FEATURE ARTICLE

Nursing-Sensitive Patient Outcomes: The Development of the Putting Evidence Into Practice Resources for Nursing Practice

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Evidence-based practice is a concept that has become integral in today’s healthcare system. Nurses must be able to provide care to patients and families that is based on the best available evidence so they can potentiate the best possible patient outcomes. According to Rutledge and Grant (2002), evidence-based practice “defines care that integrates best scientific evidence with clinical expertise, knowledge of pathophysiology, knowledge of psychosocial issues, and decision making preferences of patients” (p. 1). Evidence-based practice is unique because it includes the preferences and values of patients and their families in the process. Although clinicians may use the best evidence available, application and outcomes will differ based on patients’ values, concerns, expectations, and/or preferences.

The journey of the Oncology Nursing Society (ONS) to improve the quality of oncology care and to integrate evidence-based practice into care has reached a new milestone. ONS has developed a resource to help oncology nurses use evidence in their practices, improving nursing-sensitive patient outcomes (NSPOs). NSPOs are outcomes that are attained through or are significantly impacted by nursing interventions. The interventions must be within the scope of nursing practice and integral to the processes of nursing care (Given et al., 2004). NSPOs represent the consequences or effects of nursing interventions and result in changes in patients’ symptom experience, functional status, safety, psychological distress, and/or healthcare costs.

Who really cares if patients achieve the desired outcome? Many stakeholders in today’s healthcare arena look at patient outcome data, including patients themselves, insurers of care, providers of care, legislators, purchasers, and regulators of health care. All of the stakeholders want to know whether patient care has value.

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The Oncology Nursing Society Putting Evidence Into Practice Resources

The new product line that ONS has developed to improve NSPOs through evidence-based practice has been titled Putting Evidence Into Practice (PEP) and is the culmination of several...
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years of planning and engagement of ONS members in creating evidence-based resources to improve practice. The PEP resources are intended to be useful for all ONS members and include pocket-sized quick-reference cards to be used at the point of care, more detailed reference cards housed on the ONS Outcomes Resource Area (www.ons.org/outcomes), and detailed evidence tables of the research that was reviewed in the development of the reference cards (also available on the ONS Outcomes Resource Area at www.ons.org/outcomes/PEPcard/index.shtml), all of which are intended for use in staff nurse practice, advanced nursing practice, education, and research.

History of the Nursing-Sensitive Patient Outcomes

The ONS journey associated with NSPOs began in 1998, and Given and Sherwood (2005) provided an excellent historical account in a white paper on NSPOs that was commissioned by ONS. The development of the PEP products began in 2003 with the appointment of the Outcomes Project Team, led by Barbara Given, RN, PhD, FAAN. According to the team, “Oncology nurses have a mandate to measure the end results of their care in a white paper on NSPOs that was commissioned by ONS. The development of the PEP products began in 2003 with the appointment of the Outcomes Project Team, led by Barbara Given, RN, PhD, FAAN. According to the team, “Oncology nurses have a mandate to measure the end results of their care and to improve the results over time” (Given et al., 2004).

Evidence-Based Measurement Summaries

Measuring oncology NSPOs was the first step in the improvement process. The project team initially commissioned nursing research experts to develop evidence-based summaries of the measurements on four outcomes (fatigue, nausea and vomiting, pain, peripheral neuropathy, and sleep-wake disturbances), and return to usual functioning), (c) safety prevention of adverse events (prevention of infection), and (d) psychological distress (depression).

Advanced Practice Nurses’ Review of the Evidence-Based Measurement Summaries

The evidence-based measurement summaries were reviewed by a group of advanced practice nurses (APNs) at the 2004 APN Retreat. The group requested more clinical guidance for nurses at the bedside. For example, if nurses wanted to respond (based on the best available evidence) to patient questions regarding the best products to use for mouth care to prevent oral mucositis related to their chemotherapy, the summary did not provide specific information about the effectiveness of various mouth care protocols. The APN group envisioned a product that could help nurses discuss the evidence supporting a particular oral care protocol with patients and colleagues. See Table 1 for the schema for evidence rating that was used by the researchers. The proposal to develop such a product was approved by the ONS Board of Directors, and work began.

