Correlation between HIV, Tuberculosis, and Malaria with COVID-19 Indices: A Global Level Ecological Study

Mirahmadizadeh Alireza, Rezaei Fatemeh, Jokari Kimia, Mohseni Sepideh, Afrashteh Sima, Dehghani Seyed Sina, Jafari Alireza, Moghadami Mohsen, Ghelichi-Ghojogh Mousa

Abstract

Background: HIV, Tuberculosis, and Malariaare neglected due to the high pressure imposed on healthcare systems by COVID-19; however, since these diseases afflict a large number of patients globally, their effect on COVID-19, as a world pandemic, should be assessed. We aimed to assess the relationship between the prevalence of these diseases and COVID-19 indices.Methods: In this ecological study, a data set was provided, which included the epidemiologic indices of COVID-19 for each country. The scatter plots of the social capital for the studied countries based on the epidemiologic indices of COVID-19 and HIV (human immunodeficiency virus), and Malaria were drawn.Results: The prevalence of HIV, Tuberculosis, and Malaria were inversely correlated with the cumulative incidence rate of cases, the cumulative incidence rate of death, and COVID-19 tests performed per million, and was directly correlated with the recovery rate. No correlation was seen between case fatality rate and the prevalence of these infectious diseases.Conclusion: However, the results of this study were in favor of people afflicted with HIV, and Further studies should be conducted on the concurrence of infectious events and their adverse consequences with future analytical protocols.

Keywords: coronavirus, COVID-19, Ecologic study, HIV, Tuberculosis