinated due to some contraindicated medical conditions. For instance, some individuals may develop allergic reactions after first dose of an mRNA vaccine and may not be able to receive second dose to achieve full immunity. Such individuals should be able to opt for other types of COVID-19 vaccines (vector vaccines or inactivated whole virus vaccine), so that the percentage of unvaccinated HCWs remains low. Third, alternative approaches for HCWs who refuse to get vaccinated should be included. Such HCWs should adhere to strict infection control measures like hygiene protocols, use of masks, and PPEs while working in healthcare facility and should undergo periodic testing for any asymptomatic infection while SARS-CoV-2 is still circulating. Moreover, an exemption to vaccination on religious or personal beliefs is another complicated situation, more so in Indian setting, and needs to be reviewed thoughtfully with a non-judgmental approach.

COVID-19 infections and deaths among HCWs add on to the existential health crisis and can paralyze the already overwhelmed healthcare infrastructure. The ongoing tragedy will continue as long as most nations will lack effective occupational health policies for HCWs. Data on the effectiveness of COVID-19 vaccines against symptomatic as well as asymptomatic COVID-19 infection is promising and considering the global impact of the COVID-19 pandemic, particularly among the HCWs it is imperative to implement mandatory COVID-19 vaccination for them. HCWs are vital resources for the healthcare system of any nation; their health and safety are crucial and of paramount importance. Evidence shows that institutional policies and state laws if implemented effectively and efficiently can increase the vaccination rates among HCWs and decrease the rate of transmission in healthcare settings. However, addressing the legal, ethical, administrative, and attitudinal barriers is required to achieve the same.

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Conflict of Interest

None declared.

References

- Juyal D, Pal S, Thaledi S, Jauhari S, Kumar S. Role of social media amidst coronavirus disease 2019 crisis: expectations versus reality. *World J Nucl Med* 2020;19(04):441–444
- Erdem H, Lucey DR. Healthcare worker infections and deaths due to COVID-19: a survey from 37 nations and a call for WHO to post national data on their website. *Int J Infect Dis* 2021; 102:239–241
- Geneva WHO. Keep Health Workers Safe to Keep Patients Safe. Accessed February 9, 2022 from: <https://www.who.int/news-room/detail/17-09-2020-keep-health-workers-safe-to-keep-patients-safe-who>
- Sharma NC. 14% of global COVID-19 cases are among health workers: WHO. Accessed February 9, 2022 from: <https://www.livemint.com/news/india/14-of-global-covid-19-cases-are-among-health-workers-who-11600406028538.html>
- Mhango M, Dzobo M, Chitungo I, Dzinamarira T. COVID-19 risk factors among health workers: a rapid review. *Saf Health Work* 2020;11:262–265
- Poletti P, Tirani M, Cereda D, et al. Seroprevalence of and risk factors associated with SARS-CoV-2 infection in health care workers during the early COVID-19 pandemic in Italy. *JAMA Netw Open* 2021;4(07):e2115699
- Gómez-Ochoa SA, Franco OH, Rojas LZ, et al. COVID-19 in healthcare workers: a living systematic review and meta-analysis of prevalence, risk factors, clinical characteristics, and outcomes. *Am J Epidemiol* 2021;190(01):161–175
- Galanis P, Vraika I, Fragkou D, Bilali A, Kaitelidou D. Seroprevalence of SARS-CoV-2 antibodies and associated factors in healthcare workers: a systematic review and meta-analysis. *J Hosp Infect* 2021;108:120–134
- Calcagno A, Ghisetti V, Emanuele T, et al. Risk for SARS-CoV-2 infection in healthcare workers, Turin, Italy. *Emerg Infect Dis* 2021;27(01):303–305
- Abraham B. 776 Doctors Have Died During Second Wave of COVID-19 In India, More Deaths Than In First Wave. Accessed February 9, 2022 from: <https://www.indiatimes.com/news/india/doctor-deaths-second-covid-wave-india-ima-543581.html>
- Kwatra N, Imad S. Covid-19: Trauma from India's second wave may have lingering effects on its frontline workers. Accessed February 9, 2022 from: <https://scroll.in/article/998947/covid-19-trauma-from-indias-second-wave-may-have-lingering-effects-on-its-frontline-workers>
- Centers for Disease Control and Prevention. Science brief: COVID-19 vaccines and vaccination. Accessed February 9, 2022 from: <https://www.cdc.gov/coronavirus/2019-ncov/science/science--briefs/fully-vaccinated-people.html>
- Shah ASV, Gribben C, Bishop J, et al. Effect of Vaccination on Transmission of COVID-19: An Observational Study in Healthcare Workers and Their Households. *United Kingdom: Medrxiv*; 2021
- Cavanaugh AM, Fortier S, Lewis P, et al. COVID-19 outbreak associated with a SARS-CoV-2 R.1 lineage variant in a skilled nursing facility after vaccination program - Kentucky, March 2021. *MMWR Morb Mortal Wkly Rep* 2021;70(17): 639–643
- Perl TM, Talbot TR. Universal influenza vaccination among health-care personnel: yes we should. *Open Forum Infect Dis* 2019;6(04): ofz096