Use of an Oral Mucositis Assessment Tool in Pediatric Patients

Sara Robinson Newton, MSN, RN, CPHON | Judy Ascenzi, DNP, RN, CCRN-K

**Background**
- Mucositis is a common side effect of cytotoxic cancer treatment and conditioning for hematopoietic stem cell transplants (HSCTs) involving the breakdown of mucous membranes of the alimentary tract.1-3, 6
- Complications of mucositis include malnutrition, weight loss, and systemic infection.4
- Adverse effects lead to longer hospitalizations, may limit future doses of chemotherapy/radiotherapy, and can cost $25,000 per individual.5,6
- Identifying mucositis is challenging and inconsistent.1-3
- Children's International Mucositis Evaluation Scale (ChIMES) screens pediatric patients 0-18 years old for mucositis via functional impact and allows completion by proxy.7
- The purpose of this project was to improve pediatric oral mucositis assessment by using a validated screening tool.

**Project Aims**
1. Ensure twice daily mucositis screening for pediatric oncology patients
2. Increase nursing staff confidence in assessing oral mucositis

**Methods**
- Design and Setting: QI project with a pre-post design on a 20 bed inpatient pediatric oncology center in an urban academic medical center in the northeastern United States
- Intervention:
  - Education on mucositis and ChIMES provided to nurses
  - ChIMES was added to the electronic health record (EHR)
- Measurement:
  - Weekly analysis of assessment completion
  - Pre and post surveys focused on confidence in mucositis assessment completed by nurses

**Results**

<table>
<thead>
<tr>
<th>Week of Implementation</th>
<th>ChIMES Documentation Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>85</td>
</tr>
<tr>
<td>2</td>
<td>95</td>
</tr>
<tr>
<td>3</td>
<td>85</td>
</tr>
<tr>
<td>4</td>
<td>95</td>
</tr>
<tr>
<td>5</td>
<td>85</td>
</tr>
<tr>
<td>6</td>
<td>95</td>
</tr>
<tr>
<td>7</td>
<td>85</td>
</tr>
<tr>
<td>8</td>
<td>95</td>
</tr>
<tr>
<td>9</td>
<td>85</td>
</tr>
<tr>
<td>10</td>
<td>95</td>
</tr>
<tr>
<td>11</td>
<td>85</td>
</tr>
<tr>
<td>12</td>
<td>95</td>
</tr>
</tbody>
</table>

**Results Continued**
- Percent change evaluating documentation compliance calculated over the 12-week period was found to be 105%
- Results (n=11) demonstrated that there was a statistically significant improvement in nurses:
  - Ability to assess for mucositis in verbal patients (p=0.042)
  - Likelihood to assess for mucositis regardless of visible lesions (p=0.034)
  - Likelihood to assess for mucositis if the patient is at risk for mucositis at that time (p=0.025)
  - Knowledge of where to document mucositis in the EHR (p=0.034)
- 96% (n=26) of participants felt that ChIMES increased their awareness of assessing patients for mucositis
- 84% (n=26) of participants felt that ChIMES in the EHR was beneficial for patients

**Conclusions and Implications**
- Improved frequency of assessment as familiarity increased
- Nursing confidence increase was not statistically significant
- Survey results demonstrated utility of ChIMES in the EHR
- With ChIMES, nurses are more likely to assess for mucositis regardless of visible ulcerations and in patients who are verbal
- Increased knowledge of where to document mucositis in EHR
- ChIMES could be implemented on other pediatric units

**References**