

UPDATE ALERT

Update Alert 6: Epidemiology of and Risk Factors for Coronavirus Infection in Health Care Workers

This is the sixth monthly update alert for a living rapid review on the epidemiology of and risk factors for coronavirus infection in health care workers (HCWs) (1). Searches were updated from 25 September to 24 October 2020 using the same search strategies as the original review. The update searches identified 1552 citations. We applied the same inclusion criteria used for the prior update, with previously described protocol modifications (2) to focus on higher-quality evidence. Eight studies (3-10) on the burden of and risk factors for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection were added for this update.

The original rapid review included 15 studies on the burden of SARS-CoV-2 infection (1); 62 studies were added in prior updates (2, 11-14) (Supplement Table 1 and Table 2). For this update, 8 cross-sectional studies (3-10) were added. Two studies were done in Asia (7, 9), 5 were done in Europe (4-6, 8, 10), and 1 was done in Oman (3).

On the basis of the original review and prior updates, the incidence of SARS-CoV-2 infection (polymerase chain reaction-positive) ranged from 0.4% to 49.6%, and the prevalence of SARS-CoV-2 seropositivity ranged from 1.6% to 31.6% (2, 11-14). The wide ranges in estimates were likely related to differences in settings, exposures, community transmission rates, symptom status, use of infection control measures, and other factors. Rates of SARS-CoV-2 infection based on polymerase chain reaction positivity, reported in 4 new studies, ranged from 0% to 9.9% (3, 4, 9, 10). Severe acute respiratory syndrome coronavirus 2 seropositivity, reported in 5 new studies, ranged from 3.2% to 13.2% (4-6, 8, 10). Among HCWs with SARS-CoV-2 infection, 3 studies reported hospitalization rates of 0% to 14.4% (3, 9, 10), and 2 studies reported that 0.7% and 10.2% had severe disease (7, 9). In 2 studies, mortality among HCWs with SARS-CoV-2 infection was 0% and 0.7% (7, 9). Limitations of the studies included failure to adequately report demographic characteristics of HCWs, small sample sizes, unclear participation rates, and lack of information on clinical outcomes of SARS-CoV-2 infections.

The original rapid review included 34 studies on risk factors for coronavirus infections (3 studies on risk factors for SARS-CoV-2 infection, 29 studies on SARS-CoV-1 infection, and 2 studies on Middle East respiratory syndrome-CoV infection) (1); 41 studies (39 studies on SARS-CoV-2) were added in prior updates (2, 11-14). For this update, 5 new studies evaluated risk factors for SARS-CoV-2 infection in HCWs (Supplement Table 3) (3-5, 8, 10). As in prior studies, 3 new studies found no association between sex and risk for SARS-CoV-2 infection (3, 8, 10), and 4 studies found no association between nurse or physician health worker role and risk for SARS-CoV-2 infection (3-5, 10). There was no new evidence for masks, other personal protective equipment, or other risk factors, including infection control training and education (Supplement Tables 4-8). Because

the conclusions of the review have been stable during the past 6 monthly updates, the frequency of these update alerts will be changed to every other month.

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