

Mini Review

Healthcare Workers Should Receive Seasonal Influenza Vaccine during COVID-19 Pandemic?

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Abstract: It is known that seasonal influenza virus vaccination is important to be taken every year among healthcare workers (HCWs) to avoid transmission of influenza virus and its complications inside the workplace. The reason behind the importance of vaccination is that HCWs are at high risk to be infected with influenza virus. Among the studies addressing the rates of influenza vaccine status among HCWs, a study was conducted in three Middle East countries where the vaccination rates were 24.7%, 67.2%, and 46.4% in United Arab Emirates, Kuwait, and Oman, respectively. Now, after the pandemic of COVID-19 there are beliefs that vaccination with influenza virus could decrease the deaths from COVID-19. A recent retrospective cohort study to detect the effect of seasonal influenza vaccine on the deaths among COVID-19 patients showed that the individuals who didn't take the influenza vaccine in the last year before being infected with COVID-19 had a higher risk of being hospitalized when compared with patients who took the vaccine. In conclusion, seasonal influenza vaccine could have an important role in the prevention of COVID-19. Seasonal influenza vaccine coverage should be improved among HCWs. New tailored health education programs to improve the attitudes and beliefs of HCWs towards seasonal influenza vaccine during the era of COVID-19 are strongly and urgently needed.

Keywords: Coronavirus, COVID-19, Influenza, Vaccine, Healthcare Workers, Review

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It is known that seasonal influenza virus vaccination is important to be taken every year among healthcare workers (HCWs) to avoid transmission of influenza virus and its complications inside the workplace [1].

The World Health Organization (WHO) and the Advisory Committee on Immunization Practices (ACIP) recommend that HCWs should receive influenza vaccine every year. It is also recommended that healthcare organizations implement policies and procedures to encourage HCWs vaccination [2].

The reason behind the importance of vaccination is that HCWs are at high risk to be infected with influenza virus. According to a systematic review and meta-analysis done during the pandemic of Influenza virus A (H1N1), the odds for influenza infection for the HCWs compared to controls is 2.08 [95% confidence interval from 1.73 to 2.51] [3].

The high risk of infection with influenza virus among HCWs could be contributed to various risk factors, like for example demographic data including age and sex of the healthcare personnel, occupational and non-occupational risk factors. Occupational risk factors include the frequent and close contact of HCWs with infected patients, their use

of the personal protective equipment and the type of the work place whether being an outpatient clinic or inpatient department. Non-occupational risk factors include vaccination status of HCWs and the presence of infected children in the household settings [3,4].

Among the studies addressing the rates of influenza vaccine status among HCWs, a study was conducted in three Middle East countries where the vaccination rates were 24.7%, 67.2%, and 46.4% in United Arab Emirates, Kuwait, and Oman, respectively. This multicentre study showed that the main risk factors associated with non-compliance of HCWs to the annual influenza vaccination were; lack of time (31.8%), unawareness of vaccine availability (29.4%), unavailability of the vaccine (25.4%), doubts about the vaccine efficacy (24.9%), lack of information about its importance (20.1%) and concerns about its side effects (17.3%) [5].

Recent national survey conducted among HCWs in Egypt showed that the percentage of HCWs who took the influenza vaccine in the last season was 30.7% and whoever was vaccinated before was 46.8% [1].

Now, after the pandemic of COVID-19 there are beliefs that vaccination with influenza virus could decrease the deaths from COVID-19. A recent retrospective cohort study, published in the Journal of American Board of Family Medicine, to detect the effect of seasonal influenza vaccine on the deaths among COVID-19 patients, showed that the individuals who didn't take the influenza vaccine in the last year before being infected with COVID-19 had a higher risk of being hospitalized when compared with patients who took the vaccine, with an odds ratio of 2.84 [95% confidence interval from 2.03 to 4.07] [6].

Another recent study conducted in Italy during COVID-19 pandemic showed that a moderate to strong negative correlation was found between seasonal influenza vaccination rates and mortality rates of COVID-10 (R -0.5874, P value 0.0051). The authors concluded that improving the vaccination rates with seasonal influenza vaccine could lower the death rates from COVID-19 infection [7].

A recent multicentre retrospective cohort study of 74,754 patients examined the potential benefits of the influenza vaccine against COVID-19. The authors reported that COVID-19 patients who received the influenza vaccine experienced fewer emergency department visits and lower rates of ICU admission [8].

In conclusion, seasonal influenza vaccine could have an important role in the prevention of COVID-19. Seasonal influenza vaccine coverage should be improved among HCWs. New tailored health education programs to improve the attitudes and beliefs of HCWs towards seasonal influenza vaccine during the era of COVID-19 are strongly and urgently needed.

References

- [1] Hakim SA, Amin W, Allam MF, Fathy AM, Mohsen A. Attitudes , beliefs and practice of Egyptian healthcare workers towards seasonal influenza vaccination. *Influenza Other Respi Viruses* 2021;15:778-88.
- [2] De Serres G, Skowronski DM, Ward BJ, Gardam M, Lemieux C, Yassi A, et al. Influenza vaccination of healthcare workers: Critical analysis of the evidence for patient benefit underpinning policies of enforcement. *PLoS One* 2017;12(1):1-21.
- [3] Lietz J, Westermann C, Nienhaus A, Schablon A. The Occupational Risk of Influenza A (H1N1) Infection among Healthcare Personnel during the 2009 Pandemic : A Systematic Review and Meta-Analysis of Observational Studies. *PLoS One* 2016;1-19.
- [4] Choi S, Chung J, Jeon M, Suk M. Risk factors for pandemic H1N1 2009 infection in healthcare personnel of four general hospitals. *J Infect* 2011;63(4):267-73.
- [5] Abu-Gharbieh E, Fahmy S, Rasoo BA, Khan S. Influenza vaccination: Healthcare workers attitude in three middle east countries. *Int J Med Sci* 2010;7(5):319-25.

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- [6] Yang M, Rooks BJ, Le TT, Iii IOS, Diamond J, Dorsey NL, et al. Influenza Vaccination and Hospitalizations Among COVID-19 Infected Adults. *J Am Board Fam Med* 2021;0237:179–82.
 - [7] Marín-Hernández D, Schwartz RE, Nixon DF. Epidemiological evidence for association between higher influenza vaccine uptake in the elderly and lower COVID-19 deaths in Italy. *J Med Virol* 2021;93(1):64-65.
 - [8] Taghioff SM, Slavin BR, Holton T, Singh D. Examining the potential benefits of the influenza vaccine against SARS-CoV-2: a retrospective cohort analysis of 74,754 patients. *PLoS One* 2021;16(8):e0255541.