

# Assessment of Neutropenia-Related Quality of Life in a Clinical Setting

Mary E. Ropka, PhD, RN, FAAN, and Geraldine Padilla, PhD

**Purpose/Objectives:** To examine how neutropenia affects quality of life (QOL) and explore strategies to assess neutropenia-related QOL in clinical practice.

**Data Sources:** Published articles, abstracts, conference proceedings, and clinical practice guidelines.

**Data Synthesis:** Neutropenia can have a detrimental effect on the QOL of patients receiving chemotherapy. A neutropenia-related QOL questionnaire can help nurses better identify patients at risk for developing neutropenia and monitor patients who already have it. In some cases, the questionnaire may be the first step in the initiation of interventions to improve patient care. Ideally, the QOL questionnaire should be easy to use, provide clinically meaningful information, and be easily adapted from existing QOL measurement tools.

**Conclusions:** Effective implementation of QOL assessments into clinical practice can lead to the initiation of interventions that may improve neutropenia-related QOL in patients with cancer receiving chemotherapy.

**Implications for Nursing:** Nurses can enhance their clinical judgment and affect patient treatment by implementing a questionnaire that assesses patients' neutropenia-related QOL.

Quality of life (QOL) is a multidimensional concept that assesses the extent to which a person's usual or expected physical, emotional, and social well-being is affected by a medical condition or its treatment (Cella, Chang, Lai, & Webster, 2002). QOL, symptom status, and functional status frequently are considered to be interchangeable, but they represent three related but ultimately distinct concepts (Ropka, 2002). Symptom status refers to a patient's experience of physical, emotional, or cognitive manifestations of illness or treatment, such as nausea, anxiety, or confusion. Functional status refers to the effect of illness or treatment on a patient's ability to perform day-to-day tasks involved in work, self-care, and maintenance of family or social roles. QOL, which encompasses symptom status and functional status, is a broad concept reflecting an individual's overall satisfaction with life or sense of well-being (Ropka). QOL endpoints for cancer treatments increasingly are recognized as secondary in importance only to survival and disease progression. In the palliative setting, QOL outcomes are paramount (American Society of Clinical Oncology, 1996; Levine & Ganz, 2002; Sloan, Cella, Frost, Guyatt, & Osoba, 2003). Clinical questionnaires to evaluate QOL are used widely in oncology nursing practice because of their value in guiding patient treatment and care (Dunckley, Hughes, Addington-Hall, & Higginson, 2003). In this context, the term "instrument" generally refers to a questionnaire in which patients answer questions about symptoms, functioning, or feelings, often stating answers in a numerical or graded form (e.g., expressing the intensity of pain on a scale of 0–10 or as mild, moderate, or severe).

## Key Points . . .

- ▶ Because the development of neutropenia and its associated reduction in quality of life (QOL) can affect treatment outcomes in patients with cancer receiving chemotherapy, healthcare professionals should assess such patients' QOL before the initiation of therapy and periodically throughout treatment.
- ▶ Several QOL measurement tools are available and widely used in research, but they may not be suitable for clinical practice.
- ▶ Customizing QOL measurement tools can make them more user friendly, practice specific, and clinically useful.
- ▶ Implementation of a QOL screening questionnaire for neutropenia could help nurses identify at-risk patients and guide interventions that could have a positive influence on patients' treatments.

Neutropenia (grade 3/4, absolute neutrophil count [ANC] < 1.0 x 10<sup>9</sup>/L) is a common and serious side effect of myelosuppressive chemotherapy and may lead to febrile neutropenia (ANC < 1.0 x 10<sup>9</sup>/L, fever < 38.5° C) and life-threatening infections (Cancer Therapy Evaluation Program, 2003; Daniel & Crawford, 2006). Furthermore, chemotherapy-induced neutropenia frequently compromises the delivery of chemotherapy at full dose and on schedule (Picozzi et al., 2001). Delivery of suboptimal doses of chemotherapy may compromise long-term survival in potentially curative settings, such as early-stage breast cancer and non-Hodgkin lymphoma (Bonadonna et al., 2005; Epelbaum, Haim, Ben-Shahar, Ron, & Cohen, 1988; Kwak, Halpern, Olshen, & Horning, 1990). Studies also have shown that alterations in chemotherapy regimens may worsen treatment outcomes in patient populations in which treatment is less commonly curative, such as small cell lung cancer (Crawford, 2004). Although the benefits of myelosuppressive chemotherapy often outweigh the threats posed by neutropenia-related consequences, treatments can decrease the risk of neutropenia (Daniel & Crawford). Precautionary measures to reduce the

Mary E. Ropka, PhD, RN, FAAN, is an associate member of the Division of Population Science at Fox Chase Cancer Center in Philadelphia, PA; and Geraldine Padilla, PhD, is the associate dean of research in the School of Nursing at the University of California, San Francisco. A third-party review of this article was supported by Amgen Inc. No limitations were imposed by the sponsor in the development of this article. (Submitted May 2006. Accepted for publication September 5, 2006.)

Digital Object Identifier: 10.1188/07.ONF.403-409