Spread of COVID-19 by asymptomatic cases: evidence from military quarantine facilities

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Like the rest of the world, Armed Forces are also trying to prevent the spread of COVID-19 among their troops. One of the major challenges in implementing preventive measures is that a large proportion of COVID-19 cases are asymptomatic.[1] To date, the role of truly asymptomatic cases in the spread of COVID-19 remains unclear, primarily due to difficulties in monitoring, testing and tracing contacts of asymptomatic individuals.[1–3]

Here, we report the transmission of SARS-CoV-2 infection by asymptomatic cases in quarantine facilities for Indian security forces personnel returning back from leave to their duty stations. As a policy, these personnel were placed in quarantine facilities for a period of 14 days before going back to their duties to ensure that infected personnel do not bring infection to their barracks. Quarantined individuals were kept as small cohorts in separate facilities and were not allowed contact with any other person outside their cohort, except for trained health workers who monitor them for any COVID-19 symptoms. They were tested by reverse transcription-PCR during their quarantine period if they develop COVID-19 symptoms or after 14 days of quarantine if they remained asymptomatic. Persons who tested positive were shifted to a separate isolation facility, while their contacts were again quarantined for 14 days and retested after five days of their last contact with a COVID-19 case.

In quarantine facility A, a cohort of 26 individuals who reported back from leave on 8 June were placed in quarantine. All these individuals were asymptomatic and were tested for COVID-19 on 21 June. Out of these individuals, 19 were found COVID-19-positive and were shifted to a separate isolation facility. Quarantine of the remaining persons was started afresh, and on retesting five individuals tested positive. The remaining two personnel were again quarantined, with one reporting positive on third testing (Figure 1). All 25 COVID-19-positive individuals in this cohort remained asymptomatic during quarantine as well as during hospitalisation. Out of these, at least six cases were definitely secondary infections from asymptomatic primary cases in that cohort, as they did not have contact with any other person outside their cohort in the preceding 20 days. Similarly, in quarantine facility B, two personnel were found positive for COVID-19, one of them a secondary case from an asymptomatic primary case in that cohort (Figure 2).

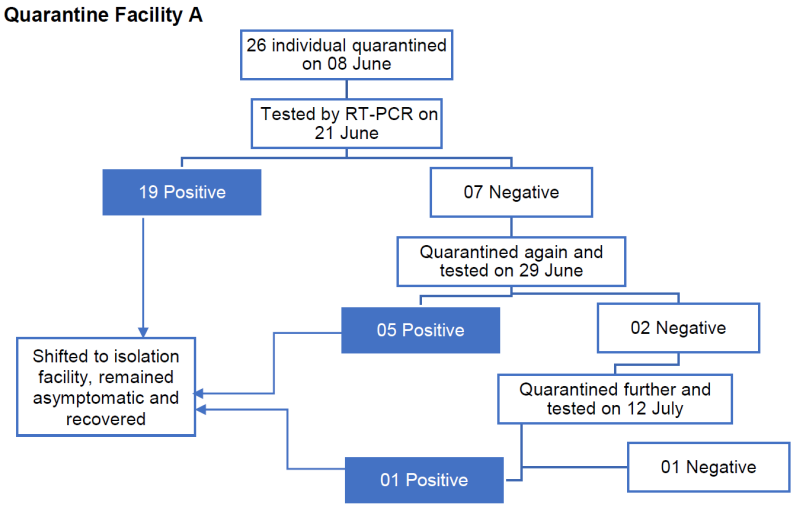

Figure 1 Spread of COVID-19 in quarantine facility A. RT-PCR, reverse transcription-PCR.

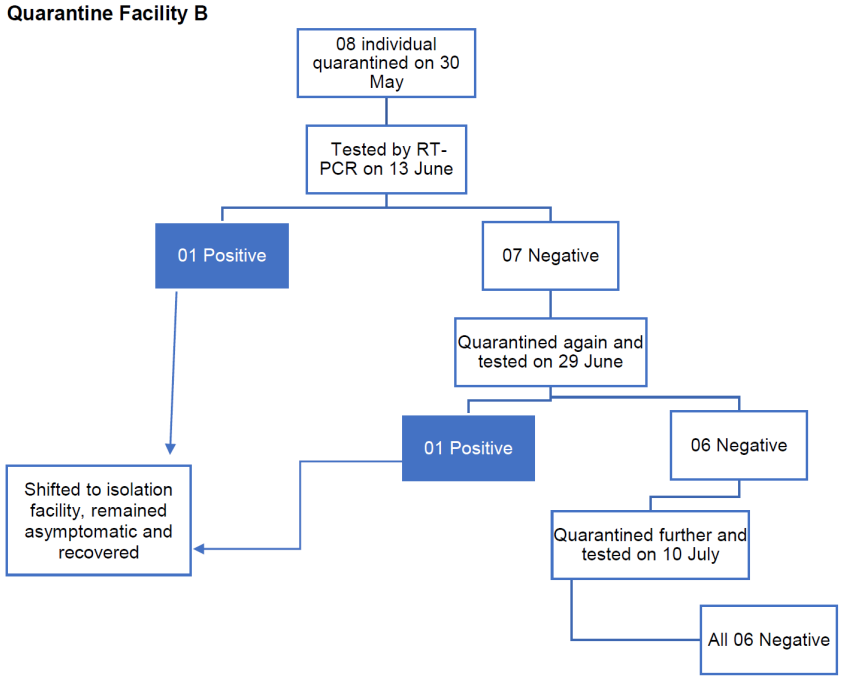

Figure 2 Spread of COVID-19 in quarantine facility B. RT-PCR, reverse transcription-PCR.

These observations provide epidemiological evidence that asymptomatic

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COVID-19 cases can effectively transmit infection to their contacts. Restricted number of contacts, monitoring and testing of all individuals in our dedicated quarantine facilities have provided us the opportunity to document the spread of COVID-19 from asymptomatic cases. We believe that transmission of infection by asymptomatic cases is playing an important role in the spread of COVID-19. Focusing only on symptomatic cases can be one of the main reasons for our failure to control this pandemic. We recommend that control strategies being employed in various Armed Forces should take into account the possibility of COVID-19 spread by asymptomatic cases.

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