Relationship between residential segregation and health literacy among a multiethnic health center patient population

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Introduction

Segregation is related to poor health outcomes, infections diseases, exposure to toxins, and mortality. This study examines the association between racial composition of five physical environments throughout the life course and adequate health literacy.

Population

Suffolk County has a population of about 1.5 million residents. Regardless of income, Blacks and Hispanics tend to live in segregated communities. The Suffolk County Department of Health Services (SCDHS) is a safety net provider with a network of 8 family health centers in minority and medically underserved communities.

Methods

Patients in the waiting rooms of SCDHS family health centers were approached by trained data collectors. Inclusion criteria were that patients be at least 18 years old and speak either English or Spanish. Racial composition measure: Self-reports of perceived racial composition of five environments (junior high, high school, neighborhood growing up, current neighborhood, and current place of worship) were assessed using a five part item. For each environment, respondents indicated the approximate racial composition from among 13 response options based on four racial and ethnic groups. We created indicators (i.e., mostly White) of racial composition in each of the environments.

Health literacy measure: Health literacy was assessed using the Newest Vital Sign (NVS). Bivariate associations between dichotomous indicators for "mostly White" responses of racial composition in each environment were assessed with an indicator for adequate health literacy (NVS score ≥ 4) using 2 x 2 tables and chi-squared test.

Analysis/Results

Analysis is limited to respondents (n=836) that self-identified as Non-Hispanic White, Non-Hispanic Black, or Hispanic. Overall approximately 36% had adequate health literacy according to the NVS. 63% Non-Hispanic Whites had adequate health literacy as compared with Non-Hispanic Blacks (29%) and Hispanics (20%), (p < 0.0001).

Table 1: Frequency for Race/Ethnicity & adequate health literacy

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Frequency (n, %)</th>
<th>Adequate health literacy (n, %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Hispanic White</td>
<td>248 (29.7)</td>
<td>156 (62.9)</td>
</tr>
<tr>
<td>Non-Hispanic Black</td>
<td>278 (33.3)</td>
<td>81 (29.1)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>310 (37.1)</td>
<td>61 (19.7)</td>
</tr>
<tr>
<td>Total</td>
<td>836</td>
<td>298 (35.7)</td>
</tr>
</tbody>
</table>

In the overall sample, there were significant associations between racial composition and health literacy in all five environments. For Non-Hispanic Whites, respondents attending a mostly white junior high school, mostly white high school, currently living in a mostly white neighborhood, were more likely to have adequate health literacy. For Non-Whites, a higher percentage of respondents who reported attending a mostly white junior high school, mostly white high school, growing up in a mostly white neighborhood, or currently living in a mostly white neighborhood, had adequate health literacy.

Table 2: Bivariate associations between mostly white environment and adequate health literacy

<table>
<thead>
<tr>
<th>Environment</th>
<th>Adequate literacy (n, %)</th>
<th>Reported mostly white (Yes/No)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior High School</td>
<td>143 (59.8)</td>
<td>155 (26.0)</td>
</tr>
<tr>
<td>High School</td>
<td>137 (60.1)</td>
<td>161 (26.5)</td>
</tr>
<tr>
<td>Neighborhood Growing Up</td>
<td>150 (57.7)</td>
<td>148 (25.7)</td>
</tr>
<tr>
<td>Current Neighborhood</td>
<td>136 (54.7)</td>
<td>163 (27.7)</td>
</tr>
<tr>
<td>Place of Worship</td>
<td>92 (50.2)</td>
<td>205 (31.3)</td>
</tr>
</tbody>
</table>

Respondents attending a mostly white junior high school, mostly white high school, currently living in a mostly white neighborhood, were more likely to have adequate health literacy. Participants that reported currently living in a mostly white neighborhood were 1.8 times more likely to have adequate health literacy. For Non-Hispanic Whites, respondents attending a mostly white junior high school, mostly white high school, growing up in a mostly white neighborhood, or currently living in a mostly white neighborhood, had adequate health literacy.

Discussion

Prior and current segregation experiences may influence how individuals comprehend and use health information. These findings suggest that future health promotion efforts, and targeted interventions may be used as a strategy to improve health literacy in segregated communities. Additional work is needed to understand the impact of the social environment on health literacy.

References


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