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Disentangling Race and Place in Depressive Symptoms in Men

Diamond Hale, MHS[1], **Genee Smith, PhD**[2,3], **Janice Bowie, PhD**[1,3,4], **Thomas A. Laveist, PhD**[1,3,5], and **Roland J. Thorpe Jr., PhD**[1,3,4]

[1]Program for Research on Men's Health, Hopkins Center for Health Disparities Solutions

[2]Department of Environmental Health and Engineering, Johns Hopkins Bloomberg School of Public Health

[3]Hopkins Center for Health Disparities Solutions, Johns Hopkins Bloomberg School of Public Health

[4]Department of Health, Behavior and Society, Johns Hopkins Bloomberg School of Public Health

[5]Department of Health Policy and Management, Tulane University School of Public Health and Tropical Medicine

Abstract

African American men report lower levels of depressive symptoms that their White peers in national data. However, the value of these studies is often undermined by data that confound race, socioeconomic status, and segregation. We sought to determine whether race differences in depressive symptoms were present after minimizing the effects of socioeconomic status and segregation within a cohort of southwest Baltimore (SWB) men using the data from the Exploring Health Disparities in Integrated Communities (EHDIC), a novel study of racial disparities within communities where African American and non-Hispanic white males live together and have similar median incomes. Using the Patient Health Questionnaire, a standard instrument for assessing mental disorders, we categorized participants as experiencing depressive symptoms (including depressive syndrome and major depression) or not experiencing depressive symptoms. Logistic regression was performed to examine the association between depressive symptoms and race in EHDIC-SWB, adjusting for age, marital status, income, education, insurance, physical inactivity, current smoking or drinking status, poor/fair health, hypertension, heart disease, diabetes, stroke, and obesity. Of the 628 study participants, 12.6% of White men and 8.6% of African American men reported depressive symptoms. African American males had similar odds of reporting depressive symptoms (odds ratio = 0.61, 95% confidence interval = [0.34-1.11]) as compared to white men. Within this low-income urban racially integrated community, race differences in depressive symptoms among men were not observed. This finding suggests that social and environmental conditions may impact the race differences in depressive symptoms.

Keywords

race; depressive symptoms; SES; men; disparities

Corresponding Author: Roland J. Thorpe Jr., PhD, 624 N. Broadway, Ste 708, Baltimore, MD 21205-1999, Rthorpe@jhu.edu.

INTRODUCTION

Neighborhood contextual factors are important determinants of mental health, including depression.[1-3] However, previous studies on depression and depressive symptoms have largely ignored the effect of residential segregation, the likelihood of two or more race/ethnicities, usually Whites and other minorities, to be living separate from each other in neighborhoods or communities.[1,4,5] Residential segregation is an influencing factor of health outcomes and behaviors[5-7] because it determines what health risk exposures that are in the immediate vicinity of one's home, and what access to health care an individual may have.[4,6,8] Failure to account for effects of residential segregation has the potential to lead one to drawing errorneous inferences to be drawn from the association between race and depressive symptoms.

The research regarding mental health disparities is limited in its failure to separate segregation, social, and environmental conditions. Communities remain impregnated with the effects of segregation, which has led to confounding of race and segregation in national data on depressive symptoms. Approximately 26.8% of African Americans suffer from depression compared to the 21.5% of White Americans.[10] Racial and ethnic groups perceive mental health differently, receive unequal treatment for mental health conditions, and engage in different beneficial and detrimental coping mechanisms.[11] Mental health service access and utilization differs across racial/ethnic groups in segregated neighborhoods. The presence of social and structural determinants, such as stigma, segregation effects, and socioeconomic status (SES), serve as barriers to the lack of reporting of mental health conditions within the African American community and perpetuates mental illness.[1]

In addition, previous research using national data has often confounded SES and race.[12,13] African Americans with higher educational earnings are less likely to suffer from depression and more likely to seek mental services than African Americans with lower educational attainment.[9,14] Educational attainment has a direct correlation to SES and African Americans, have a lower socioeconomic status compared to White Americans.[15] According the the U.S. Bureau of the Census, annually Blacks earn approximately $24,858 less than Whites.[16] The overlap between race and SES makes it difficult to disentangle the effects of depressive symptoms among African Americans and Whites. An individual with low SES may lack the financial means to pay for insurance that includes mental health coverage. Lack of insurance may also effect the ability pay for medications prescribed post-diagnosis. Lower socioeconomic status can also be paired with the lack of ability to take off work in order to seek treatment for mental illness. Disentangling race, socioeconomic status and segregation will give us a clearer portrayal of the differences within depression to expand our knowledge on how to design and implement suitable interventions.

