Racial Differences in the Boston Naming Test among Persons with Aphasia: Disparity or Diagnostic Inaccuracy

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DISCUSSION

• After controlling for age, educational level, duration of aphasia and years of treatment for aphasia Blacks with aphasia achieved lower scores on the 15-item BNT when compared to Whites.

• Previous studies using the Boston Naming Test suggests Blacks score lower than Whites with similar education.

• It is unclear if the observed differences represent a true disparity in performance or the diagnostic inaccuracy of the BNT when assessing Blacks with aphasia.

• Some suggest race-based norms may be needed to a need for race-based norms to reduce the likelihood of racial-ethnic minorities with language and cognitive issues being misdiagnosed.

REFERENCES


INTRODUCTION

• Each year 100,000 individuals experience aphasia, a higher order disturbance of language primarily caused by stroke.1

• Aphasia even in its mildest form can significantly impact communication ability (comprehension, expression, reading, writing).2

• Although racial-ethnic differences have been observed in general stroke outcomes the same association has not been reported in studies of aphasia.3-5

• Few studies of aphasia outcomes have considered potential racial-ethnic differences in aphasia outcomes.

• The objective of this study was to examine racial differences in aphasia assessment scores using the Boston Naming Test.

METHODS

• This study is a secondary data analysis.

• Data for this study were obtained from AphasiaBank, a database designed for the study of aphasia outcomes.6

• AphasiaBank includes a) speech samples, b) picture descriptions, c) story narratives, d) procedural discourse samples, e) and standardized test results (Boston Naming Test, Verb Naming Test, Western Aphasia Battery, etc).

• The primary aphasia outcome of interest in this study was the 15-item Boston Naming Test score.

• Sample: 42 Blacks and 339 Whites were included in the analysis.

• Statistical Analysis: A Generalized linear model (GLM) was utilized to examine racial differences in BNT scores controlling for age, educational level, duration of aphasia and years of treatment for aphasia.

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RESULTS

Table 1. Demographic Characteristics of Sample of PWA

<table>
<thead>
<tr>
<th>Total (N=381)</th>
<th>White (N=339)</th>
<th>Black (N=42)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (Mean/SD)</td>
<td>62.8 (12.0)</td>
<td>63.8 (11.6)</td>
<td>54.7 (12.3)</td>
</tr>
<tr>
<td>Education (Mean/SD)</td>
<td>15.5 (2.9)</td>
<td>15.7 (2.9)</td>
<td>14.1 (1.9)</td>
</tr>
<tr>
<td>Gender # male (%)</td>
<td>237 (61.1)</td>
<td>216 (62.4)</td>
<td>21 (50.0)</td>
</tr>
<tr>
<td>Aphasia Duration (Mean/SD)</td>
<td>5.4 (4.9)</td>
<td>5.2 (4.7)</td>
<td>6.6 (5.9)</td>
</tr>
<tr>
<td>WAB-R AQ (Mean/SD)</td>
<td>69.2 (20.7)</td>
<td>69.7 (21.0)</td>
<td>65.1 (17.6)</td>
</tr>
</tbody>
</table>

Table 2. Racial Comparison of BNT

<table>
<thead>
<tr>
<th>Mean BNT Score</th>
<th>Whites</th>
<th>Blacks</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 Item Boston Naming Test</td>
<td>6.53</td>
<td>4.80</td>
<td>0.00</td>
</tr>
</tbody>
</table>

**GLM model showed significant racial differences persisted in BNT scores (p=.002) after controlling for age, educational level, duration of aphasia and years of treatment for aphasia.

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