<table>
<thead>
<tr>
<th>ONS LEVEL</th>
<th>LEVEL OF EVIDENCE</th>
<th>EVIDENCE SOURCE</th>
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<tbody>
<tr>
<td>I</td>
<td>1</td>
<td>Meta-analysis or systematic reviews of multiple well-designed, randomized, controlled clinical trials</td>
</tr>
<tr>
<td>II</td>
<td>4</td>
<td>Well-controlled systematic review of non-experimental design studies</td>
</tr>
<tr>
<td>III</td>
<td>8</td>
<td>Qualitative designs; case studies; opinions of expert authorities, agencies, or committees</td>
</tr>
<tr>
<td>IV</td>
<td>7</td>
<td>Conflicting evidence or meta-analysis showing a trend that did not reach significance; National Institutes of Health Consensus Report, published practice guidelines (e.g., by professional organizations, healthcare organizations, or federal agencies)</td>
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<tr>
<td>V</td>
<td>6</td>
<td>Poorly controlled (flawed randomized studies) or uncontrolled studies (correlational descriptive studies)</td>
</tr>
<tr>
<td>VI</td>
<td>5</td>
<td>Well-conducted case-control study</td>
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<td>VII</td>
<td>3</td>
<td>Well-designed trial without randomization (single group, pre-post, cohort, time-series studies)</td>
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<td>VIII</td>
<td>2</td>
<td>Well-controlled, randomized clinical trials with adequate size</td>
</tr>
<tr>
<td>IX</td>
<td>1</td>
<td>Meta-analysis or systematic reviews of multiple well-designed, randomized, controlled clinical trials</td>
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Note. Based on information from Haydorn et al., 1996; Ropka & Spencer-Cisek, 2001.
Outcomes Intervention Team

Four teams were assembled to identify the evidence and interventions for fatigue, nausea and vomiting, sleep-wake disturbances, and prevention of infection. Each team was asked to use the same process: Identify the problem, search for evidence, critique the research, synthesize the research, and summarize the strength of the evidence for the identified nursing interventions. For example, the Prevention of Infection Team reviewed the research regarding all interventions that have been found to be effective in preventing oral mucositis in patients with cancer. Each team consisted of a researcher and three APN-staff nurse dyads (see Appendix). The teams performed exhaustive reviews of the available research regarding their respective outcomes. All of the research regarding the interventions was reviewed for possible inclusion, including case studies and expert opinion. The information was summarized for each outcome, and the level of evidence was provided to support the interventions.

Review of the Research

Research questions such as “What interventions are effective in managing fatigue during and following cancer treatment?” “What interventions are effective in preventing oral mucositis in patients with cancer?” and “What pharmacologic interventions are effective in preventing infection in patients with cancer?” guided the review of studies related to interventions. Each study was critiqued: The study design, purpose, limitations, and flaws were identified, and outcomes, conclusions, and level of evidence were noted. The ONS Priority Symptom Management model (Haydorn, Baker, Hodges, & Hicks, 1996; Ropka & Spencer-Cisek, 2001) was chosen to rate the evidence. Only interventions that are within the scope of nursing practice were included in the PEP resources. The levels of evidence for every study were peer reviewed in each group, between groups, and by outside reviewers.

Putting Evidence Into Practice Weight-of-Evidence Classification Model

Once the research review was complete, the team took on the task of categorizing the interventions using a clinician-friendly classification system. The team considered the use of the well-established BMJ model (BMJ Publishing Group, 2002), but a serious disadvantage of that model in relation to this project is that only systematic reviews and meta-analyses are included. Another model that was considered was the U.S. Public Health Service Task Force classification model (Harris et al., 2001). That model has been used primarily to classify public health interventions and does not provide clinical guidance in the choice of nursing interventions.

The chosen classification model was based on the BMJ model but was modified by the teams to reflect the ONS levels of evidence and provide clinician-friendly guidance in the choice of interventions. The classifications are color coded (i.e., green is recommended for practice, yellow means that effectiveness is not established, and red is not recommended for practice) on the pocket-sized ONS PEP cards to enable nurses to quickly determine the level of evidence for each intervention.

Many interesting findings were identified from the review of the research. For instance, the Prevention of Infection Team was not able to find evidence to support the use of specific mouth care products to prevent oral mucositis, but it did find high levels of evidence (classified as “Recommended for Practice”) that the use of oral care protocols (including cleansing of the teeth and oral mucosa), as well as patient education, significantly reduces the severity of oral mucositis from chemotherapy or radiotherapy (Rubenstein et al., 2004).

See Table 2 for a list of the ONS PEP weight-of-evidence classification schema.

