Psychosocial Risk Assessment to Identify Families of Children with Congenital Heart Disease at Risk for Non-Adherence to Medical and Neurodevelopmental Follow-Up Care

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Disclosure

• I have no relevant financial relationships to disclose.
Learning objectives

- Describe the Psychosocial Assessment Tool and its proposed use in cardiac care settings
- List factors that predict long-term non-adherence to recommended outpatient follow-up
- Explain the purpose of using a standardized risk assessment tool for families of children with CHD
Background

• Adherence to outpatient follow-up care is essential for optimizing medical and neurodevelopmental outcomes

• Psychosocial risk factors may impact a family’s ability to access timely, recommended cardiac care

• There is a need for screening tools that identify families of children with CHD at risk for non-adherence
Can the Psychosocial Assessment Tool predict long-term adherence to follow-up care for children with CHD?
Methods

- Bedside nurses administered the Psychosocial Assessment Tool (PAT) during inpatient admission (N = 102)
- PAT
  - Family Structure/Resources, Family Problems, Social Support, Stress Reactions, Family Beliefs, and Sibling Problems
  - Total Score

PAT Sample Questions

- Do you expect to have any difficulties visiting the child while she/he is in the hospital?
- Where do you plan to stay while the child is in the hospital?
- What type of health care insurance does the child have?
Methods

Family factors
- Race/ethnicity
- Living arrangement
- Parent age and education
- Language
- Neighborhood poverty level
- Distance to clinic
- Primary insurance

Patient characteristics
- Diagnosis/STAT category
- Diagnosis timing
- Prematurity
- Age at first surgery
- Genetic anomaly
- Other comorbidities

Clinical characteristics
- Total surgeries
- Total CPB time
- Total CICU days
- Total hospital days
- Total unplanned readmissions
- Cumulative days delayed return for outpatient cardiology
- Bayley scores
Methods

- Statistical methods
  - Univariate models
  - $P < .20$ included in multivariate models
  - Stepwise regression used to identify final models
## Results

<table>
<thead>
<tr>
<th>Child characteristics</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>57 (55.9)</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td></td>
</tr>
<tr>
<td>Non-Hispanic White</td>
<td>52 (51.0)</td>
</tr>
<tr>
<td>Black/African-American</td>
<td>20 (19.6)</td>
</tr>
<tr>
<td>Hispanic/Latinx</td>
<td>19 (18.6)</td>
</tr>
<tr>
<td>Asian</td>
<td>3 (2.9)</td>
</tr>
<tr>
<td>Prenatal diagnosis</td>
<td>55 (53.9)</td>
</tr>
<tr>
<td>Prematurity</td>
<td>22 (21.6)</td>
</tr>
<tr>
<td>Single ventricle anatomy</td>
<td>15 (14.7)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Family characteristics</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal education</td>
<td></td>
</tr>
<tr>
<td>High school diploma/GED</td>
<td>19 (18.6)</td>
</tr>
<tr>
<td>College degree</td>
<td>37 (36.3)</td>
</tr>
<tr>
<td>Graduate degree</td>
<td>8 (7.8)</td>
</tr>
<tr>
<td>Public insurance</td>
<td>56 (54.9)</td>
</tr>
<tr>
<td>Maternal age</td>
<td>31.3 (6.0)</td>
</tr>
<tr>
<td>% above poverty line by zip</td>
<td>12.7 (7.5)</td>
</tr>
</tbody>
</table>
Results

Predictors of return for **ND follow-up**

<table>
<thead>
<tr>
<th>Predictor</th>
<th>B</th>
<th>SE</th>
<th>p</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAT Family Structure subscale score</td>
<td>-0.63</td>
<td>0.31</td>
<td>.048</td>
<td>.174</td>
</tr>
<tr>
<td>Total CICU days</td>
<td>-0.01</td>
<td>0.01</td>
<td>.011</td>
<td></td>
</tr>
<tr>
<td>Diagnosis timing</td>
<td>-0.21</td>
<td>0.10</td>
<td>.035</td>
<td></td>
</tr>
</tbody>
</table>
Results

Predictors of adherence to cardiology follow-up

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>p</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAT Total score</td>
<td>16.36</td>
<td>7.34</td>
<td>.03</td>
<td>.084</td>
</tr>
</tbody>
</table>

Days delayed return for follow-up

- Universal: 13.3 days
- Targeted/clinical: 26.1 days
• The PAT can be used to *prospectively* identify families who may be *at risk for non-adherence*

• The PAT Family Structure subscale was a stronger predictor than many individual sociodemographic variables obtained from the EMR and most clinical variables

• The PAT Total score was a stronger predictor of adherence to outpatient cardiology follow-up than any clinical variables

• A standardized tool like the PAT may ensure *equitable* and *timely* screening for all families of children with CHD
References


