

Quarantine of Health Care Workers in the Covid-19 Crisis: Why and How Long?

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To the editor:

The novel Coronavirus 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus (SARS-Cov-2) continues to spread unabated with 31.3 million infections and a million deaths till date [1]. Health care workers (HCWs) being the frontline warriors in the fight against COVID-19 are always at high risk of acquiring severe infections while caring for the sick patients (mean viral load 60 times higher in severe infections than mild infections), in addition, physical and mental stress, and extended duty hours without adequate quarantine leads to repeated exposure and decreased immunity [2]. In Wuhan, the initial epicentre of the pandemic, 29% of HCWs were presumed to have acquired infection from the hospital [3]. Besides, these infected HCWs could unknowingly spread the infection among their colleagues, family, visitors, and patients. Our report focusses on the importance of quarantine of HCWs and its role in breaking the chain of transmission of SARS-COV-2.

Why and How Long?

There is no cure for coronavirus to date and vaccines are still under development. So preventive

measures such as quarantine, isolation, social distancing, hand hygiene, and cough etiquettes are followed to halt the spread of the virus. Early detection and management have been the cornerstone in curbing the rapid spread of infectious epidemics and quarantine help increase the doubling time. The overwhelming workload of HCWs combined with lack of experience in infectious diseases and the fear of getting infected leads to physical and psychological stress which not only impairs immunity increasing susceptibility to infection but also will reflect on the safety and quality of health care systems [4]. Quarantine prevents burn-out and helps ensure adequate rest leading to better physical and mental health. In a pooled analysis by Lauer et al, they found quarantine for 14 days will help identify more than 99% symptomatic cases [5]. So, HCWs should be provided at least 14 days of quarantine before they can offer their services.

Why Quarantine even if asymptomatic?

Data regarding the infectivity of asymptomatic carriers is evolving and in a prospective study by Chen et al in China, they found the infectivity rate of asymptomatic infections is similar to symptomatic infections [6]. Further, an asymptomatic carrier can become a

super spreader and cause multiple infections. According to He et al in their report, they found 44% of secondary contacts were infected in the presymptomatic stage of index cases [7]. Asymptomatic HCWs could be conceivably a potential source of disease transmission in the hospital and community. This may lead to workforce depletion managing the COVID-19 crisis apart from causing potentially severe covid infections in patients with immune dysfunction.

Despite the obvious benefits, quarantine can have adverse effects if not implemented properly. In a rapid review by Brooks et al, they opined that the duration of quarantine be scientifically driven (not more than the incubation period), clear information provided regarding the nature and duration of quarantine, basic supplies ensured, boredom reduced, improved communication, and instilling a sense of altruism than compulsion for quarantine helps mitigate the negative impacts of quarantine [8].

To conclude, HCWs are the first line of defence in the management of pandemics and their safety is paramount in holding together the health care systems in the war against COVID-19. Quarantine helps decrease repeated exposure to viral shedding, relieves stress, and helps in physical and mental recovery. Mandatory quarantine with availability to basic needs and emergency medical care should be provided/continued although provision for early redeployment of HCWs from quarantine to be considered in exceptional circumstances. After all, we must not forget to “care for the caregiver” if we ought to continue our fight and succeed against the unrelenting SARS COV-2 virus.

References

1. Available at <https://www.worldometers.info/coronavirus/>. Accessed on 21 September 2020.
2. Liu Y, Yan L-M, Wan L, Xiang T-X, Le A, Liu J-M, et al. Viral dynamics in mild and severe cases of COVID-19. *The Lancet Infectious Diseases* 2020; March 19. DOI: [https://doi.org/10.1016/S1473-3099\(20\)30232-2](https://doi.org/10.1016/S1473-3099(20)30232-2)
3. Wang D, Hu B, Hu C, et al. Clinical characteristics of 138 hospitalised patients with 2019 novel coronavirus-infected pneumonia in Wuhan, China. *JAMA* 2020; 323: 1061–69.
4. Shen X, Zou X, Zhong X, Yan J, Li L. Psychological stress of ICU nurses in the time of COVID-19. *Crit Care*. 2020;24(1):200. Published 2020 May 6. doi:10.1186/s13054-020-02926-2
5. Lauer SA, Grantz KH, Bi Q, et al. The Incubation Period of Coronavirus Disease 2019 (COVID-19) From Publicly Reported Confirmed Cases: Estimation and Application. *Ann Intern Med*. 2020;172(9):577-582. doi:10.7326/M20-0504
6. Chen Y., Wang A.H., Yi B., Ding K.Q., Wang H.B., Wang J.M. The epidemiological characteristics of infection in close contacts of COVID-19 in Ningbo city[J/OL] *Chin J Epidemiol*. 2020;41. doi: 10.3760/cma.j.cn112338-20200304-00251
7. He X, Lau EHY, Wu P, et al. Temporal dynamics in viral shedding and transmissibility of COVID-19. *Nat Med*. 2020;26(5):672-675. doi:10.1038/s41591-020-0869-5
8. Brooks SK, Webster RK, Smith LE, et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *Lancet*. 2020;395(10227):912-920. doi:10.1016/S0140-6736(20)30460-8

Received: 21 September 2020

Accepted: 27 September 2020