Health Equity & Community Engagement

Impact of Preeclampsia on the Incidence of Breast Cancer in the Black Women's Health Study

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ABSTRACT IMPACT: This study will be the first to explore the relationship between preeclampsia and breast cancer risk using the largest cohort of Black women in the US, and it will guide future research and potentially inform clinical practice to reduce breast cancer disparities in this population. OBJECTIVES/GOALS: Black women are disproportionately impacted by preeclampsia. This disorder induces hormonal changes that may contribute to diseases such as breast cancer. However, there is a lack of clear data on the relationship between preeclampsia and breast cancer, and few previous studies included Black women. This study will work to fill this knowledge gap. METHODS/STUDY POPULATION: We prospectively assessed the association between preeclampsia during pregnancy and risk of breast cancer in 43,040 parous women in the Black Women's Health Study, a nationwide cohort of Black women who were ages 21 -69 at enrollment in 1995. Through 2017, we confirmed 1,968 incident diagnoses of invasive breast cancer. Approximately 6% of parous women reported a diagnosis of pre-eclampsia; characteristics of the population at baseline are shown in Table 1. We used multivariable Cox proportional hazards models to estimate hazard ratios (HRs) and 95% confidence intervals (CIs) for risk of breast cancer overall. We used age as the time scale and adjusted for breast cancer risk factors including parity, age at first birth, age at menarche, and body mass index (BMI) at age 18. RESULTS/ANTICIPATED RESULTS: : Compared to parous women without a history of preeclampsia, women with a history of preeclampsia in any pregnancy were not at an increased risk of breast cancer overall (HR 0.98; 95% CI 0.81, 1.18). These preliminary results suggest that history of preeclampsia is not an important risk factor for breast cancer overall in Black women. Our analyses are ongoing to evaluate whether the association may vary by estrogen receptor status or within subgroups of the population defined by age, menopausal status, BMI, and time since last pregnancy. DISCUSSION/SIGNIFICANCE OF FINDINGS: Findings from this study will provide unprecedented knowledge on the association between hypertensive diseases during pregnancy and incidence of breast cancer in the largest cohort of Black women in the U.S.

Use of an Outcomes Continuum to Describe Disparities in CVOID-19: Data from the OneFlorida Research Consortium

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ABSTRACT IMPACT: Identifying differential COVID-19 progression across the disease continuum may help policymakers and service providers better identify or predict gaps in services and resources and develop precision strategies to support COVID-19 patients where the need is mostly needed. OBJECTIVES/GOALS: Single institution studies have documented COVID-19 disproportionally affected US racial and ethnic minority groups compared to Whites. However, few population-wide data studied severity and death in multiracial populations. We aim to examine the current disparity in the COVID-19 continuum, including hospitalizations, severity, and death. METHODS/STUDY POPULATION: Data on 67,094 laboratory documented COVID-19 cases nested from the state-wide 'OneFlorida' research consortium through August 3, 2020, were assessed to decide differences and disparities in COVID-19 outcomes. A COVID-19 outcome continuum outlining the proportions of cases transitioning from diagnosis to death was constructed (Figure 1). OneFlorida partners provide health care to more than 40% of Floridians in the nation's third-largest and very diverse state. OneFlorida partners encompass hospitals, practice/ clinic settings, and physicians, which provide care for 15 million patients across all of Florida's 67 counties. It is part of the Patient-Centered Outcomes Research Institute (PCORI). RESULTS/ANTICIPATED RESULTS: Among cases, 25,443 (37.9%) were non-Hispanic Whites, 11,709 (17.5%) were non-Hispanic Blacks, and 16,119 (24.0%) were Hispanics. Among COVID-19 patients, Blacks and Hispanics had a higher frequency of emergency department (ED) visits (45.7% and 46.0%, respectively), whereas admission rates were higher in Blacks (15.6%) and Whites (15.9%) than in Hispanics (11.5%). Blacks had the highest rates of intubation (3.6%) and in-hospital deaths (2.7%) compared to Whites (2.5% and 2.3%, respectively) and Hispanics (1.3% and 1.4%, respectively), Figure 1. When rates were indexed to the state census data, Blacks had the worst rates across the disease continuum (infection to death). In comparison, Hispanics had higher rates of ED visits but lower rates of intubation and death, Table 1. DISCUSSION/ SIGNIFICANCE OF FINDINGS: Outcomes continuum is a useful tool at an individual-level to assess care outcomes and at population-level as a framework to analyze the proportion of population with COVID-19 that progress to each successive disease stage. This will help policymakers to better identify gaps in services and develop precision strategies to support COVID-19 patients.

Characterizing the impact of social and structural determinants of health on racial and ethnic disparities in COVID-19 outcomes using electronic health record (EHR) data

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ABSTRACT IMPACT: This study will help to characterize the root causes of racial and ethnic disparities in viral respiratory outbreaks and determine the extent to which this is unique to the COVID-19 pandemic, so that preventative interventions can be designed for future pandemics and epidemics. OBJECTIVES/GOALS: The causes of racial and ethnic disparities in COVID-19 clinical outcomes are multifactorial but include social inequity driven by structural racism. This study seeks to characterize the patterns of these disparities by linking patient-level EHR data with population-level socio-demographic measures. METHODS/STUDY POPULATION: This retrospective review of adult patients tested for SARS-CoV-2 in the UCHealth System will compare rates of COVID-19 infection, hospitalization, in-hospital mortality and 30-day mortality across