Canadian Association of Nurses in Oncology
Association canadienne des infirmières en oncologie

July 14, 2013

CANO/ ACIO Position Statement on Cancer Chemotherapy Administration and Care:

Oral Chemotherapy Supplement

Background

CANO/ACIO's mission is to lead nursing excellence in cancer control for Canadians. Core values of this organization include promoting evidence-informed practice and knowledge exchange. Thus, in addition to the previously stated positions on cancer chemotherapy administration and care (CANO/ACIO, 2010), CANO/ACIO is compelled to respond to the unique challenges around the use of oral chemotherapy. This document is meant to be used in supplementation to CANO/ ACIO's position statement on cancer chemotherapy administration and care and not in isolation from the original document.

Oral chemotherapy is used in all disease sites and along all stages of the cancer continuum. Of the more than 400 cancer chemotherapy drugs in development, 25 to 50% are oral (Moody & Jackowski, 2010). While oral chemotherapy provides persons with a greater sense of control, independence and quality of life, studies show that persons, including health care providers, may underestimate their impact on safety and patient tolerance (Barton, 2011; Hollywood & Semple, 2001; Moody & Jackowski, 2010).

Studies reveal that providers assume patients understand more about the purpose and directions for taking oral chemotherapy than patients actually do. Providers also assume adherence - that the patient will carry out all the behaviors expected of them (Myers & Midden, 1998; Marin, Baxeos, 2010; Moore, 2007; Noens, van Lierde, De Brock, Verhoef et. al, 2009). These assumptions become even more problematic with the chronicity of oral chemotherapy

(Winklejohn, 2007). The duration of oral chemotherapy use may be long, even life-long, as cancer is managed more and more as a chronic illness and more targeted therapies are developed (NCCN, 2008; Sabate, 2003).

The increasing widespread use of oral chemotherapy in recent years has highlighted specific concerns in the provision of care. The shift of responsibility to correctly administer and monitor for side-effects falls to patients and families. The built-in opportunities for ongoing education, assessment and interaction that are part of traditional chemotherapy care are lacking when oral chemotherapy is prescribed (Dickinson, 2007; Moody & Jackowski, 2010). Even inherent mechanisms for prescription safety are diminished with oral chemotherapy use. Many nurses do not feel knowledgeable or enabled to provide the necessary education to persons prescribed oral chemotherapy (Kav et al., 2008).

Persons receiving oral chemotherapy may also be admitted for a variety of reasons to inpatient facilities not primarily involved in cancer care. Under these circumstances, health care providers not familiar with oncology drugs may be required to participate in the prescribing, preparation, dispensing and monitoring of oral chemotherapy.

Position #1: *There are unique concerns inherent in the use of oral chemotherapy that require specific nursing consideration.*

1. There is a shift of responsibility from experienced oncology professionals to persons receiving oral chemotherapy, home care agencies and/ or non-oncology-focused inpatient facilities With this shift comes the need for clear understanding by all participants of:
    - Goals of treatment.
    - Exact method of how to take oral agents.
    - Obtaining, storing, and handling the agents safely.
    - Recognizing when to report toxic side effects (Barton, 2011; Given, Spoelstra, & Grant, 2011).
2. Variable drug absorption rates occur related to diet, drug interactions and health of the gastrointestinal tract. For example, what does a patient do if they vomit? (Barton, 2011; Birner, 2003, 2005; Hartigan, 2003; Harrold, 2010; Kav, 2006)

3. The financial burden for oral chemotherapy may fall on persons receiving the chemotherapy depending on provincial policies. Oral chemotherapy agents, especially newer agents, might even be cost prohibitive and limit agreement to treatment.
4. The decreased face-to-face interaction between patients and nurses eliminate or reduce the ongoing opportunities for assessment and education that occur with the administration of parenteral chemotherapy.
5. Education on the safe-handling of antineoplastic agents is required for health care providers involved in care, including in the community setting and non-oncology-focused inpatient setting (Barton, 2011; Griffin, 2003; Goodin, 2007).
6. Adherence to the treatment will affect outcomes (CancerCare Manitoba, 2009; Birner, 2003; Moore, 2007; NCCN, 2007; Partridge, 2002; Patton, 2008; Winklejohn, 2007). Nursing has a critical role in fostering adherence.
    - Treatment-related factors that affect adherence are:
        - ☐ Continuous versus cyclical treatment for many drugs (i.e. imatinib for chronic myelogenous leukemia versus capcitabine for gastrointestinal cancers).
        - ☐ The number, frequency and intensity of experienced side effects.
        - ☐ The treatment complexity and timing related to meals and other medications.
    - Disease-related factors that affect adherence:
        - Symptoms and the seriousness of the illness.
    - Patient- related (person related) factors that affect adherence:
        - Perception of response to treatment and understanding of the goals of therapy.
        - Health literacy.
        - Degree of behaviour change required.
        - Previously established health beliefs.
        - Social supports.
        - Relationship with health care team.
        - Co-morbidities and other medications.
        - The presence of physical/cognitive deficits which impair medication administration (ex. unable to open pill bottles).

- Ability to pay for the drug (provincial subsidies, secondary insurances vary).

