Neighborhood-based analysis of adolescent hidradenitis suppurativa prevalence in a large metropolitan area

To the Editor: Hidradenitis suppurativa (HS) is a chronic, dermatologic illness increasingly recognized in the pediatric population. For adolescents with HS, pain and scars can result in long-lasting psychosocial distress and functional impairment. Existing data on HS demonstrate that prevalence varies widely by race/ethnicity but there is no clear explanation as to why. In particular, studies of pediatric population with HS often fail to explore race as a social determinant of health. In contrast, use of neighborhood-level data in conjunction with patient demographics, such as race, allows for the consideration of environmental and socioeconomic factors that may otherwise function as unexplored confounders.

To estimate the prevalence of adolescent population with HS at the neighborhood level in San Diego County, we performed an institutional review board-approved retrospective chart review of patients aged 15 to 19 years diagnosed with HS, seen between February 10, 2011, and February 10, 2021, at Rady Children’s Hospital. Individuals with International Classification of Diseases, Tenth Revision code-based diagnosis of HS were identified and their current home addresses were converted to a US Census Bureau defined census tract. Census tracts were then mapped onto specific neighborhoods (collections of census tracts) as defined by the city of San Diego. In regards to race/ethnicity, patients seen at Rady Children’s Hospital appear to be representative of the pediatric population in San Diego. To ensure patient confidentiality and reliability of prevalence estimates, neighborhoods with a low absolute number of cases (<30) were then excluded from further analysis. Neighborhoods with adolescent HS prevalence higher than estimates previously published by Garg et al were then characterized using available data on race/ethnicity, poverty, and Climate Equity Index (CEI) Score. The CEI score, developed by the city of San Diego, quantifies neighborhood access to opportunity using pollution burden and walkability among a total of 35 indicators.

A total of 569 patients with HS (aged 15-19 years) were identified in 34 neighborhoods. Of these neighborhoods, only 7 met the threshold of >30 cases. Among these 7 neighborhoods, HS prevalence (per 100,000) was 409 for Latinos/Hispanics and 709 for African American/Blacks (Table I). These 7 neighborhoods have an above average percentage of adolescents living in poverty (Table I) and residents identified as Black/African American (13%) and Latino/Hispanic (62%) (Fig 1). In contrast, Blacks/African Americans and Latinos/Hispanics make up, respectively, 4% and 54% of San Diegans aged 15 to 19 years. All 5 neighborhoods for which CEI scores are available contained ≥1 census tracts identified as having below-average access to opportunity.

In the United States, racial residential segregation appears essential to understanding many observed racial disparities in health, yet to our knowledge, this study is the first to explore neighborhood-level data in adolescent patients with HS. Our findings raise important questions regarding how structural inequalities may impact the care and well-being of adolescents living with HS. Importantly, our aggregated data should not be applied to infer individual risk or correlation. Future studies are needed to examine early-life exposures and possible environmental factors that may impact the care and well-being of adolescents living with HS.

We would like to thank the Research Informatics team at Rady Children’s Hospital San Diego for performing EPIC SlicerDicer-based data extractions and Dr. Jill Johnston, Assistant Professor of Population and Public

Table I. Neighborhood poverty and prevalence of adolescents living with HS

<table>
<thead>
<tr>
<th>Neighborhood</th>
<th>HS cases (15-19 y)</th>
<th>Adolescent population (15-19 y)</th>
<th>HS prevalence per 100,000</th>
<th>Adolescents living in poverty (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>48</td>
<td>11,332</td>
<td>424</td>
<td>29.9</td>
</tr>
<tr>
<td>2</td>
<td>39</td>
<td>10,538</td>
<td>370</td>
<td>25.2</td>
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<td>39</td>
<td>14,510</td>
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<td>34.1</td>
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<td>4</td>
<td>38</td>
<td>7814</td>
<td>486</td>
<td>27.6</td>
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<tr>
<td>5</td>
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<tr>
<td>7</td>
<td>32</td>
<td>5829</td>
<td>549</td>
<td>14.2</td>
</tr>
</tbody>
</table>

HS, Hidradenitis suppurativa.

*Percentage of adolescents aged 12 to 17 years living below 100% Federal Poverty Level, as reported by the San Diego County. The average percent for ages 12 to 17 years in San Diego County overall is 16.8%.
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Funding sources: Dr. Hightower was supported by the Department of Dermatology at University of California San Diego, United States.

IRB approval status: Reviewed and approved by University of California San Diego IRB (IRB approval #200845).

Key words: adolescence; health disparities; hidradenitis suppurativa; neighborhoods; pediatrics.

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Conflicts of interest
None disclosed.

REFERENCES

https://doi.org/10.1016/j.jdin.2022.08.015