



## Can Increasing the Number of Close Contact Lead to More Mortality in COVID-19 Infected Patients?

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### Dear Editor-in-Chief

Human are afflicted by Coronavirus disease 2019 (COVID-19) after its outbreak from Wuhan, Hubei Province, China, on 31 Dec 2019 (1, 2). In Iran, after the first confirmed case of acute respiratory due to COVID-19, the number of patients referred to corona clinic of Shahid Beheshti Hospital, Qom City increased. From that time, Iran state serve measures to avoid the spread of this highly contagious infectious disease by wide-spread announcement.

Due to the high mortality rate and spread of COVID-19, recently our team and collaborators are working to address promptly whether the number of times of being in close contact with sever infected patients can increase or prompted the severity of COVID-19 symptoms between the patients, healthcare workers and physicians who have been confirmed to have COVID-19 pneumonia. How much is it important to isolate the infected patients in a negative pressure room after the first outbreak of COVID-19 symptoms? In order to answer these questions, all infected patients, healthcare workers and physicians referred to our clinic (100-200 patients, aged between 30–83 yr, without any risk factor), was precisely evaluated and was asked about the number

of times they were in close contact with infected patients and what protective measures they took during the epidemic of Corona disease. Moreover, for all of them, the past medical history, protection care and the history of receiving immune suppressive drugs (corticosteroids or anti-TNF drugs) were recorded.

The majority of them did not have the medical history, a specific risk factor or background for receiving any immune suppressive drugs. Among them, the patients and physicians who were in close contact with infected patients for a less number of times, with efficient protection, showed mild COVID-19 symptoms and all symptoms subsided after one week. However, the patients with high number of close contact, especially physicians who have to be in close contact with critical infected patients, showed sever symptoms and even mortality (8-10 case aged between 30–50 yr). As time goes by, the number of patients referred to our corona clinic are significantly reducing, and also we observed that the new cases of infected patients showed mild symptoms.

Based on these findings, two main reasons are involved for this phenomenon. The first is that

the infectious ability of virus may be reduced in populations as time passes. The other is that, following the governors' announcement about COVID-19 and its highly infectious nature and mortality rate, people take steps to protect themselves more against this disease. However, the prevalence and mortality rate throughout the world, especially in those newly infected countries were equal to Wuhan, or maybe even more than it. Therefore, the protective measures and early public announcement lead to the decrease in its expansion and mortality via decreasing the viral load inpatients (3).

According to the finding of this study, the physicians, healthcare workers and patients that had low number of close contact with critical infected patients with COVID-19, showed mild symptoms of COVID-19, low lung involvement and better saturation without any mortality.

Global public health security is of primary importance to prevent outbreaks of diseases with epidemic potential like COVID-19, as effective protection can guarantee population to avoid the spread of this highly contagious infection (4, 5). For this, all nations must provide suitable equipment such as mask, gloves, plastic shielding, eye-glass or preserving the safe space for all population, especially for physicians and healthcare workers who are involved in COVID-19 to lessen the close contact between them and critical infected patients.

In conclusion, all people, especially physicians and healthcare workers, should be aware of the relation between the number of being in close contact with infected patients and the outbreak of severe symptoms, to mitigate the effects of the pandemic and to assure that the best solutions are developed in an efficient and timely manner.

### Conflict of interest

The authors declare that there is no conflict of interest.

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