Unveiling Surprising Insights into Determinants of COVID-19 Outcomes: A Retrospective Cohort Study from a Private COVID Treatment Centre in Malawi

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Abstract

Background: Severe Acute Respiratory Syndrome coronavirus 2 (SARS-CoV-2), the virus responsible for COVID-19, emerged at the end of 2019 and has presented significant global health challenges ever since. Understanding the demographic and clinical factors influencing COVID-19 outcomes is essential for effective management and public health response.

Objective: This retrospective cohort study was conducted at Partners in Hope (PIH) Hospital in Malawi. It aimed to examine the demographic and clinical profiles of hospitalised COVID-19 patients, evaluate variations in disease severity, and identify crucial factors influencing treatment outcomes.

Methods: Clinical data from 67 patients hospitalised from January 2021 to September 2021 were analysed, focusing on demographic characteristics, comorbidities, clinical presentations, and treatment responses. The statistical methods employed included descriptive analysis, chi-square tests, and multinomial logistic regression, which were used to elucidate factors associated with disease severity and outcomes.

Results: Among the 67 hospitalised COVID-19 patients, most presented with severe symptoms upon admission, including shortness of breath (83.58%) and fever (73.13%). Common comorbidities such as hypertension (39%) and HIV (33%) were prevalent. Overall, the majority of COVID-19 patients at PIH Hospital were discharged (80.6%), while 11.94% were referred and 7.46% died. Surprisingly, older age and the presence of comorbidities, particularly diabetes and HIV, were found to correlate with shorter hospital stays and favourable treatment outcomes. Multinomial logistic regression highlighted age, sex, comorbidities, and oxygen saturation as significant disease severity and mortality predictors.

Conclusions: Effective early interventions and management of underlying health conditions played pivotal roles in shaping COVID-19 outcomes at PIH Hospital. Tailored public health strategies aimed at vulnerable populations are crucial for mitigating the impact of COVID-19 in resource constrained settings like Malawi.

Key words: COVID-19, Demographic factors, Clinical features, Disease severity, Outcomes, Malawi