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[Potential false-positive rate among the 'asymptomatic infected individuals' in close contacts of COVID-19 patients].

[Article in Chinese; Abstract available in Chinese from the publisher]

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Abstract

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Objective: As the prevention and control of COVID-19 continues to advance, the active nucleic acid test screening in the close contacts of the patients has been carrying out in many parts of China. However, the false-positive rate of positive results in the screening has not been reported up to now. But to clarify the false-positive rate during screening is important in COVID-19 control and prevention. **Methods:** Point values and reasonable ranges of the indicators which impact the false-positive rate of positive results were estimated based on the information available to us at present. The false-positive rate of positive results in the active screening was deduced, and univariate and multivariate-probabilistic sensitivity analyses were performed to understand the robustness of the findings. **Results:** When the infection rate of the close contacts and the sensitivity and specificity of reported results were taken as the point estimates, the positive predictive value of the active screening was only 19.67%, in contrast, the false-positive rate of positive results was 80.33%. The multivariate-probabilistic sensitivity analysis results supported the base-case findings, with a 75% probability for the false-positive rate of positive results over 47%. **Conclusions:** In the close contacts of COVID-19 patients, nearly half or even more of the 'asymptomatic infected individuals' reported in the active nucleic acid test screening might be false positives.

KEYWORDS:

COVID-19; Close contacts; False-positive; Nucleic acid test; Screening

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