

Risk factors associated with occurrence of COVID-19 among household persons exposed to patients with confirmed COVID-19 in Qingdao Municipal, China

Hualei Xin¹, Fachun Jiang¹, Aili Xue², Jiwei Liang¹, Jingfei Zhang¹, Feng Yang¹, and Yalin Han¹

¹Qingdao Municipal Center for Disease Control and Prevention

²Qingdao Women and Children's Hospital

June 2, 2020

Abstract

Tracing and isolation of close contacts is used to control outbreaks of coronavirus disease 2019 (COVID-19) in China. However, risk factors associated with occurrence of COVID-19 among close contacts have not been well described. 106 household contacts were included in this study, of whom 19 were developed into COVID-19 cases and the secondary attack rate was 17.9%. Multivariable analysis showed increasing risk of occurrence of COVID-19 among household contacts associated with female of index patients (Adjusted Hazard Ratio [aHR] = 5.61, 95%CI = 1.51-20.83), critical disease of index patients ([aHR] = 7.58, 95%CI = 1.66-34.66), effective contact duration with index patients >2 days ([aHR] = 4.21, 95%CI = 1.29-13.73), and effective contact duration >11 days ([aHR] = 17.88, 95%CI = 3.26-98.01). The sex and disease severity of index COVID-19 patients, and longer effective contact duration with COVID-19 confirmed cases could help epidemiologists to identify potential COVID-19 case among household contacts at an early stage.

Hosted file

Manuscript.doc available at <https://authorea.com/users/329091/articles/456170-risk-factors-associated-with-occurrence-of-covid-19-among-household-persons-exposed-to-patients-with-confirmed-covid-19-in-qingdao-municipal-china>

Hosted file

Tables.docx available at <https://authorea.com/users/329091/articles/456170-risk-factors-associated-with-occurrence-of-covid-19-among-household-persons-exposed-to-patients-with-confirmed-covid-19-in-qingdao-municipal-china>