

The current recommendation for isolation in COVID-19 infection: A perspective review article

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ABSTRACT

Introduction: There have been multiple variants of Severe acute respiratory syndrome coronavirus 2 (SARS CoV- 2), a strain of coronavirus, that causes COVID-19, a respiratory illness responsible for the ongoing COVID-19 pandemic, since its first identified outbreak in Wuhan, China in November 2019. Since the pandemic began there have been various changes in the isolation period of the identified cases reducing from 2 to 3 weeks to the current recommendation of 5 days of isolation in symptom-free individuals in various countries. As of July 2022, only the Omicron variant has been identified as a variant of concern by the World Health Organization.

Method: Articles were searched in Google scholar, PubMed, CDC guidelines, NHS guidelines (UK), Indian guidelines (Ministry of Health and Family Welfare), Nepal guidelines (Ministry of Health and Population), and WHO guidelines.

Result: The guidelines recommend a self-isolation period of infected individuals ranging from 5 to 14 days after testing positive for the COVID-19 disease.

Conclusion: COVID-19 is here to stay and showing no signs of slowing down though overall fatality rate have been on decline owing to vaccination and increased immunity against the virus, it is ideal to shorten the duration of isolation and focus on protection against the virus all the times and not letting the guard down.

Keywords: COVID-19, mild symptoms, omicron, self-isolation, guidelines, WHO

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INTRODUCTION

Ever since the outbreak of COVID-19 from Wuhan, China in November 2019, it has affected more than half billion people in every region of the world.¹ However, most cases have had mild symptoms requiring self-isolation to minimal intervention. As of data available till August 18, 2022, there are 19,525,473 reported active cases in the world, of which 44,349 are said to be in critical condition, which equates to around 0.2% of the total cases. Rest of the 99.8% were reported to be of having mild illnesses. Of the 578,754,550 closed cases, 99% successfully recovered, recording death of around 1 % or 6,464,138 of those.² Data provided by Ministry of health and population Nepal, states that till August 18, 2022; 994,613 cases have been identified as positive for COVID-19, of which 98.2% recovered, reporting in case fatality of 1.2%. There were reported to be 5265 active cases in Nepal.³ Cases of COVID-19 were in sharp elevation in 45 days period, recording 19 positive cases on June 21, 2022 rising to 912 positive cases on August 5, 2022. Government of Nepal has administered over 61.77 million vaccine doses including the booster shots as of August 18, 2022.³ Of the total population targeted by the government of aged 12 years and over, 92.6 % have been vaccinated at least 1 dose and 88.4 % of the target population have received complete vaccine doses. As of July 2022, WHO has recognized only Omicron has been listed as a variant of concern, which was first discovered in South Africa in November 2021.⁴ Of the sub-variants of Omicron, BA.4 and BA.5 are currently being studied for having higher transmissibility than original omicron variant BA.1.⁴

Isolation period of COVID-19 varies in different recommended guidelines, with Nepal still having the longest isolation period among the reviewed guidelines. As more population are being vaccinated and omicron showing only milder symptoms, shorter isolation period is recommended as we move closer to completion of 3 years of the pandemic.

METHOD

Recent guideline devised by Centre for Disease Control (CDC) USA; National Health Services (NHS) UK; Ministry of Health and family welfare, India; Ministry of Health and population, Nepal and World Health Organization (WHO) after January 2022 were taken into consideration. The guidelines of CDC, NHS and WHO are the most revered guidelines, while India's and Nepal's guideline were taken into consideration for having constant movement of citizens, without visa

between the 2 countries as Nepal shares lenient border with India on its east, west and southern side. The isolation period from these guidelines were compared with infectivity period of COVID-19, especially the omicron variant and period of time the virus could be isolated from the respiratory tract of the infected individuals.