African American men face and exhibit more social stressors than their white counterparts, but are less likely to be diagnosed with depression.[9] Though African American males frequently go 'unrecognized, undiagnosed, and untreated' for depression and report less depressive symptoms than African American women,[17] far fewer studies target this population. Residence in a neighborhood with a high concentration of African Americans is associated with depression in African American men, but not women.[18] Research suggests

African American males may define their mental health in a different way than the rest of the population.[11] An improved understanding of how African American men differ in regard to mental health perception and status may shed light on why this subgroup chooses not to reach out for assistance as early as African American women or other racial groups.

To overcome the confounding of segregation and SES, that plagues many research investigations of mental health outcomes, this study focused on racially integrated communities of lower income. Residents in these neighborhoods typically have similar access to care and resources in regards to distance and location, as well as, similar social and environmental conditions.[19] Studying communities that are racially integrated, with similar income levels, minimizes confounding between race, SES, and segregation, providing an opportunity to better understand the importance of the social and environmental conditions in understanding race differences in depressive symptoms. Using data from the Exploring Health Disparities in Integrated Communities (EHDIC) study, we aimed to determine whether racial differences exist in depressive symptoms among African American and White men living in urban, low-income, racially integrated communities with similar access to health care.

METHODS

EHDIC is an ongoing multisite study of race disparities within communities where African Americans and non-Hispanic Whites live together and where there are no race differences in SES (as measured by median income). The first EHDIC study site, in Southwest Baltimore, Maryland (EHDIC-SWB), is a cross-sectional in person survey of the adult population (age 18 and older). In addition to being economically homogenous, the study site was also racially balanced with African American and non-Hispanic white residents. In the two census tracts comprising the study population, the racial distribution was 51% African American and 44% non-Hispanic White, and the median income for the was $24,002, with no race difference. The census tracts were block listed to identify every occupied dwelling in the study area. During block listing, we identified 2618 structures. Of those, 1636 structures were determined to be occupied residential housing units (excluding commercial and vacant residential structures). After at least five attempts, contact was made with an eligible adult in 1244 occupied residential housing units. Of that number, 65.8% were enrolled in the study resulting in 1489 study participants (41.9% of the 3555 adults living in these two census tracts recorded in the 2000 Census). Similar coverage across each census block group in the study area, should minimize the bias to geographic locale and its relationship with socioeconomic status.[20]

Comparisons to the 2000 Census for the study area indicated that the EHDIC-SWB sample included a higher proportion of African Americans and women, but was otherwise similar with respect to other demographic and socioeconomic indicators.[20] Age distributions in our sample and 2000 Census data were also similar with the median age for both samples – 35-44 years. The lack of race difference in median income in the census, $23,500 (African American) vs. $24,100 (non-Hispanic whites), was replicated in EHDIC-SWB, $23,400 (African American) vs. $24,900 (non-Hispanic whites).

The survey was administered in person by a trained interviewer and consisted of a structured questionnaire, which included demographic and socioeconomic information, self-reported health behaviors and chronic conditions, and three blood pressure (BP) measurements. The EHDIC study has been described in greater detail elsewhere.[20] The study was approved by the Committee on Human Research at the Johns Hopkins Bloomberg School of Public Health.

Measures

The outcome measure for this study is depressive symptoms which is measured using the Patient Health Questionnaire (PHQ).[21] The PHQ is a Likert scale with a range of responses from 1-4 with 1=not at all, 2= several days, 3=more than half the days, and 4= nearly every day. If the respondent answers with a 3 or 4 on four or more questions, with one indicating that the respondent has “little or no interest in doing things” or has been “feeling down, depressed, or hopeless”, then the respondent was considered to have depressive syndrome. If the respondent answered with a 3 or 4 to five or more questions, including the reference question previously stated, then the respondent was considered to have major depression.[21] All respondents that were classified to have depressive syndrome and major depression were then combined to create a binary variable representing depressive symptoms.

Race was the independent variable for this study. Men self-identified as African American or White.

