Does a Pain Algorithm Improve Pain Assessment and Management?

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**Background**

• Research demonstrates that pain is under assessed and under managed in hospitalized children.
• Pain algorithms and pain assessment guidelines have been shown to be useful tools in improving the assessment and management of pain.
• The algorithm for this study was developed on the basis of current best practice guidelines through collaboration of expert nurses.

**Purpose**

The purpose of this study was to evaluate the efficacy of an algorithm in improving pediatric pain outcomes.

**Methods**

• This QI intervention study was carried out in two units at the Stollery Children’s Hospital following HREB review.
• A 24-hour period chart audit (n=50) was completed on both units in February 2010.
• The algorithm was then implemented on the intervention unit. Laminated copies were placed on the medication room, in-services were provided.
• Chart audits (n=41) were completed in July 2010.
• Staff (n=17) provided feedback via anonymous questionnaires.

**Findings**

• All children had documented pain assessments. Number of pain assessments remained unchanged (intervention unit 4.1 pre; 4.3 post : control 3.0 pre; 4.0 post).
• Chosen pain tool documented increased from 17% to 27% on intervention unit and from 32% to 52% on control unit.
• Correct tool for age increased from 8% to 22% on intervention unit and from 32% to 52% on control unit.
• On both units, there were no significant improvements in the frequency of pain assessments pre, during or post painful procedures.
• In total, 37 painful procedures were documented. On the intervention unit, documentation of intervention (both pharmacological and non pharmacological directly related to the painful procedure) increased from 33% pre to 60% post. There was no increase on the control unit, however more children on the control unit received ATC pain medications.

**Implications**

• Staff on the intervention unit improved their documentation of interventions to manage procedural pain.
• Increases in the documentation of pain using a valid pain assessment tool cannot be directly attributed to the algorithm.
• Although the algorithm had been developed by experts and reviewed by a clinical group, less than half of bedside caregivers felt it improved their abilities to assess and manage pain.

**Findings (cont)**

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<tr>
<th>Staff Feedback (n=17)</th>
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<td>41.2% (7) felt that the tool improved their ability to assess pain in children</td>
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<tr>
<td>41.2% (7) felt that the tool improved their ability to manage pain in children</td>
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<td>35% (6) felt that the tool increased their ability to communicate a child’s pain with other healthcare team members</td>
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<td>76.5% (13) found the tool easy to use</td>
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<td>52.9% (9) felt that the tool should be implemented on other units across the Stollery Children’s Hospital.</td>
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**References**