Is Socioeconomic Status a Risk Factor for Glaucoma in African-Americans?

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Glaucoma Epi

- Second most common cause of legal blindness in the US
- **African-Americans**
  - 3-6 times more likely than Caucasian Americans
- Leading cause of blindness among African-Americans
Pathophys

- Combination of risk factors eventually leads to progressive, bilateral, optic neuropathy
Risk Factors

Elevated IOP
Race
Age
Socioeconomic status?
Diabetes
Hypertension
Family history

From Dr. Joan Miller, MEEI
Does socioeconomic status contribute to the increased vulnerability of African-Americans to glaucoma?
Unique African-Americans seen at Scheie Eye Institute from 7/1/10 – 5/23/13

N = 33,801

- No glaucoma
  - N = 30,270

- Glaucoma
  - N= 3,531
Table 2: Comparison of characteristics of patients with vs. without glaucoma among patients seen by the Ophthalmology Department at the University of Pennsylvania Health System (n=33801)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Has Glaucoma</th>
<th></th>
<th>P-value</th>
<th>age adjusted p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No n=30270</td>
<td>Yes n=3531</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (years)</td>
<td>48.8 (0.82)</td>
<td>67.2 (0.65)</td>
<td>&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>Demographic and socioeconomic factors based on zip code</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population per sq. mile</td>
<td>14732 (1562)</td>
<td>14991 (1817)</td>
<td>0.39</td>
<td>0.64</td>
</tr>
<tr>
<td>Median household income ($)</td>
<td>32973 (2132)</td>
<td>32421 (2242)</td>
<td>0.054</td>
<td>0.69</td>
</tr>
<tr>
<td>Median household value ($)</td>
<td>54876 (4417)</td>
<td>53299 (4643)</td>
<td>0.02</td>
<td>0.85</td>
</tr>
<tr>
<td>% Living below poverty level</td>
<td>29.3% (2.1%)</td>
<td>29.5% (2.2%)</td>
<td>0.51</td>
<td>0.25</td>
</tr>
<tr>
<td>% At least high school graduate</td>
<td>80.9% (1.4%)</td>
<td>80.8% (1.5%)</td>
<td>0.37</td>
<td>0.28</td>
</tr>
<tr>
<td>% At least some college</td>
<td>43.9% (2.2%)</td>
<td>43.8% (2.5%)</td>
<td>0.77</td>
<td>0.24</td>
</tr>
<tr>
<td>% Bachelor's degree or higher</td>
<td>14.7% (1.3%)</td>
<td>14.7% (1.5%)</td>
<td>0.75</td>
<td>0.40</td>
</tr>
<tr>
<td>% Unemployment</td>
<td>18.3% (1.1%)</td>
<td>18.4% (1.3%)</td>
<td>0.46</td>
<td>0.56</td>
</tr>
<tr>
<td>% of population that is separated, widowed, or divorced</td>
<td>23.0% (1.0%)</td>
<td>23.7% (1.0%)</td>
<td>&lt;0.001</td>
<td>0.33</td>
</tr>
<tr>
<td>% with Health insurance</td>
<td>84.5% (0.5%)</td>
<td>84.5% (0.6%)</td>
<td>0.74</td>
<td>0.50</td>
</tr>
</tbody>
</table>
Conclusions

• Socioeconomic status is NOT associated with a higher risk of glaucoma in African-Americans
Ongoing work

- Manuscript #1 Submitted to Ophthalmology
- Manuscript #2 will be submitted to Ophthalmology or NEJM within the next week
- Follow-up study currently being designed
Tips

- Start looking early!!
- CNST faculty mentors are wonderful
Thanks!