Household Composition May Explain COVID-19 Racial/Ethnic Disparities

Exposure to the novel coronavirus at work or at home may be more important than underlying health conditions in explaining why Black and Hispanic adults are more likely to die from coronavirus disease 2019 (COVID-19) than White adults, a recent study from the Agency for Healthcare Research and Quality suggests.

In many parts of the US, Black and Hispanic people are more than twice as likely as non-Hispanic White individuals to die from COVID-19, the authors noted. One common hypothesis is that racial and ethnic disparities in COVID-19 death rates are related to having higher rates of preexisting conditions, including extreme obesity, asthma, heart disease, and cancer.

Data from the Medical Expenditure Panel Survey showed that Black adults in every age group were more likely than White adults to have health risks associated with severe COVID-19. However, White persons on average were older than Black individuals, so when all factors were considered, Whites tended to have a higher overall risk for severe COVID-19 than Blacks, whereas Hispanics and Asians had a much lower overall risk than Whites or Blacks.

When they examined other possible explanations for the racial/ethnic disparities in COVID-19 deaths, the researchers calculated that 13.3% of Black workers and 12.5% of Hispanic workers were in essential jobs that allowed them to work from home compared with 22.8% of White workers in essential jobs. They also found that Black adults at high risk of severe COVID-19 were 60% more likely than White adults to live with health-sector workers whose jobs raise their infection risk.

“We believe that COVID-19 disparities will ultimately be shown to stem from disparities in exposure,” the authors concluded.

Difficult to Determine Herd Immunity Threshold for COVID-19

Too many questions remain for researchers to reach definitive conclusions about herd immunity for coronavirus disease 2019 (COVID-19), according to a Government Accountability Office report.

The “herd immunity threshold” refers to the percentage of the population that needs to become immune to an infectious disease so that people without immunity aren’t likely to interact with an infected person and become infected. Typically, herd immunity is achieved when 70% to 90% of the population is immune through natural infection or vaccination. Even if herd immunity is achieved, it might not be uniform across the population, so outbreaks could still occur.

To determine the herd immunity threshold, researchers must know how contagious the disease is, which includes determining how many nonimmune people an infected person can infect. Scientists have estimated how contagious COVID-19 is, but uncertainties about such factors as the accuracy of some diagnostic tests make this calculation difficult. Estimates of the average number of people that a contagious person can infect range from 1 to 7. By comparison, a person with measles infects an average of 11 to 16 people.

Questions also remain about how long immunity to COVID-19 lasts. Although immunity to measles is estimated to be lifelong, that is not the case for other infectious diseases. Analyses of other viruses related to the severe acute respiratory syndrome coronavirus 2 have shown that infection provides some immunity, but it doesn’t appear to last more than a year.

Streetlights May Keep Teens Up at Night, Affecting Mental Health

Living near higher levels of outdoor artificial light at night (ALAN) was associated with shorter sleep duration and an increased likelihood of a mood disorder in adolescents, according to a study by National Institute of Mental Health researchers.

Previous research had linked exposure to indoor ALAN with mood disorders, but little was known about similar associations with outdoor ALAN, the authors wrote in JAMA Psychiatry.

They used data from a cross-sectional survey of 10,123 US adolescents aged 13 to 18 years that was conducted from February 2001 through January 2004. In-person interviews assessed participants’ mental disorders, sleep habits, and other characteristics. The researchers used satellite imaging data to measure adolescents’ exposure to outside ALAN. Levels of outdoor ALAN were positively associated with indicators of social disadvantage, such as racial/ethnic status and lower family income.

After adjustment for sociodemographic factors and population density, adolescents living in neighborhoods in the highest quartile of outdoor ALAN on average reported going to bed 29 minutes later and sleeping 11 fewer minutes on weekdays than those in neighborhoods in the lowest quartile of outdoor ALAN.

Teens living in areas with higher levels of outside ALAN also were more likely to meet the diagnostic criteria for bipolar disorder, major depressive disorder, and specific phobias, suggesting that disrupted sleep may be a link between nighttime artificial light exposure and mental health.

- Rita Rubin, MA

Note: Source references are available through embedded hyperlinks in the article text online.