UPDATE ALERT

Update Alert 2: Epidemiology of and Risk Factors for Coronavirus Infection in Health Care Workers

This is the second 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 24 May 2020 to 24 June 2020, using the same search strategies as the original review. The update searches identified 2087 citations. Due to the high volume of literature and to focus on higher-quality evidence, we modified selection criteria for this and future updates by restricting inclusion to peer-reviewed studies, studies on incidence or outcomes of HCW infections with clearly defined inception cohorts, and studies on mental health or quality of life that controlled for baseline symptoms. Other inclusion criteria were unchanged. Four studies, all on SARS-CoV-2 infection, were added for this update (2-5).

The original rapid review included 15 studies on the burden of SARS-CoV-2 infection; 29 studies were added for the first monthly update (Supplement Tables 1 and 2; all supplemental tables are available at [Annals.org](https://www.annals.org)). Four cohort studies were added for this update (2-5). Of the new studies, 1 was conducted in the United States (2), 1 in Austria (3), 1 in China (5), and 1 was multinational (4). There was also variability across studies in SARS-CoV-2 exposures and criteria for diagnosing HCW infections; 2 studies (2, 3) did not provide demographic or clinical information. In the new studies, the proportion of HCWs with COVID-19 was 3.1% and 6.8% in 2 studies (2, 4) and the proportion with SARS-CoV-2 infection (not necessarily meeting criteria for COVID-19) was 19.2% in 1 study (3); these estimates were within previously described ranges. One new prospective study found that measures of mood, anxiety, and depression worsened in HCWs in China after compared with before the pandemic (5). This builds on prior studies that found that HCWs in areas affected by COVID-19 report high levels of depression, anxiety, and psychological distress, but the studies did not control for baseline symptoms. Like prior studies, the new study did not have a non-HCW control group or control for work exposures. No new study reported the severity of SARS-CoV-2 infections in HCWs.

Two new studies ($n = 1744$) evaluated risk factors for SARS-CoV-2 infection in HCWs (Supplement Table 3) (3, 4). One new study evaluated HCWs involved in tracheal intubation of patients who were enrolled in a registry (4). An important limitation of this study was that infections included patients with laboratory-confirmed COVID-19 infection, as well as those with symptoms but no laboratory diagnosis. The other new study reported a very imprecise estimate of risk for SARS-CoV-2 infection in nurses versus physicians and did not adjust for confounders (3). Results for risk factors updated with these studies were judged to be consistent with the

original rapid review and prior update (Supplement Tables 6 to 10).

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