
Significant decrease in seasonal influenza in the COVID-19 Era: Impact of global movement restrictions?

Takuma Hayashi

National Hospital Organization Kyoto Medical Center, Japan

Abstract

Although monitoring of influenza virus has existed for many decades, influenza continues to cause epidemics around the world every year. In the 2019–2020 and 2020–2021 year periods, the number of people infected with seasonal influenza virus decreased significantly from prior years. Masks, hand washing, and social distance, all measures against coronavirus infectious disease 2019 (COVID-19) infection, are also considered the cause of lower influenza infection counts. However, even in South American countries where COVID-19 infection control measures are weak, the number of people infected with the seasonal influenza virus has decreased significantly. This suggests the presence of at least one other factor that is at work in preventing either or both COVID-19 and seasonal influenza. In this review, we discuss the relationship between global travel and other forms of movement as well as the seasonal influenza virus infection.

Biography

Hayashi is professor at Shinshu University Graduate School of Medicine since 2002, and also Section Head, National Hospital Organization Kyoto Medical Center, Japan. He received his Ph.D. from Inst. for Medical Science, University of Tokyo in 1994. He was research training as a resident staff in Virology Division, at National Cancer Center, Tokyo Japan for 3 years until 1994 and joined Whitehead Institute for Biomedical Research (WI)/Mass.Inst.Tech.(M.I.T.) that year. He did postdoctoral training in the laboratory of Dr. Rick A. Young (Membership in the National Academy of Sciences, WI/M.I.T.), and also was a research member of USA Project of AIDS vaccine development (Project Leader: Dr. David Baltimore, Nobel Laureate, Cal.Tech.). After postdoctoral training, he got faculty position Lecture, Mass. General Hospital (MGH)/Harvard Medical School (HMS) in 1997. He has been studying the antigen presentation system by MHC class I with LMP2-deficient mice, under the cooperation of Dr. Susumu Tonegawa (Nobel Laureate, M.I.T.). Dr. Hayashi currently reports that in view of therapeutic interventions, one can envisage the application of reductants, such as NAC and other thiol compounds, to restore the redox status to prevent infectious disease and its progression. He is currently investigating whether RNA viral particles that do not contain viral genomic RNA can serve as vaccines against infectious diseases..