Autism Spectrum Disorder Prevalence in Minnesota

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Background

- As part of the CDC Autism and Developmental Disabilities Monitoring (ADDM) Network, the University of Minnesota has monitored prevalence of autism spectrum disorder (ASD) in 4- and 8-year-old children in Anoka, Hennepin, and Ramsey Counties in Minnesota.

- Goals of the MN-ADDM project include:
  - Estimating the prevalence of ASD, with and without co-occurring ID
  - Identify important characteristics
  - Race/ethnicity
  - Co-occurring disorders including intellectual disability
  - Age of identification
  - Identify differences and disparities
  - Support community engagement
  - Share findings with our local communities for improving services

- Surveillance area included 9 school districts in the metro area.

- ADDM Network estimates the number of children with ASD using a record review method to identify and abstract children who have received an ASD diagnosis, an ASD special educational eligibility, and/or an International Classification of Diseases (ICD) code, or for 4-year-old children, a suspicion of autism noted in their record.

- Population denominators were obtained from CDC’s National Center for Health Statistics 2018 population estimates and adjusted to include only children living in the surveillance area.

- Children were classified as Somali or Hmong based on reported home language in education and health records.

- All analyses were conducted using SAS v9.4.

Methods

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Results

- 2018 ASD prevalence in the MN-ADDM surveillance area was higher than the prevalence for all ADDM sites combined (27.5 per 1,000 vs. 23 per 1,000).

- Comparing across racial/ethnic subgroups, Black children were 1.3X as likely to be identified with ASD than white children in MN.

- Non-Hispanic, non-Somali Black children had greater percentages of co-occurring ID compared to white children, p<.05.

- American Indian or Alaska Native children were included in the denominator but were not included in prevalence estimations due to low case numbers.

- Hmong children were included in the non-Hispanic API group but were not analyzed separately due to low case numbers.

- About 1 in 36 (2.8%) of 8-year-olds were identified with ASD by MN ADDM.

- MN had the third highest prevalence in the ADDM network and higher than the prevalence for all ADDM sites combined.

- More children are being identified as having ASD by 4 years of age.

- MN Boys were 4.2X as likely to be identified with ASD than girls.

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- MN Boys were 4.2X as likely to be identified with ASD than girls.

- Expansion of surveillance area and increasing the number of children will permit additional meaningful comparisons of ASD prevalence.

- Data reveals we may be making progress in identification across racial/ethnic groups. We need to continue to address access barriers and develop culturally sensitive methods for outreach and diagnosis.

- It is important to continue to build ASD workforce capacity and ASD providers in culturally and linguistically diverse communities.

Table 1. Prevalence of ASD in 8-year-olds by sex and race/ethnicity, MN-ADDM 2018

<table>
<thead>
<tr>
<th>MN Analysis</th>
<th>Population Size</th>
<th>ASD Cases DSM-5</th>
<th>Prevalence (per 1,000) 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>10,081</td>
<td>277</td>
<td>27.5 (24.5-30.9)</td>
</tr>
<tr>
<td>Males</td>
<td>5,166</td>
<td>226</td>
<td>43.7 (38.5-49.7)</td>
</tr>
<tr>
<td>Females</td>
<td>4,915</td>
<td>51</td>
<td>10.4 (7.9-13.6)</td>
</tr>
<tr>
<td>Non-Hispanic white</td>
<td>5,150</td>
<td>129</td>
<td>25.0 (21.1-29.7)</td>
</tr>
<tr>
<td>Non-Hispanic, non-Somali Black</td>
<td>1,973</td>
<td>64</td>
<td>32.4 (25.5-41.2)</td>
</tr>
<tr>
<td>Non-Hispanic API</td>
<td>838</td>
<td>14</td>
<td>21.5 (13.6-33.7)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1,438</td>
<td>26</td>
<td>18.1 (12.4-26.4)</td>
</tr>
<tr>
<td>Somali</td>
<td>515</td>
<td>18</td>
<td>35.0 (22.2-54.6)</td>
</tr>
</tbody>
</table>

Figure 1. Prevalence of ASD in 8-year-olds in MN-ADDM and all ADDM sites combined, 2018

Figure 2. Co-occurring intellectual disability by sex, race/ethnicity in 8-year-olds, 2018

Figure 3. Age of identification of 4- and 8-year-olds, 2018

Conclusions

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