

# Household transmission of COVID-19 in Oman

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*Dear Editor,*

I read the article of Khamis *et al.* about the first cohort of COVID-19 patients in Oman, focusing on their socio-demographic and epidemiological characteristics.<sup>1</sup> It was discussed in the study that 70% of the COVID-19 cluster transmission occurred in particular district in Oman which had the highest numbers of non-Omani laborers living in very crowded housing area with poor living conditions.<sup>1</sup> 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.<sup>2</sup> 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.<sup>3</sup> 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.<sup>4</sup> 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 SARS-CoV-2 can survive up to 9 hours on human skin and can remain viable for up to 72 hours on plastic surface and stainless steel within the household confined space.<sup>5</sup> 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.* 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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