Contact tracing for COVID-19 in travellers in Spain (21/9/2020)

1. Background

1.1 Purpose of the communication

Contact tracing is an effective public health measure for the control of COVID-19. The prompt identification and management of contacts of COVID-19 cases makes possible to rapidly identify secondary cases that may arise after transmission from the primary cases. This will enable the interruption of further onward transmission.

Entry screening has been proposed as a mean to identify travellers with COVID-19. The potential benefit of entry screening and contact tracing of close contacts of positive traveller's cases of COVID-19 may help to reduce the overall number of imported cases but also to prevent further transmission. This communication shows the Spanish experience on contact tracing among travellers in transport means and our approach to it in the current transmission scenario.

1.2 Current state of scientific-technical knowledge

There is limited evidence of inflight transmission of SARS-CoV-2. However, a couple of published articles related with this issue could be found.

An article by Chen j et al[1]. studied the possibility of transmission of SARS-CoV-2 during an international flight. An outbreak of 16 COVID-19 cases was investigated among passengers on a flight from Singapore to Hangzhou. Only one of the passengers with no history of pre-flight exposure developed COVID19. During the hour that the flight lasted, he sat next to 4 infected passengers from Wuhan, and he also did not use the mask correctly.

Nir-Paz R et al.[2], followed-up 11 passengers with previously negative PCR on a flight from Japan to Israel. All passengers wore surgical masks and FPP2s during the flight, which they only took out to eat. Upon arrival, PCR test was performed again and two asymptomatic passengers tested positive. These two passengers had their spouses admitted for COVID-19 in Japan, therefore it was considered they were infected before the flight. The rest of the passengers were quarantined for 14 days and all of them had a negative PCR up to 6 times. Therefore, it was concluded that the risk of transmission on flights with adequate protection measures was low.

2. Scope of this document

This document is a first approach to understand the risk of transmission of SARS-CoV-2 during national and international flights in Spain and the value of case identification and follow-up of close contacts among passengers.

3. Methods

A common protocol[3] for central and regional health authorities for diagnosis and follow-up of national and international travellers who were close contacts of COVID-19 cases who

may have been infective during the flight is applied since mid-May 2020 in Spain.

According to this protocol, when a positive case is diagnosed either by regional health authorities or by surveillance teams set at International Entry Points a whole system of contact tracing is trigger. Close contacts of positive cases identified among international travels are identified by central health authorities while national's are identified at regional level.

Subsequent follow-up of cases and contacts located in Spain is carried out at regional/local level. When either a case or a close contact is located overseas, personal details are notified to the country of residence through ERWS or IHR communication tools. This later procedure is similar in most countries.

Regional health authorities are requested in mid-September to inform the Coordinating Centre for Health Alerts and Emergencies (CCAES) of COVID-19 cases detected among contacts identified international flights after the follow-up period. Similar information referring to contacts in other conveyances are is also requested.

4. Results:

From May 23th up to September 21th a total of 434 cases and 2344 close contacts were identified in 333 international flights.

Out of those cases, 179 were symptomatic while flying (about 41% of the total) and 28 were allegedly asymptomatic but tested PCR+ on the day of their arrival to Spain.

Up till now, we received information from 4 regions reporting more than 600 contacts from almost 100 international flights and till today, no positive case among them has been identified. Regional health authorities from Valencia and Canarias notified 3 positive cases among close contact of two cases but they were identified either as close family contact or had an alternative more plausible source of exposure.

These 4 regions monitored also 77 domestic flights, 29 trains, 1 trans-Mediterranean journey, 2 inter-island flights and 13 buses for which contact tracing after case identification was carried out. The information related with the follow-up of contacts in these national transport means was not standardize and part of it could not be verified thus not used for this document. However, using valid information, no case was identified among 122 close national contacts on national flights, 72 on intercity buses and 1 on trains.

5. Discussion:

Contact tracing is a cumbersome activity and identifying, locating and following-up contacts among passengers of transport means represent an important burden for public health services. Even though all the great efforts and resources involved expected impact of this activity in identifying transmission has not been observed in Spain.

No in-flight transmission has been detected since the surveillance system is in place,

probably due to the use of masks in the plane and the application of other prevention and control measures at the airports and during flights.

Following-up close contacts is unlikely to be cost-effective, it drains human resources from other public health activities and it possess a great social and economic stress. This may be even more evident when local community transmission of SARS-CoV-2 is stablished and higher incidence may stress health services

However, timely and exhaustive detection and notification of cases and contacts is important, both at regional, national and international level in order to control transmission.

6. Bibliography.

(1) Chen J, He H, Cheng W, Liu Y, Sun Z, Chai C, et al. Potential transmission of SARS-CoV-2 on a flight from Singapore to Hangzhou, China: An epidemiological investigation. Travel Medicine and Infectious Disease 2020 July 1,;36:101816.
(2) Nir-Paz R, Grotto I, Strolov I, Salmon A, Mandelboim M, Mendelson E, et al. Absence of in-flight transmission of SARS-CoV-2 likely due to use of face masks on board. J Travel Med 2020 Jul 14.
(3) Guía para la identificación y seguimiento de contactos de casos de COVID-19 en medios de transporte. 02.07.2020 CCAES.