Integrating Research into Practice: Nurse Telephone Support to Improve Outcomes and Emergency Room Utilization for Patients Receiving Chemotherapy

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Problem

-Oncology Symptom Management
  –Most patients experience side effects to cancer treatment and most report more > one side effect
  –patients often experience and manage symptoms at home

-Nurses are a vital link and often the first point of contact - >50% of nurses also provide telephone support (Macartney 2012)

-Symptom clinical practice resources are often not formatted for use in clinical practice (Stacey, et al., 2013)

-Unplanned ED visits can potentially be averted with nursing intervention in oncology settings. (Bell, et al, 2017)
TRIPLE AIM

- **Health**: patient-reported outcomes including chemotherapy-specific symptoms, psychological distress, pain, and quality of life (primary outcomes)
- **Healthcare delivery**: processes of care, patient engagement, and patient satisfaction
- **Healthcare utilization**: hospitalizations, ED utilization
Generalist Competencies: Clinical Care Quality

- Integrates patient-centered care
- Applies evidence-based clinical practice guidelines, symptom management tools, standards, and protocols in patient evaluation and care
- Implements symptom management and monitoring parameters
- Provides education addressing the needs of the patient and caregivers.

Oncology Nursing Society (2016)

Knowledge to Action Framework
(Straus, Tetro, Graham 2013)
Evidence-based Symptom Guides: pan-Canadian Oncology Symptom Triage and Remote Support (COSTaRS)

- Are informed by clinical practice guidelines
  - If elements are missing, likely because no supporting evidence from guidelines
- Meet rigour criteria for guidelines (AGREE II-rigour)
  - Make explicit the recommendations
  - Linked to evidence
  - Based on systematic review for guidelines
  - Reviewed by experts across Canada
- Are usable in practice beyond a resource on the shelf
- Can be integrated in electronic health record
- Use plain language – Flesch-Kincaid Grade 6.4 (Stacey et al., 2013)

COSTaRS: 15 Symptoms

- Anorexia
- Anxiety
- Bleeding
- Breathlessness/dyspnea
- Constipation
- Depression
- Diarrhea
- Fatigue/tiredness
- Febrile neutropenia
- Mouth sores/
  stomatitis
- Nausea/vomiting
- Pain
- Peripheral neuropathy
- Skin reaction
- Sleep problems
COSTaRS

1. Rating Symptom Severity
2. Triage
3. Review Medications
4. Self-Care Strategies
5. Summarize and document plan

ESAS question
Ask patient to rate severity on scale of 0 (none) to 10 (worst possible).
2. Triage patient for symptom management based on highest severity (Supporting evidence: 2 guidelines)\textsuperscript{3}\textsuperscript{-6}

<table>
<thead>
<tr>
<th>Severity</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild (Green)</td>
<td>Review self-care. Verify medication use, if appropriate.</td>
</tr>
<tr>
<td>Moderate (Yellow)</td>
<td>Review self-care. Verify medication use, if appropriate.</td>
</tr>
<tr>
<td>Severe (Red)</td>
<td>Refer for medical attention immediately.</td>
</tr>
</tbody>
</table>

If patient is experiencing other symptoms, did you also refer to the appropriate practice guides? If yes, please specify:

Additional Comments:

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3. Review medications patient is using for nausea/vomiting, including prescribed, over the counter, and/or herbal supplements (Supporting evidence: 8 guidelines)\textsuperscript{1}\textsuperscript{-11}

<table>
<thead>
<tr>
<th>Medications</th>
<th>Notes (e.g. dose, suggest to use as prescribed)</th>
<th>Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metoclopramide (Reglan)</td>
<td></td>
<td>Effective</td>
</tr>
<tr>
<td>Ondansetron (Zofran)</td>
<td></td>
<td>Effective</td>
</tr>
<tr>
<td>Granisetron (Kytril)</td>
<td></td>
<td>Likely effective</td>
</tr>
<tr>
<td>Dexamethasone (Decadron)</td>
<td></td>
<td>Effective</td>
</tr>
<tr>
<td>Metoclopramide (Maxolon)</td>
<td></td>
<td>Effective</td>
</tr>
<tr>
<td>Loperamide (Imodium)</td>
<td></td>
<td>Effective</td>
</tr>
<tr>
<td>Hydroxyzine (Atarax)</td>
<td></td>
<td>Effective</td>
</tr>
<tr>
<td>Other: meperidine (Demerol)</td>
<td></td>
<td>Effective</td>
</tr>
</tbody>
</table>

Effectiveness of medications based on the current evidence.

Ask client/family what medications they have/use for the symptom. Encourage use as prescribed.

Engage client/family by asking what they would agree to try.

Purpose
To evaluate integration of evidence-based symptom guides to provide nurse-led telephone-based symptom support during chemotherapy.

