

Characteristics of Hospitalized COVID-19 Patients in the Four Southern Regions Under the Proposed Southern Business Unit of Saudi Arabia

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Background: This is the first descriptive and comparative study conducted of COVID-19 inpatients from multi-centers in the four administrative southern regions and proposed Southern Business Unit (Jazan, Najran, Bisha, and Aseer) of the Kingdom of Saudi Arabia (KSA)

Methods: Participants were 809 randomly selected patients admitted to the eight sampled hospitals with confirmed COVID-19 between March 2020 and February 2021. We assessed and compared socio-demographics, clinical characteristics, and clinical outcomes of the four regions.

Results: Socio-demographic and clinical characteristics of the participants are a mean age of 60 ± 17.7 years, 70% Saudi male, the prevalence of diabetes (DM2) 58%, hypertension (HTN) 48%, obesity 43%, cardiac diseases 15%, and immunity or cancer diseases almost 1%. The prevalence of complications during admission were bacterial pneumonia 65%, acquired respiratory distress syndrome (ARDS) 32%, sepsis 20%, multi-organ failure 18%, acute kidney diseases 15%, and arrhythmia 4%. Clinical outcomes were: admitted to intensive care unit (ICU) 52%, mortality rate 25%, referred to other facilities 9%, and mean length of stay (LOS) was 11 ± 9.5 days. We observed statistically significant variation in many variables among the four regions. Najran and Aseer had a higher prevalence of risk factors for severity including age and comorbidities accompanied by higher rates of complications, ICU admissions, LOS, and mortality. Bisha and Jazan had lower prevalence of risk factors and LOS with lower rates of complications, ICU admissions, and mortality. **Conclusion:** This study reveals that the geographic region in which the patient was cared for was related to the severity and outcome of COVID-19 infection. Policy makers should search for solutions to regional differences in underlying health conditions such as DM2, HTN, and obesity to plan for improvements in preventive care as well as resource distribution to ensure quality for all Saudi citizens. This study will serve as guidance to begin to form strategies for these improvements as envisioned in the future New Model of Care