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Short Communication

The proportion of COVID-19 cases that are asymptomatic in South Korea: Comment on Nishiura et al.



Joseph Workman*

University of Missouri, Kansas City, United States

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ABSTRACT

The Korean Centers for Disease Control & Prevention reports the asymptomatic case proportion for COVID-19 is 33.3%. The asymptomatic case proportion in South Korea closely approximates the rate of 30.8% reported by Nishiura et al. (2020) among Japanese nationals returning from abroad.
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In a recent paper, Nishiura et al. (2020) estimated the asymptomatic rate of COVID-19 cases among Japanese nationals who were tested upon returning to Japan from abroad. The authors estimated the proportion of positive COVID-19 cases that were asymptomatic to be 30.8% (95% confidence interval: 7.7%, 53.8%).

Nishiura et al.'s (2020) estimate of a 30.8% rate of asymptomatic COVID-19 cases closely approximates the asymptomatic rate reported by the Korean Centers for Disease Control & Prevention (CDC). South Korea has been one of the most proactive nations in implementing widespread testing for COVID-19 and contact tracing for positive cases. The Korean CDC's widespread testing of individuals not exhibiting symptoms makes it an exceptional resource for estimating the proportion of asymptomatic cases.

In an April 6 Press Release, the Korean CDC Division of Risk Assessment and International Cooperation reported, "asymptomatic case proportion is 33.3% based on the presence or absence of symptoms at the time of confirmation. Further analysis is underway based on clinical progress." (Division of Risk Assessment and International Cooperation, 2020b) Unfortunately, the press release did not provide details on (1) what proportion of cases were pre-symptomatic and eventually exhibited symptoms and (2) how many positive cases the 33.3% asymptomatic rate was based upon, which would be required for calculating a confidence interval of the asymptomatic case rate. The same press release from April 6 stated the overall prevalence of COVID-19 in South Korea at the time as, "As of 0:00, April 6, 2020, a total of 10,284 cases (including 769 imported cases) have been confirmed."

One concerning trend is that the Korean CDC has found cases where individuals test positive for COVID-19 a second time, after initially recovering from the disease. The asymptomatic case rate appears higher for those who test positive for COVID-19 a second time. In an April 17 press release, the Division of Risk Assessment and International Cooperation stated, "of the 137 retested-positive cases with reported clinical and epidemiological information, 61 (43.9%) cases were symptomatic. All of the 61 symptomatic cases had mild symptoms." (Division of Risk Assessment and International Cooperation, 2020a) This would indicate 56.1% of re-tested positive cases were asymptomatic (author's own calculation of 95% confidence interval: 48.8%, 64.4%).

The Korean CDC and Nishiura et al. (2020) found the asymptomatic case rate for COVID-19 was approximately 30%. The numbers presented in this comment from South Korea help put Nishiura et al.'s (2020) findings from the Japanese nationals returning from abroad in a broader context. This comment also emphasizes that the asymptomatic rate may be higher among those who re-test positive for COVID-19.

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* Corresponding author at: Department of Sociology, 208 Haag Hall, 5120 Rockhill Road, Kansas City, MO 64110, United States.
E-mail address: workmanj@umkc.edu (J. Workman).