Specific objectives for this project
1. Describe emergency department utilization of cancer patients currently receiving chemotherapy at PH clinics.
2. Examine the feasibility of incorporating COSTaRS into the outpatient cancer clinic nurse workflow.
3. Describe the patient experience with nurse-led telephone support during chemotherapy treatment.
Implementation was guided by the Knowledge to Action Framework (Straus, Tetro, Graham 2013)

1. Baseline Data
   - Nurses
   - Patients
   - ED Use

Implementation Outcomes
- Nurse Surveys

Client Outcomes
- Patient Experience
- Unplanned Utilization of Healthcare System
### ALL ED ENCOUNTERS (N=329)

#### July 2016-Jun3 2017

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>188</td>
<td>57</td>
</tr>
<tr>
<td>Male</td>
<td>141</td>
<td>43</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>Average</th>
<th>Max</th>
<th>Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>62.7</td>
<td>94</td>
<td>22</td>
<td></td>
</tr>
</tbody>
</table>

#### Time of ED Visit

<table>
<thead>
<tr>
<th>Time of ED Visit</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>During office hours</td>
<td>131</td>
<td>39.8%</td>
</tr>
<tr>
<td>After Hrs/Weekends</td>
<td>198</td>
<td>60%</td>
</tr>
</tbody>
</table>

### REASON FOR UNPLANNED ED VISITS

<table>
<thead>
<tr>
<th>Reason for Presentation</th>
<th>Frequency (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pain</td>
<td>76</td>
</tr>
<tr>
<td>2. Dehydration</td>
<td>30</td>
</tr>
<tr>
<td>3. Nausea and/or vomiting</td>
<td>28</td>
</tr>
<tr>
<td>4. Fever</td>
<td>22</td>
</tr>
<tr>
<td>5. Diarrhea</td>
<td>14</td>
</tr>
<tr>
<td>6. Shortness of breath</td>
<td>13</td>
</tr>
<tr>
<td>7. Fatigue/Tried</td>
<td>7</td>
</tr>
<tr>
<td>8. Other</td>
<td>169</td>
</tr>
</tbody>
</table>
### ALL ED VISITS

**Days Since Last Infusion (N=329)**

<table>
<thead>
<tr>
<th>Days</th>
<th>Frequency (N)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1 day</td>
<td>47</td>
<td>36</td>
</tr>
<tr>
<td>≥1, &lt;3 days</td>
<td>51</td>
<td>16</td>
</tr>
<tr>
<td>≥3, &lt;5 days</td>
<td>60</td>
<td>11</td>
</tr>
<tr>
<td>≥5, &lt;7 days</td>
<td>37</td>
<td>33</td>
</tr>
<tr>
<td>≥7 days</td>
<td>134</td>
<td>63</td>
</tr>
<tr>
<td>Total</td>
<td>329</td>
<td>322</td>
</tr>
</tbody>
</table>

### ALL ED ENCOUNTERS

**Disposition**

- 134 Admitted 40.7%
- 16 Observation 4.8%
- 6 Transferred to other facilities 1.8%

**163 DISCHARGED HOME/SELF CARE 49.5%**
### Discharged Home/Self-Care (n=163)

<table>
<thead>
<tr>
<th>Reason for Presentation</th>
<th>Frequency (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pain</td>
<td>83</td>
</tr>
<tr>
<td>2. Dehydration</td>
<td>10</td>
</tr>
<tr>
<td>3. Nausea and/or vomiting</td>
<td>22</td>
</tr>
<tr>
<td>4. Fever</td>
<td>7</td>
</tr>
<tr>
<td>5. Diarrhea</td>
<td>2</td>
</tr>
<tr>
<td>6. Shortness of breath</td>
<td>23</td>
</tr>
<tr>
<td>7. Fatigue/Tried</td>
<td>4</td>
</tr>
<tr>
<td>8. Other</td>
<td>12</td>
</tr>
</tbody>
</table>

### Implementation Plan

**Participants – Outgoing Calls:**
- All New Patients
- Cycles 1-2
- Day 3 with follow up plan
  - Specific Nurse

**Current Status**

**Action Cycle (Application)**
COSTaRS

Role Playing
Scheduled Interactive Support
Educational Boosters

A Few Lessons Learned

IMPORTANCE OF......

• identifying and engaging key stakeholders
• a leadership climate that supports innovations and best practices
• taking the TIME to nurture key relationships, gather preliminary data, contextualize your plan
• readying yourself to address the unintended or unspoken barriers that surface
• EXPECT something to not work well or “EMBRACE DYNAMISM”

Case studies

Role-Play Clinical Scenario

Routine Contact (2-week call)

1. ROBIN
   a. WHAT NURSE KNOWS:
      i. 47 y/o with colon cancer. She is married, has 1 child not living at home. She lives 30 minutes away. She works for a chain department store as a manager and is using extended leave for the first month to see how she handles the treatments. Will be returning to work after second course of treatments if she is feeling well enough.
      ii. Just completed 1st cycle of chemotherapy. Has not contacted you but in completing ESAS she reports the following symptoms:
   b. WHAT PATIENT REPORTS:
      i. Lack of appetite
      ii. Difficulty sleeping
      iii. Feeling depressed

2. CARLOS
   a. WHAT NURSE KNOWS:
      44 y/o retired engineer. Is widowed and has moved into his daughter’s home for the time being. She is his primary caregiver

TIME FOR REVIEW