RESULT

The CDC guideline recommends that people with COVID-19 should self-isolate at home themselves for 5 days as patients are likely most infectious during these first 5 days.⁵ Isolation can be ended with their symptoms resolving, like not having fever for 24 hours and followed that with another 5 days of wearing multilayer mask when in presence of others to minimize the risk of infecting the people they encounter. A new CDC update on August 11, 2022 mentioned that if anyone exposed to COVID-19, no longer have to quarantine themselves but only wear a mask for 10 days and get tested on Day 5.⁵ The NHS guideline endorses self-isolation at home for 5 days. After that avoid meeting people at higher risk of COVID-19 for another 10 days, especially if their immune system is compromised and are at higher risk of serious illness even with complete COVID-19 vaccination.⁶

Government of India's Ministry of Health and Family welfare on their website mentions, patient self-isolate themselves for at least 7 days from the day of testing positive for the disease and no fever for 3 successive days.⁷ Patients need to continue wearing multiple layer mask after isolation period has ended. Ministry of Health and Population of Nepal formed COVID-19 crisis management Centre (CCMC) Nepal after pandemic broke out, which has currently put forward isolation period of 14 days for asymptomatic patients and additional 3 days of isolation in symptomatic cases once their symptoms have subsided, which was last updated on June 3, 2022.⁸

Meanwhile, WHO on their website advocates self-isolation for period of minimum of 10 days once tested positive in patients without any symptoms and an additional of 3 days after cessation of symptoms if patients show any symptoms.⁹ None of the guidelines currently recommends re-testing for COVID-19 at the end of self-isolation period in patients not showing any symptoms.

The omicron variant (B.1.1.529), which gained its notoriety as having higher transmission rates than previous known variants especially on comparison to Delta variants; has sub variants of its own, notably BA.2, BA.4 and BA.5.¹⁰ BA.2 was reported to spread 1.4 times higher than BA.1.¹¹ The clinical

features of the Omicron variant are same in the line as of other variants as fever, cough, headache, myalgia and loss of taste and smell sensation but in milder severity than compared to previous variants. However, a Lancet report warned that despite the decrease in severity of the cases affected by Omicron variant, it should not be taken as a mild disease.¹²

Vaccine coverage against COVID-19 has increased around the world, about 67.2 % of the world population have received at least 1 dose of COVID-19 vaccine.¹³ While the omicron variant was found to be 10 times spreading faster than the original variant and around 2.8 times more infectious than the Delta variant, the available vaccines are likely to provide 14 times less protection than the Delta variant.¹⁴ However vaccine usage has reduced hospitalization rate, mortality rate and decreased the chances of developing serious illness. Mixing of vaccination have yielded better protection when Pfizer or AstraZeneca vaccine as primary course and followed up by booster shots of either Moderna or Pfizer vaccine, though the protection offered decreased comparing over longer period of time.¹⁵ This has prompted that a booster dose maybe required to follow up every year for protection.

The average day of successful isolation of virus from respiratory tract of infected patients in healthy was 11 days while virus could be isolated from respiratory secretions of immunocompromised patients was up to 20 days. The average isolation period of different guidelines fit into the period of isolation of virus from infected individuals. However, it is to be noted that isolation of virus from respiratory tract does not dictate the transmissibility from infected patients for that duration.¹⁶ Relive from isolation could be shortened based on the symptoms exhibited by the infected individuals.

DISCUSSION

The available evidences do not convey the infectivity period or virus shedding period from the COVID-19 positive individuals. The risk of transmission of the COVID-19 is highest just before onset of symptoms and few days after it.¹⁷ As we approach close to 3 years since being declared a global pandemic, numerous lockdowns and restrictions worldwide and multiple waves of virus outgrowth, we might have to transition to COVID-19 endemic.¹⁸ It is in virus trait to undergo mutation forming newer variants and it has an evolutionary advantage of strengthening its binding affinity and escape protection against

host's antibody. On the other hand, humans have help of vaccination and infection acquired immunity, possibly herd immunity as virus rapidly spreads worldwide; not all variants of the virus can have substantial effect on human host cells unless virus undergoes sizeable changes in their mutation. Longer Isolation and quarantine periods have had negative impact on individual's mental health reporting distress, stigma and depression in many cases.¹⁹ The financial impact of isolated workers not reporting to their designated jobs and consumers not reaching out has affected every sector, viz. education sector, finance industry, aviation tourism and hospitality industry, sports and entertainment sector, real estate business; all reporting huge losses and pushing the world economy into huge burden and eventual recession.²⁰

CONCLUSION

COVID-19 is here to stay and has integrated into our life routine, so it is wise to always be watchful and practice safety measures against it, hand washing, masking and avoiding crowded places whenever possible as well as being updated with vaccination as longer isolation period may not be a feasible option moving forward due to huge burden on mental health and overall economy. CDC recently scrapping the quarantine period is a welcome change and right step as we wait for new development in tackling the pandemic.

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