Poster #6

Research Study

Title: "Investigating the Association Between Median County Income in Florida and Rate of COVID- 19 Infection and Death"

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Category: Epidemiology

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Introduction and Objective. Socioeconomic status is tightly linked to a myriad of conditions that serve as risk factors for COVID-19 infections and related mortality. Understanding of the association between socioeconomic status and the outcomes related to COVID-19 is thus important to developing strategies and policies to limit the spread and to mitigate the adverse outcomes. This study aimed to evaluate the association between median income by county in Florida (as a measure of socioeconomic status) and the rates of COVID-19 infection and death.

Methods. This is an ecological study and includes aggregate data from 67 counties in Florida for the period 2019 - 2022. Data on income, demographics, prevalence of some chronic conditions,education level, health insurance status, number of hospital beds and COVID-19 incidence and deaths were retrieved using different databases online. The association between median household income by county and the rates of COVID-19 infection and death was analyzed via adjusted and unadjusted linear regressions.

Results. Population data from 66 counties were ultimately used for the analysis. All data analyzed showed an inverse relationship between median household income by county in Florida and the outcomes measured. Unadjusted linear regression analysis showed a statistically significant inverse association between median household income and COVID-19 cumulated incidence (standardized beta -0.121, 95% CI -0.23 to -0.009), mortality (unstandardized beta -0.32, 95% CI -0.44 to -0.20), and case-fatality (unstandardized beta -0.84, 95% CI -1.30 to -0.38) rates. After adjusting for potential confounders, the association remained statistically significant for incidence (adjusted unstandardized beta -0.14, 95% CI -0.25 to -0.03, p=0.016), and mortality (adjusted unstandardized beta -0.27, 95% CI -0.47 to - 0.06, p=0.012) rates, while the association between median income and COVID-19 case fatality rate showed borderline significance (adjusted unstandardized beta -0.59, 95% CI -1.19 to 0.003, p=0.051).

Conclusions-Implications. According to the results, there is a significant inverse relationship between median household income by county in Florida and COVID-19 incidence and mortality rates, and borderline for case fatality rate. These findings add to the mounting body of evidence that highlights the disproportionate effects and health outcomes experienced by certain communities.