

An Ecological Study to Assess the Performance of Health Care Systems During the COVID-19 Pandemic

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Abstract

BACKGROUND

During the Coronavirus Disease-19 (COVID-19) pandemic, the importance of resilient health care systems has been emphasized by the World Health Organization (WHO). The WHO has underscored the importance of resilient health systems and described it as the “foundation of global health security.” It is argued by public health experts that the lack of universal health coverage (UHC) has predisposed to inadequate pandemic response in certain countries. One of the most effective ways to improve the resilience of a health care system is by focusing on UHC and achieving sustainable development goals (SDG). This, in turn, would help in the preparation for future outbreaks and societal crisis situations.

METHODS

A cross-country ecological association analysis was conducted between confirmed case fatality ratios (c-CFRs) for COVID-19 and the three indices: healthcare access and quality (HAQ), UHC, and SDG. We included countries with at least 100 cases and one death as of 5th July 2020. c-CFRs at 30, 42, and 60 days from the day of the first confirmed case were considered for the years 2016 to 2018. We used Spearman’s rank correlation to estimate the associations between the c-CFRs and the three indices.

FINDINGS

We included 156 countries eligible under the criteria mentioned above. We found that HAQ (n=156), UHC service coverage (n=153, 3 missing data points), and health-related SDG (n=123, 33 missing data points) had negative associations of small effect size with c-CFRs at 30 and 42 days (UHC: -0.16; HAQ: -0.2; SDG: -0.24; p value < 0.05). The correlations were non-significant and negligible at 60 days.

INTERPRETATION

The effect sizes of association for all three indices with c-CFRs reduced significantly from 30 days to 60 days. This discrepancy highlights that these indices could play a major role in predicting the country’s capability to tackle the initial stages of a pandemic or health-related crisis. As a result, policy makers should bolster the focus on attainment of UHC, achievement of SDGs, and improvement of access to health care services to prepare for the subsequent waves of the pandemic and future outbreaks.