

Household transmission of COVID-19 in Oman

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Dear Editor,

I read the article of Khamis et al,¹ about the first cohort of COVID-19 patients in Oman, focusing on their socio-demographic and epidemiological characteristics. It was discussed in the study that 70% of the COVID-19 cluster transmission occurred in particular districts in Oman which had the highest numbers of non-Omani laborers living in very crowded housing area with poor living conditions. Therefore, we may postulate that household transmission of SARS-CoV-2 played great role in contributing to the steady surge of COVID-19 pandemic in the early days of outbreak in Oman.

Previous research had reported the role of household contact as a strong determinant for SARS-CoV-2 transmission in which the infection risk of household contacts is 10 times higher than other contacts.² Similarly in a Malaysian study, individuals exposed to infected household members were 11 times more likely to contract COVID-19 ($p = 0.040$) as compared to exposure through social activities and other means of exposure.³ Meanwhile an observational study in six Asian countries reported low socioeconomic construction workers were at risk for getting and transmitting COVID-19 as they are more susceptible to infectious outbreaks due to poorer housing and living conditions.⁴ This mode of transmission via household contacts is possible as infected individuals can transmit the virus efficiently within household via droplets, fomites, and aerosol. Moreover, household transmission of SARS-CoV-2 is very efficient because it can survive up

to nine hours on human skin and can remain viable for up to 72 hours on plastic surface and stainless steel within the household confined space.⁵ Therefore, overcrowding among non-Omani laborers in small confined houses may play role in worsening the propagation of COVID-19 among them.

Khamis et al,¹ stressed the need for vigorous strategies to avert transmission of COVID-19 in vulnerable population such as foreign workers living in overcrowded housing condition. To ensure immigrant workers' welfare and living condition are well taken care of during COVID-19 pandemic, vigorous surveillance and enforcement by the government are prerequisite to avert surge of cases among this vulnerable group of population.

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