

SARS-CoV-2 Infection Prevalence in Healthcare workers, administrative and support staff: The first wave experience at three academic hospitals in the Tshwane District of Gauteng.

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Background

HCWs have been identified as being at an increased risk for acquisition of SARS-CoV-2 infections but there is a paucity of data pertaining to South African HCW related infection rates. Global and provincial disparities in these numbers necessitate local data in order to mitigate risks. We sought to ascertain the overall SARS-CoV-2 infection rates and outcomes among all hospital staff at three different hospitals in Tshwane district and further determined associations for the development of severe COVID-19 disease.

Methods

This retrospective audit was conducted across three academic hospitals in the Tshwane district of Gauteng for the period 1 June 2020 to 31 August 2020. De-identified data from Occupational Health and Safety Department (OHSD) from each hospital was used to calculate infection rates. A more detailed analysis at one of the 3 hospitals included evaluation of demographics, work description, possible source of SARS-CoV-2 exposure (community or hospital) comorbidities and outcomes.

Results

The period prevalence of SARS-CoV-2 infections ranged from 6.1% to 15.4% between the three hospitals with the average period prevalence being 11.1%. The highest incidence of SARS-CoV-2 infections was observed among administrative staff (2.8 cases per 1000 staff days) followed by nursing staff (2.7 cases per 1000 staff days). Medical doctors displayed the lowest incidence of 1.1 cases per 1000 staff days. SARS-CoV-2 infections were categorised to be either probably community or health care facility acquired for 26.6% and 73.4% of the infections respectively. The administrative group demonstrated the highest proportion of probable community acquired infections (41.8%) whilst doctors were found to have the lowest probability (6.1%). The mean age of those who had mild and severe disease was 41 and 46.1 years respectively ($p = 0.004$). The presence of comorbidities was significantly associated with severity of disease ($p = 0.002$).

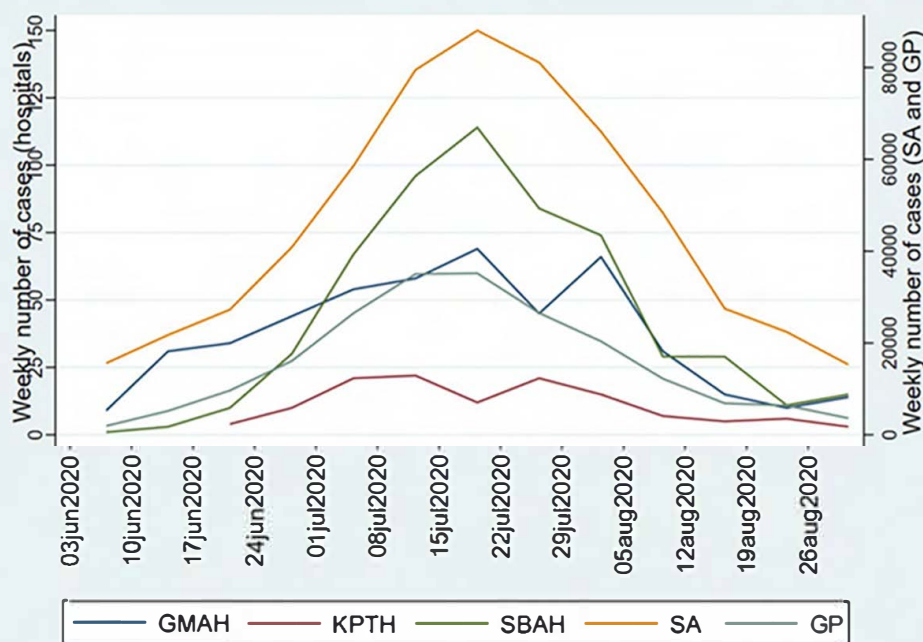


Figure 1: Weekly number of new cases for the study hospitals Gauteng Province (GP) and South Africa (SA)

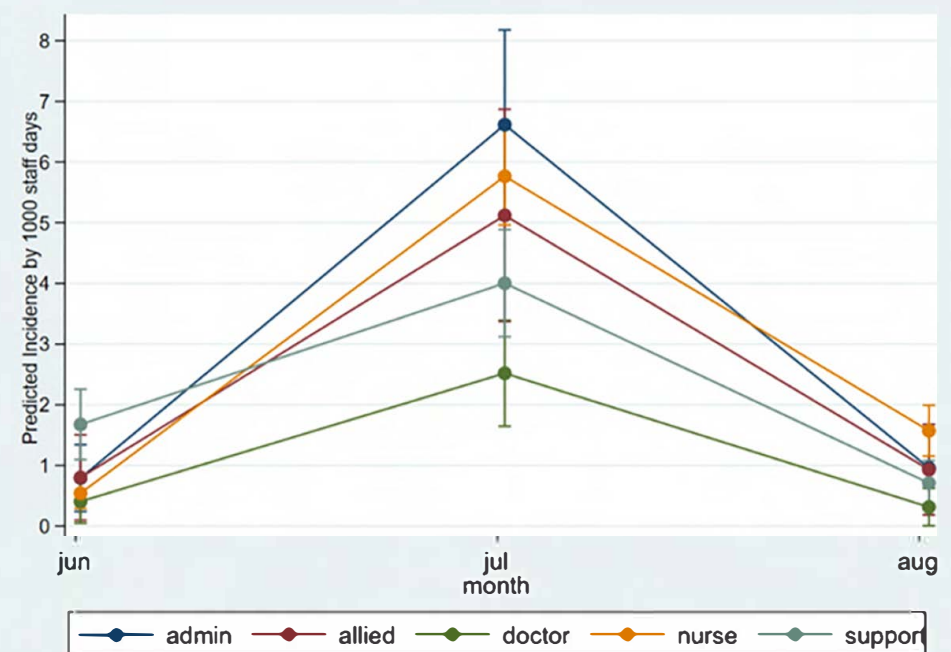


Figure 2: The incidence of SARS-CoV-2 among the SBAH staff categories

Discussion and conclusion

The period prevalence of 11.1% was comparable to similar international studies. This study highlights that hospital staff including the administrative staff are at high risk for the acquisition of SARS-CoV-2 infections during a surge even with strict IPC practices in place. Some of the reasons explored include increased workload and the contribution of community acquisition.