Introduction

- Racial disparity in the prevalence of sleep-disordered breathing and obstructive sleep apnea (OSA) has been identified as an independent risk factor.
- Most studies focus on either surgical intervention or positive-airway-pressure (PAP) therapy.
- Data on other ethnic groups are limited:
  - Higher reported prevalence of symptoms and measurement of sleep disordered breathing in Hispanic groups,
  - Very little data on Pacific Islanders and American Indians.
  - Asians have similar or lower rates of OSA compared to White populations.
- We hypothesized that there are different rates of polysomnography (PSG) and surgical/PAP treatment among racial groups in OSA, and that minority groups receive less diagnosis and treatment compared to White populations.

Methods

- We used the TriNetX national database to identify patients under the age of 22 with a diagnosis of OSA using ICD-10 codes.
- Primary endpoints included:
  - Rates of PSG
  - Rates of tonsillectomy with and without adenoidectomy
  - Rates of CPAP
- Sub analysis was conducted across both race and ethnicity and controlled for confounders including BMI and other comorbidities.

Conclusion

- There are differential rates of PSG and OSA treatment utilization when analyzed by race. Our results suggest a possible disparity in treatment. Given the importance of diagnosing and treating OSA early, more studies should be done to confirm this disparity and investigate the contributing factors.

Results

- N=143,111 patients under the age of 22 years with OSA
- Similar rates of PSG and surgical treatment between Black and White patients.
- Pacific Islanders and American Indians had low PSG rates but highest rates of CPAP use.
- Fewer PSG and less treatment in Asians.
- Higher rates of PSG and lower rates of surgical treatment or CPAP use in Hispanic groups.
- Among Hispanic groups,
  - Black patients who also identified as Hispanic were 1.3 times more likely than non-Hispanic patients to receive PSG (p<0.001, 95%CI 1.28-1.36) and 1.2 times more likely than non-Hispanic patients to receive surgical treatment (p=0.004, 95%CI 1.06-1.36)
  - White patients who identified as Hispanic were 1.4 times more likely than non-Hispanic patients to receive PSG (p<0.001, 95%CI 1.34-1.44)
- Median time from diagnosis was significantly different among racial groups for those who received surgery (p<0.001) but not for CPAP initiation (p=0.17)

<table>
<thead>
<tr>
<th>Time from Diagnosis to Treatment</th>
<th>Age at PSG (Years)</th>
<th>Surgery (Months)</th>
<th>CPAP (Months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian</td>
<td>Median 8.0, Range 0-21</td>
<td>Median 2.0, Range 0-56.8</td>
<td>Median 2.5, Range 0-103.6</td>
</tr>
<tr>
<td>Asian</td>
<td>Median 7.4, Range 0-21</td>
<td>Median 1.6, Range 0-87.7</td>
<td>Median 5.3, Range 0-60.3</td>
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<tr>
<td>Black</td>
<td>Median 7.5, Range 0-21</td>
<td>Median 1.5, Range 0-125.3</td>
<td>Median 2.9, Range 0-120.2</td>
</tr>
<tr>
<td>Caucasian</td>
<td>Median 7.6, Range 0-21</td>
<td>Median 1.3, Range 0-160.7</td>
<td>Median 3.6, Range 0-134.7</td>
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<tr>
<td>Pacific Islander</td>
<td>Median 7.2, Range 0-20</td>
<td>Median 1.0, Range 0-48.3</td>
<td>Median 6.4, Range 0-48.6</td>
</tr>
</tbody>
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