The Association Between Number of Social Needs and Depressive Symptoms Among Youth and Young Adults with Type 1 Diabetes

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Research Overview

**Background:**
- Youth and young adults (YYA) with type 1 diabetes (T1D) may be at risk for social needs and depression due to the disease-associated cost and stressors (Kalra 2018; Silverman 2015).
- Little is known about how social needs are linked to depressive symptomatology.

**Objective:** To examine the association of social needs with depressive symptoms among YYA with T1D
Methods

<table>
<thead>
<tr>
<th>Data/Sample</th>
<th>Measures</th>
<th>Statistical Analysis</th>
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| - SEARCH Food Security (SFS) Study  
  - SFS is an ancillary study of the SEARCH for Diabetes in Youth Study  
  - Used SFS Follow-up 1 data – 2018-2020  
  - Sample included 685 YYA with T1D (55.8% Female, 76.2% Non-Hispanic White)  
  - Diabetes duration (mean: 13.6 years; range 6.3-18.0 years)  
  - YYA age 14-35  
  - Mean (SD) CES-D score was 14.3 (11.9), which is below the cutoff score of 16 for risk of depression | - Social needs/Social determinants of health (SDOH) measured:  
  - USDA Household Food Security Survey Module (food secure vs food insecure)  
  - Primary mode of transportation (personal vehicle vs other form of transportation)  
  - Had stable housing (all the time vs some or none of the time) over the past 90 days  
  - Total number of Social needs/SDOH (0-3)= sum of Social needs/SDOH  
  - Depressive symptoms (range=0-60 on CES-D) | - Linear regression models  
- Covariates: Age, sex, race/ethnicity, site clinic, diabetes duration, parental education, and household income |
Number of Social Needs/SDOH are Associated with Higher Depressive Symptom Scores Among YYA with T1D

<table>
<thead>
<tr>
<th># of Social Needs¹</th>
<th>N (%)</th>
<th>β</th>
<th>se</th>
<th>p-value</th>
<th>Adj β*</th>
<th>se</th>
<th>p-value</th>
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</thead>
<tbody>
<tr>
<td>Overall</td>
<td>685</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 or 3 Social Needs</td>
<td>41(6.0)</td>
<td>16.9</td>
<td>1.9</td>
<td>&lt;.0001</td>
<td>15.9</td>
<td>1.9</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>1 of 3 Social Needs</td>
<td>154 (22.5)</td>
<td>6.1</td>
<td>1.0</td>
<td>&lt;.0001</td>
<td>5.9</td>
<td>1.1</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>No Social Needs</td>
<td>490 (71.5)</td>
<td>Ref</td>
<td>Ref</td>
<td>Ref</td>
<td>Ref</td>
<td>Ref</td>
<td>Ref</td>
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</table>

* Adjusted for sex, race/ethnicity, age, duration of diabetes, clinic site, parental education, and household income

¹ Having one or more 'Social need' is defined as any participant who reports having non-stable housing, who is classified as being food insecure using the USDA Household Food Security Survey Module, and/or who reports not having a personal (or parent) vehicle to use a primary mode for transportation
Conclusions

- Social needs among YYA with T1D are confluent and are jointly and cumulatively associated with depressive symptoms.
- Future studies should investigate the impact of alleviating social needs on depressive symptomatology among YYA with T1D.