

Healthcare-associated COVID-19 Prevalence, Risk Factors and Outcomes: A Systematic Review and Meta-analysis

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Background

Healthcare-associated COVID-19 (HA-COVID-19) is associated with increased patient morbidity and mortality. There is a need to understand the epidemiology, hospital-level factors and outcomes associated with HA-COVID-19.

Objectives

To determine the prevalence, risk factors and outcomes associated with HA-COVID.

Methodology

A systematic review and meta-analysis was conducted that included peer reviewed articles of original research. A combination of key words and Medical Subject Headings were searched using Medline Complete, CINAHL, and Academic Search Ultimate databases. The search period ranged from 1/1/2019 to 28/11/2021. The review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) (figure1).

Results

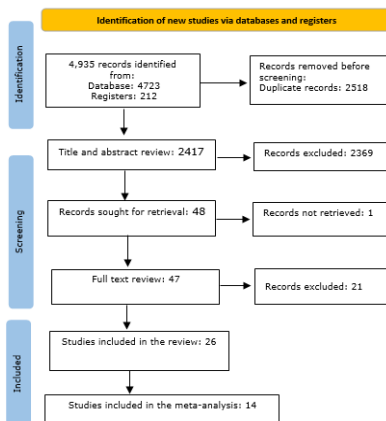


Figure1: PRISMA diagram of included studies

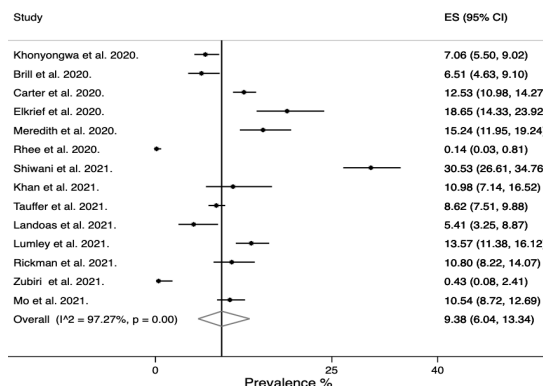


Figure2: Forest plot illustrating HA-COVID-19 pooled prevalence rates

The pooled prevalence rate for HA-COVID-19 was 9.38% (Figure 2). Hospital risk factors included increases in CA-COVID-19 cases on the ward (Odds Ratio (OR) 1.27, 95% CI 1.08-1.44, p<0.001), healthcare workers (HCWs) with COVID-19 (OR=1.46 95% CI 1.27-1.67, p<0.001) and increases in weekly bed occupancy (r=0.403). The odds of death for HA-COVID-19 were up to 55 times that of CA-COVID-19 (95% CI 11-238 p<0.001) and the median length of stay was up to 6 times that of CA-COVID-19 cases.

Disclosures

No funding was provided for this study.

Conclusion

An association between increased patient morbidity and mortality and HA-COVID-19 was demonstrated. The identified hospital risk factors reinforce the importance of work restrictions for infected HCWs and the need to incorporate hospital-bed management strategies into public health emergency planning.

References

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