

Chemotherapy Dose and Dose Intensity: Analyzing Data to Guide Therapeutic Decisions

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Purpose/Objectives: To provide key examples from the oncology literature related to chemotherapy dose/dose intensity to guide nurses in evidence-based decision making.

Data Sources: Published articles and abstracts of scientific findings and clinical trials.

Data Synthesis: Understanding tumor biology and growth kinetics is essential in determining optimal approaches to cancer treatment and goal setting in cancer care.

Conclusions: Therapeutic decision making ideally should be data driven. Dose and dose intensity can make a difference in therapeutic outcomes. Additional research with well-designed clinical trials, incorporating recent advances in cancer biology, is needed to define more distinctly the role of dose/dose intensity related to specific tumor types.

Implications for Nursing Practice: Establish therapeutic goals at initiation of therapy, and communicate them clearly with patients, families, and the rest of the health-care team.

Key Points . . .

- ▶ Dose and timing of dose in the administration of cytotoxic therapy are important variables in cancer treatment based on principles of tumor biology.
- ▶ Tumor response does not always translate into improved survival or better quality of life.
- ▶ Data from the literature can be used to develop practice guidelines that can be followed to establish goals of treatment at time of initial diagnosis, relapse/recurrence, or progression of disease.
- ▶ Oncology nurses play a key role related to patient comprehension of treatment goals, establishment of and compliance with practice standards, and evaluation of the potential effects of short-term benefits on long-term goals of care.

Oncology nursing practice has changed dramatically over the past two decades. The traditional paradigm of learning state-of-the-art clinical practices from physician mentors still persists. However, in addition, professional nurses are responsible for supplementing and updating their own knowledge base through an ongoing analysis of available data and current medical literature. Modern oncology practice and fast-paced changes in the field require that nurses have critical-thinking skills and an ability to work collaboratively with other members of the healthcare team to evaluate and improve clinical practice and outcomes for patients.

Many aspects of patient care can be improved using an evidence-based advanced practice model. Familiarity with prescribing and managing specific therapeutic regimens often leads clinicians to develop personal opinions about optimal treatment. Although these beliefs may be supported by some limited data or anecdotal experience, controlled clinical trials are essential to investigating outcomes that are difficult or impossible to detect in individual practices. Thus, nurses and other oncology team members must develop an ongoing approach to analyze current clinical research results and determine how to integrate these data to continually improve practice patterns and outcomes.

Setting Goals for Therapeutic Outcomes

To use data effectively in guiding clinical treatment decisions, one first must identify therapeutic goals and optimal outcomes. Goals can be determined by asking a series of

questions, with the answers individualized for each patient. Based on the data available (e.g., tumor type, stage, patient status, patient history), is a complete response or long-term remission expected to result from planned therapy? Is a partial response (i.e., a reduction of at least 50% in tumor mass) or improved disease-free survival more reasonable? Is the goal of therapy primarily symptom relief and palliation? Goal-setting should include input from the healthcare team, the patient, and significant others prior to initiation of the treatment plan.

If the desired outcome is a complete response in which the tumor is no longer clinically detectable, nurses and other team members should evaluate each therapeutic intervention to ensure that actions support this long-term goal. Conversely, if the patient presents with a poor prognosis or with risk factors that do not meet basic criteria for specific therapy, decision making may focus on palliation or quality of life as reasonable alternatives. Once goals have been established mutually and then communicated to and documented for the patient, family, and all members of the team, an evidence-based approach can be applied to determine the best therapeutic plan.

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