Clinical Use of Putting Evidence Into Practice Resources

The ONS PEP cards were debuted at the ONS 31st Annual Congress in May 2006. The full set of cards (fatigue,

Classifications and Weight-of-Evidence Descriptions

<table>
<thead>
<tr>
<th>Classification</th>
<th>Definition</th>
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<tr>
<td>Recommended for practice</td>
<td>Interventions for which effectiveness has been demonstrated by strong evidence from rigorously designed studies, meta-analyses, or systematic reviews, and for which expectation of harms is small compared with the benefits</td>
</tr>
<tr>
<td>Likely to be effective</td>
<td>Interventions for which the evidence is less well established than for those listed under “recommended for practice”</td>
</tr>
<tr>
<td>Benefits balanced with harms</td>
<td>Interventions for which clinicians and patients should weigh the beneficial and harmful effects according to individual circumstances and priorities</td>
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<tr>
<td>Effectiveness not established</td>
<td>Interventions for which data currently are insufficient or of inadequate quality</td>
</tr>
<tr>
<td>Effectiveness unlikely</td>
<td>Interventions for which lack of effectiveness is less well established than for those listed under “not recommended for practice”</td>
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<tr>
<td>Not recommended for practice</td>
<td>Interventions for which ineffectiveness or harmfulness has been demonstrated by clear evidence, or the cost or burden that is necessary for the intervention exceeds anticipated benefit</td>
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nausea and vomiting, sleep-wake disturbances, and prevention of infection) is available for no cost to all ONS members. They can be ordered online at www.ons.org or by calling ONS Customer Service at 412-859-6100. The cards will also be available at ONS meetings in 2006. More detailed evidence regarding the outcomes interventions is available on the Outcomes Resource Area of the ONS Web site at www.ons.org/outcomes. The information includes more detailed ONS PEP cards, the evidence tables (the critique of all studies reviewed is provided), and the meta-analyses tables (a synopsis of all systematic reviews or meta-analyses). Plans are under way to develop new evidence-based measurement summaries as well as new ONS PEP cards and resources regarding additional outcomes. ONS recognizes the evolving state of the science in all areas of research and plans to update the PEP resources every three years. The dates of review are on the ONS PEP publications.

As O’Leary (see Appendix) stated, “Nursing care based on tradition is disappearing.” Nursing has an increasingly healthy body of evidence on which to base nursing practice. Oncology nurses must seek out evidence so they can provide the best possible care for patients and their families. Nurses need to articulate the evidence base for oncology nursing practice to patients, family members, and professional colleagues.

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References


Appendix. Reflections of a Staff Nurse Member of the Outcomes Intervention Team

Colleen O’Leary, RN, BSN, OCN®

As a staff nurse, I recognized that evidence-based nursing was important, but I didn’t fully understand the implications for me, my practice, or my patients. Too often, nurses base their practice on what physicians or institutions deem necessary or have historically practiced a certain way. Wanting to provide the “best practice” to patients compelled me to do more.

In December 2004, an advanced practice nurse (APN) with whom I work approached me about the Oncology Nursing Society (ONS) Outcomes Intervention Project Team. I was asked to work with a team of researchers, APNs, and other staff nurses to develop a set of resources for nurses that would highlight evidence-based practice for various symptoms. Recognizing the value of the project for my personal development and for the benefit of the patients for whom I care, I agreed to become a part of the team.

The process in the beginning seemed quite daunting. I was unsure how the information that we were to review would be formatted for use. The first thing I learned was how to perform an extensive and exhaustive literature review. In addition to working with an APN, we had the good fortune of working with a medical librarian, Mark Vrabel, MLS, AHIP, the ONS Information Resources supervisor. We poured through literature reviews but then realized that we should only focus on research studies and research reviews. I had to become proficient at critiquing the research and deciding the ONS level of evidence. We had many discussions during our conference calls about appropriate leveling of the evidence. Chris Friese, RN, PhD, AOCN®, our researcher, even reviewed a couple of articles with our group to help us feel comfortable with the process. We also summarized our critiques in the tables of evidence and meta-analyses tables. One of the hardest parts of the process was categorizing the evidence into the classification model. We were able to clarify our classification with other members of the team, the researcher, and the APN leader.

The Putting Evidence Into Practice cards were presented at the 2005 ONS Institutes of Learning at a full-day institute. It was exciting for me to be present at the institute because I realize that not many staff nurses get the opportunity to work on projects of this magnitude. The final products were debuted at the ONS 31st Annual Congress in 2006. I am very proud of the products and to have been part of a productive project team.

Nursing care based on tradition is disappearing. Clinical decisions placed solely in the hands of physicians are gone. Nurses now have another tool that empowers them to provide the best practice based on the best evidence. I have used what I’ve learned as part of the project team with my patients and my graduate nursing work. I have presented the project to the nursing research committee in my hospital. I have changed my practice and encouraged other nurses to do the same based on the available evidence. I hope to be able to use this experience to mentor other nurses to get involved in the work of ONS.