Health-related variables consist of health conditions, health behaviors, and health insurance. Health conditions included fair/poor health, and health conditions. Participants rated their health as excellent, very good, good, fair or poor. Poor/fair health was based on participant’s report of their health as fair/poor (yes; no). Health conditions was based on participant’s report of being told by a physician that they have any of the following: hypertension, heart disease, diabetes, or stroke. For each health condition, a binary variable was created to identify if the participant had that particular health condition (yes;no). Obesity was based on body mass index (BMI) derived from self-reported weight in kilograms and self-reported height in meters squared (kg/m^2). Participants with BMI ≥ 30 kg/m^2 is considered obese (yes; no).

Health behaviors included: drinking status, smoking status, and physical inactivity. Drinking status (never; former; current) was based participant report of whether they ever drank an alcoholic beverage and report of whether they drink now. Participants who reported that they have not ever drank were considered to be never drinkers; those who report that they have drank alcohol but are not current drinkers are considered to be former drinkers; and those who report that they currently drink are considered to be current drinkers. Smoking status (never; former; current) was based participant report of whether they have ever smoked regularly and report of whether they smoke now. Participants who reported that they have not ever smoked cigarettes regularly were considered to be never smokers; those who report that they have smoked regularly but are not current smokers are considered to be former smokers; and those who report that they smoke cigarettes now are considered to be current smokers. Physical inactivity was based on participant report of how often one exercises. A binary variable was created to identify whether particiapnts reported exercising less than 60

minutes 3 times/week (yes; no). Particpants reported whether they had health insurance or not.

Demographic variables included self-reported age (years), education (less than High school; High school or GED equivalent; more than High school), income ($0-$34,999; $35,000 or higher), and marital status (married; unmarried).

Statistical Analysis

All analyses were restricted to male study participants. Chi square statistics and t-tests were used to examine differences in the demographics, health-related characteristics and depressive symptoms by race. A multivariable logistic regression was then conducted to determine if there were racial differences in depressive symptoms while adjusting for age, marital status, income, education, insurance, physical inactivity, current smoking and drinking status, fair/poor health, hypertension, heart disease, diabetes, stroke, and obesity. Odds ratios (OR) and confidence intervals (CI) were reported accordingly. P values less than 0.05 were considered statistically significant. All data was analyzed using STATA 12 (Stata Corp LP, 2012).

RESULTS

Demographic characteristics of the male respondents of the EHDIC-SWB study by race are shown in Table 1. There were a total of 628 study participants, 247 White and 381 African American. The average age for African Americans was 39 years old, which is 4 years younger than the average age of White participants (43 years old). White males were more likely to be married than African American males. The income levels of both White and African American males were similar with small marginal differences. Though African American and White males had similar income levels, African American males were more likely than their white counterpart to have been a high school graduate.

The age-adjusted percentages of select health factors, chronic conditions, and depressive symptoms of the male participants in the EHDIC-SWB by race are featured in Table 2. African American males were more likely to have health insurance, to never have been a smoker or drinker, and had slightly more obese participants. African Americans and White participants had similar prevalence of hypertension.

The association between race and depressive symptoms among the men in the EHDIC-SWB is shown in Table 3. When adjusting for age, marital status, income, education, insurance, physical inactivity, current smoking status, current drinking status, fair/poor health, hypertension, heart disease, diabetes, stroke, and obesity, African American men had lower odds of reporting depressive symptoms (OR = 0.61, 95% CI = 0.34, 1.11) as their White male counterparts but did not achieve statistical significance.

DISCUSSION

This study sought to examine if there were any racial difference in depressive symptoms between African American and White men living in racially integrated urban communities

with similar income levels. We found that within these communities, African American and White men have similar odds of reporting depressive symptoms. This study's finding suggest that there are other factors outside of race which contribute more to odds of suffering from depressive symptoms than race itself, unlike what the national data shows.

This finding contradicts national data that reports that African American men to be less likely to be suffering from depression.[6,7] Depressive symptoms exacerbate other health symptoms and conditions, which can cause a burden to the individuals and their families. This can also lead to other economic burdens. This study intentionally selected an area that is integrated, and shows that African American and White males have similar odds of suffering from depressive symptoms, which proves that there is confounding in the national data based on segregation. Segregation leads to poor health, not because of race but because of proximity to risky health exposures.[9] We can advance the field of study by accounting for the effects that segregation has on current data. This requires taking a step back and controlling for the institutional causes of poor health in combination with the individual behaviors or cultural behaviors that effect health. The overestimation of racial effects on health disparities leads to biases in interventions that have been created and may be created based on national data.

