A Healthcare Improvement Initiative to Increase Multidisciplinary Pain Management Referrals of Youth with Sickle Cell Disease

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A Healthcare Improvement Initiative to Increase Multidisciplinary Pain Management Referrals of Youth with Sickle Cell Disease

Rae Ann Kingsley, MSN, APRN, CPNP-AC/PC; Gail Robertson, PhD; Lynne Covitz, PhD; Areli Ramphal, LMSW

Background

• Youth with Sickle Cell Disease (SCD) are at risk for chronic pain
• SCD is the most common inherited blood disorder affecting ~ 100,000 Americans
• The most common complication of SCD is periodic episodes of pain (Dampier et al., 2017)
• Youth with SCD report persistent pain on most days of their lives (Sil, Cohen, & Dampier, 2016)
• As life expectancy has improved, the experience and impact of chronic pain has become more prevalent
• Certain characteristics can be helpful in identifying youth at greater risk for chronic pain
• Only 3.9% of the local SCD population have been referred for multidisciplinary pain management services

Methods

Participants:
• > 2 years of age and < 21 years of age
• Confirmed SCD
• Not previously screened in the past 12 months

Setting:
• One Midwest Regional Sickle Cell Treatment Center

Screening Tool:
• 8-item, evidence-informed tool inclusive of factors associated with painful episodes
• 30 day pilot by key stakeholders prior to implementation

Process/Intervention:
• Yearly assessment of risk
• REDCap based screening completed by clinic Psychologists or Social Workers

Purpose & Aims

Purpose:
To implement a system of change to drive multidisciplinary pain management referrals

Aims:
• To implement an evidence-based screening tool to facilitate early identification of youth with SCD at risk for chronic pain
• To increase the number of patients with SCD and chronic pain that are referred for multidisciplinary pain management services.

Results

84% (N=111) of eligible youth ages 2-20 years (M=11.75, SD=5.34) were screened
• 51.4% female
• 56/111 (50%) screened positive for ≥ 2 risk factors
• 57.7% were hospitalized in the past 1 year
• Nearly half (43.8%) had > 3 hospitalization
• Hospitalizations were ≥ 5 days * in 51.6% *16.2% endorse pain ≥ 15 days/month *
• 46% (N=12) with a positive screen referred to pain management clinic
• We saw a 200% increase in referrals during project implementation

Discussion

• Implementation of an evidence-based risk screening tool, within a quality improvement framework, results in a steady upward trend in multidisciplinary pain management referrals
• This project has reinforced the value of team communication when applying a system change and provides the infrastructure to launch future tests of change
• Long-term targets are aimed at decreasing the number of SCD pain related hospitalizations, readmissions, and total hospital days.

Risk Factors

<table>
<thead>
<tr>
<th>Medical History</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute chest syndrome</td>
<td>24.1</td>
</tr>
<tr>
<td>Chronic headache / migraine *</td>
<td>15.7</td>
</tr>
<tr>
<td>Anxiety *</td>
<td>13</td>
</tr>
<tr>
<td>Avascular necrosis *</td>
<td>10.2</td>
</tr>
<tr>
<td>CVA / Abnormal TCD</td>
<td>8.3</td>
</tr>
<tr>
<td>Depression *</td>
<td>6.5</td>
</tr>
<tr>
<td>Iron Overload</td>
<td>4.6</td>
</tr>
<tr>
<td>Gallbladder disease</td>
<td>4.6</td>
</tr>
<tr>
<td>Trauma / PTSD</td>
<td>3.7</td>
</tr>
<tr>
<td>Pulmonary hypertension</td>
<td>1.9</td>
</tr>
<tr>
<td>Chronic skin ulceration</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Are you currently prescribed any of the following?

- Daily short-acting opioids * 38.1
- Hydrosyrine * 23.8
- PRBC transfusion protocol * 7.6
- Long-acting opioids * 5.7

Percent of Eligible Sickle Cell Patients Screened