

Editorial

International travel during the COVID-19 pandemic: implications and risks associated with ‘travel bubbles’

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Travel industry is one among the hardest hit sectors due to the emergence of SARS-CoV-2/COVID-19. The sudden imposition of domestic and international travel bans affected millions of people around the world, affecting not only the travellers, but also airline companies who have experienced a sudden drop in their revenues. Air travel is considered as the major route that facilitated distribution of COVID-19 cases worldwide via travellers. However, the domestic spread of COVID-19 is the result of other means of transportation such as trains and buses.¹ Although the prevention and control measures such as travel restrictions and screening at airports have slowed down the rate of COVID-19 importation, it is not sufficient to contain the spread across the globe.² This is mainly because of the fact that majority of the imported cases arrive during their asymptomatic incubation period.^{2,3} Travellers and residents returning to Brunei had high proportion of asymptomatic and presymptomatic SARS-CoV-2 infection that might have bypassed the symptom-based screening protocols that are established at the entry points.³ The symptom-based surveillance strategies that we are currently following may underestimate the true prevalence of SARS-CoV-2 infection among the international flight passengers. Therefore, in addition to the initial disease screening, rapid contact tracing is also essential at the importation sites like airports.² Similar findings were also reported when the passengers of repatriation flights to Greece were screened for SARS-CoV-2 infection. A small proportion of passengers from the UK, Spain and Turkey (3.6, 6.3 and 6.3%, respectively) were tested positive despite being asymptomatic at the time of arrival.⁴ Therefore, the attempts made by foreign governments to repatriate citizens from countries with higher prevalence of SARS-CoV-2 infection may result in importation and occurrence of subsequent waves of COVID-19 in the absence of strict airport screening and compulsory quarantine. In the scenario where testing of all the travellers is not feasible, implementing strict quarantine for a minimum of 14 days can be made mandatory to reduce the risk of COVID-19 importation.⁵

As the restrictions were slowly lifted, several countries started to establish temporary travel arrangements between neighbouring countries termed as ‘travel bubbles’, ‘travel bridges’, ‘travel corridors’ or ‘corona corridors’ in an effort to stimulate trade and

economic recovery. Considering the benefits of such a corridor, the prime minister of Australia and New Zealand commenced work on a trans-Tasman COVID-safe travel zone that will ease the travel restrictions between these countries.⁶ India has created transport bubbles with USA, Germany and France to restart commercial passenger services between these countries.⁶ Similarly, several other countries are currently discussing on establishing travel bubbles between them for keeping international travel afloat during the pandemic. This would give tourism-dependent countries another chance to rebuild their economy that has been destroyed due to the emergence of COVID-19 earlier this year. Such travel bubbles are mutually beneficial and facilitate trade and economic recovery by helping the transport sector as well as allowing stranded individuals to reunite with their families and friends.

Following the successful implementation of travel bubbles with USA, Germany and France, India has proposed to establish air travel bubble with its neighbouring country Bangladesh.⁶ USA and UK officials have already begun high-level discussion to establish ‘transatlantic air bridge’ for facilitating quarantine-free travel between New York and London due to the low SARS-CoV-2 transmission rates reported in these cities.⁷ Similarly, Singapore has permitted quarantine-free travel from New Zealand.⁶ However, the establishment of travel bubbles between countries that allows their citizens to travel freely without having the need to undergo mandatory on-arrival quarantine might have a negative impact. Following the success of travel bubble initiative, several other countries are considering to open safe corridors to promote tourism and facilitate business recoveries across multiple sectors. This list includes Austria—Germany, Croatia—Slovenia, Denmark—Norway, China—South Korea, China—Singapore, Cook Islands—New Zealand, India—Maldives and India—Canada.⁶

The early imposition of international travel restrictions might have helped to reduce the occurrence of new cases in some countries. The sudden imposition of travel restrictions has helped Australia to contain the COVID-19 epidemic by limiting the importation from China during the epidemic peak.⁸ Travel restrictions can be effective only when these are implemented in a timely manner along with the gradual lifting of ban and by placing new ban for countries with high disease incidences.⁸ The

future scenario will be in such a way that once the worldwide COVID-19 cases become low and air travel returns to normal, subsequent outbreaks will be linked to imported cases due to international air travel.⁹ In such a situation, the implementation of strict control and screening measures by giving special attention to the locations and population density may help to limit subsequent infection waves.⁹

Relaxation of travel restrictions is a critical decision that is associated with high risk, especially between regions with a higher case prevalence. Travel bubbles should be considered as an effective compromise in the preventive strategies. Implementation of voluntary quarantine even at an overall rate of 95% would not be effective in preventing subsequent infection waves of COVID-19.¹⁰ Therefore, the relaxation of travel restriction should be accompanied by strict testing well before boarding on the flights, and adopt quarantine and isolation conditions to prevent the possible importation of COVID-19. Mathematical modelling is an important tool that can provide insights into the different exit strategies for relaxation of travel restrictions. The case exportation risk from the countries having recorded cases of COVID-19 can be calculated using simple data-driven frameworks. This will help us to estimate the number of upcoming infectious individuals with respect to the potential travellers from each country.⁵ This is an essential process since unplanned relaxations could trigger a new outbreak and can accelerate the spread beyond our capacity to control it. The lifting of cross-border restrictions should be based on evidence and available real-time COVID-19 epidemiological data.¹¹ This will enable us to protect public health without causing unnecessary interference to the travel and trade relations between countries.

In the scenario where international air travel restrictions are partially or completely lifted, stringent prevention and control measures should be taken to avoid importation/exportation of COVID-19 across borders. In addition to the preventive measures implemented at the entry and exit points, measures have to be taken for preventing the transmission on board. SARS-CoV-2 infected patients can spread the virus on board if they are traveling with susceptible individuals. There are only a few published reports that prove the occurrence of in-flight SARS-CoV-2 transmission. Based on the available literature, four cases of in-flight SARS-CoV-2 transmission were reported in well-documented flights that were linked to mass transmission events.¹²

There is an increasing pressure for lifting the cross-border restrictions in majority of the countries. This is mainly due to the fact that 'international travel restriction' cannot be considered as a permanent solution to the ongoing COVID-19 pandemic. Therefore, establishment of safe and efficient 'travel bubbles' or 'travel corridors' between countries is a necessity. However, governments should take extreme precautions due to the possibility of SARS-CoV-2/COVID-19 cross-border importation and the occurrence of subsequent infection waves. The establishment of 'travel bubbles' and their efficient maintenance will be a challenge for the decision makers. Therefore, quarantine-free travel corridors should only be established between countries with similar COVID-19 incidence and can implement efficient real-time disease surveillance. If there is a rise in COVID-19 incidence, every country must suspend all active travel corridors with those countries with higher incidence. It should

only be re-established when the disease incidence becomes similar to reduce the probability of COVID-19 importation across international borders. Strict prevention and control measures need to be implemented at the travel bubble interface to limit the importation of COVID-19. This includes strict temperature screening, compulsory questionnaire (travel history), compulsory testing at entry (rapid tests), compulsory quarantine, post-entry surveillance and tracking (global positioning system, GPS), distribution of public health information (24×7 helpline numbers), traveller sensitization and mandatory certification of disease-free status. Implementing stringent preventive measures on board the airplane and at the entry–exit points can reduce the risk of SARS-CoV-2 transmission across international borders during the implementation of travel bubbles.

Author contributions

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