One of the limitations of the study is that it may not be generalizable. We focused on a narrow catchment area of low-income, urban, integrated communities and not all communities may have these same demographics nor association with depressive symptoms. Our study also only explored differences between African American and White participants and included a small number of males reporting depressive symptoms. Our study also relied on self-reported questionnaires.

Other strengths to the study, is the unique nature of EHDIC, which was designed with the intention of focusing on racial differences while trying to control for other socioeconomic factors and segregation that change the narrative of the results. By studying communities that are racially integrated, with similar income levels, we were able to minimize the confounding between race, SES, and segregation. This investigation also focused on the health of African American men, an understudied population with lower life expectancy, and worse health in the United States, as compared to their White male counterparts.

The results of this study will prompt further investigation into other causes of depressive symptoms, and provide a starting point for the analysis. Additional focus is needed on other social and economic conditions that lead to the likelihood of depressive symptoms. Further research can explore policies that attempt to lower the levels of segregation in the United States.Although policies that exasperated segregation in the past are illegal in the United States and have been for a while, there are still remnants of the effects on the country, communities and individuals' health and well-being.[1,5] More research is also needed in low-income communities, as these communities can exacerbate any poor health conditions that an individual may have. A step in reducing the effects of low-income may be to implement interventions that reduce the stressors in these communities.

In this study we found that African American and White males have similar odds of having depressive symptoms when they live in urban, low-income, racially integrated communities. This information can be used for future interventions that target both populations equally. It also brings forth the question on how gender effects depressive symptoms and how interventions can be created to lower the stigma within the community to increase the reporting of depressive symptoms. The importance of societal conditions and their contributions to mental wellbeing should be a focus on in studying depressive symptoms.

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Table 1.

Selected Characteristics of the Male Participants in the EHDIC-SWB by Race

	White (n = 247)	African American (n = 381)	p-value
Age, years (mean ± SD)	43.4 ± 0.9	39.4 ± 0.7	0.0004
Married (%)	25.1	16.3	0.007
Income (%)			0.565
$0-$34,999	72.3	74.5	
≥ $35,000	27.5	25.5	
Education (%)			
Less than High School	44.5	34.9	0.016
High School/GED Equivalent	36.8	45.4	0.034
More than High School	18.6	19.7	0.742

Note. EHDIC-SWB = Exploring Health Disparities in Integrated Communities study site in Southwest Baltimore, Maryland

Table 2.

Age-Adjusted Distribution of Select Health Related Factors, Chronic Conditions, and Depressive Symptoms Among Men in EHDIC-SWB by Race

Health Variable (%)	White (n = 247)	African American (n = 381)	p value
Health-related factor			
Health Insurance	50.3	58.9	0.039
Physical Inactive	18.7	14.7	0.182
Smoking			
Never Smoker	18.6	27.3	0.014
Former Smoker	12.1	7.3	0.039
Current Smoker	65.4	62.4	0.453
Drinking			
Never Drinker	11.9	15.2	0.240
Former Drinker	34.3	31.3	0.443
Current Drinker	53.4	53.0	0.926
Chronic Conditions			
Fair/Poor Health	32.4	27.5	0.204
Hypertension	26.2	26.1	0.967
Heart Disease	12.6	8.7	0.103
Diabetes	5.7	5.9	0.920
Stroke	4.5	3.0	0.309
Obese	21.9	23.5	0.648
Depression	12.5	8.5	0.81

Note. EHDIC-SWB = Exploring Health Disparities in Integrated Communities study site in Southwest Baltimore, Maryland.

Table 3.

Association Between Race and Depressive Symptoms Among Men in EHDIC-SWB

	OR	95% CI
Depressive Symptoms	0.61	[0.34-1.11]

Note. EHDIC-SWB = Exploring Health Disparities in Integrated Communities study site in Southwest Baltimore, Maryland; OR = odds ratio; CI = confidence interval. All models were adjusted for age, marital status, income, education, insurance, physical inactivity, current smoking and drinking status, fair/poor health, hypertension, heart disease, diabetes, stroke, and obesity.