***Position #2:* Nurses are positioned for a leadership role in ensuring that evidenced-informed practices of quality and safety are incorporated into the care of persons receiving oral chemotherapy in outpatient or inpatient settings.**

1. Nurses should advocate for, and participate in, the development of organizational and system processes regarding the prescribing, education, monitoring and evaluation of persons who are, or will be, receiving oral chemotherapy

    - Prescription safety protocols: Suggested examples/tools:
        - Computer generated preferred, or printed legibly.
        - Include name of drug, dose, frequency, duration and number of pills required.
        - No abbreviations should be used.
        - Limited time prescriptions. No refills (to ensure necessary contact and assessment by health care team).
        - Prescriptions should note that oral chemotherapy be packaged (bubble packed) separately from other medication to facilitate dose adjustment.
        - Prescriptions, including parameters used for dose calculation, should be reviewed by a second, experienced oncology professional (pharmacist, nurse or physician) before dispensing. (Many community pharmacists may be unfamiliar with chemotherapy and biotherapy).
        - Medication reconciliation occurs at the time of initial prescription and when each subsequent prescription is written.
    - Opportunities and adequate resources are available to provide on-going educational support to persons receiving oral chemotherapy. Suggested examples/tools:
        - Prescriber provides diagnosis, treatment (including side effects and self-care strategies) and prognosis at the time of prescription.

        - Nurse or pharmacist reinforces and verifies understanding of education at the time treatment is planned and schedules follow-up appointments for further reinforcement by telephone contact and/or “in-person”.
        - Access to written information for distribution to persons receiving oral chemotherapy.
        - Language assistance and interpreter services specific to persons’ needs.

    - In addition to the education information guidelines of the initial CANO/ACIO Position Statement on Cancer Chemotherapy Administration and Care (2010), nurses ensure the provision of sufficient initial and ongoing education to promote safe administration and monitoring, including self-administration, adherence to and monitoring of oral chemotherapy.
        - Education is culturally sensitive and patient-specific.
        - Verbal education is reinforced with written materials.
        - There are planned, repetitive opportunities to provide on-going education.
    - Education will include the safe-handling of antineoplastic materials specific to the setting whether in an institutional setting or in the community.

    (ASCO/ONS, 2009; BOPA, 2004; Given, Spoelstra & Grant, 2011; Hartigan, 2003; Harrold, 2010; Kav & Bostanci, 2006; Kav, Johnson, Rittenberg, Fernandez-Ortega, Suominen et al., 2008; Moore, 2007; Maloney & Kagen, 2011; NPSA, 2008; Partridge, Avorn, Wan & Winer; Patton, 2008; Sabate, 2003; Van Eijken, Tsang, Wnsing, de Smet & Grol, 2003).

2. Nurses will ensure continuity of care for persons receiving oral chemotherapy through purposeful communication (Winklejohn, 2007).
    - Documentation that provides:
        - Seamless flow of communication between co-members of the inter-professional health care team including inpatient settings, home care agencies and primary care physicians.
        - Evidence of evaluation and response to treatment.

- Written contact and follow-up information in a format and language that the persons understand:
  - Persons are advised to provide this contact information during unanticipated health care encounters, such as during visits to emergency rooms and inpatient facilities.
- The next contact (clinic visit, laboratory or imaging, or telephone encounter) is planned at the end of each encounter.

***Position #3:* CANO/ ACIO recommends that organizations that care for cancer patients have processes in place to ensure the safe delivery and monitoring of cancer treatment with oral chemotherapy.**

1. A process for patient selection.
   - Oral chemotherapy is not necessarily for everyone even if the diagnosis warrants.
   - Issues of safety and ability to adhere need to be considered. Examples of a tool to assess these issues are the Multinational Association of Supportive Care in Cancer (MASCC) teaching toolkit and Morisky tool (Ruddy, Mayer & Partridge, 2009; Shalansky, 2004).
2. Persons taking oral chemotherapy need 24 hour access to healthcare providers experienced in oncology. The ability of the health care team to manage side-effects promptly and continually significantly affects adherence and quality of life (Barton, 2011; Harrold, 2010; ASCO/ONS, 2009, NCAG, 2008; Oakley, 2010; UKONS, 2010).
3. Resources that allow for initial and ongoing patient education:
   - Before prescribing oral chemotherapy.
   - At the initiation of oral chemotherapy.
   - Before subsequent cycles and prescription repeats (ASCO/ONS, 2009; Harrold, 2010; NPSA, 2008).
4. The development and/or adoption of tools and checklists for oral chemotherapy administration improves safety (ASCO/ ONS, 2009; BOPA, 2004; MASCC, 2010; NCAG, 2009).

Summary

The development and prescribing of oral chemotherapy is an increasing trend in cancer treatment that requires a shift in the current practices of oncology organizations and systems. CANO/ACIO asserts that oncology nurses have a pivotal role in helping oncology programs develop practices that foster safety, adherence and effectiveness of treatment with oral chemotherapy. Traditional methods of cancer care delivery need to adapt as management of cancer with oral chemotherapy continues to evolve. Education and continuous follow-up are critical to success. This supplement augments the CANO/ACIO Position Statement on Cancer Chemotherapy Administration and Care (CANO/ ACIO, 2010).

References

ASCO/ONS. (2009). ASCO/ONS Standards for Safe Chemotherapy Administration: Public comment version. Retrieved from: http://www.ons.org/clinical/documents/pdfs/Standards-Safety-Chemo-Admin-attendee-list.pdf.

Barton, D. (2011). Oral agents in cancer treatment: The context for adherence. *Seminars in Oncology Nursing, 27*, (2), 104-115.

Birner, A. (2005). Oral chemotherapy. *Clinical Journal of Oncology Nursing,* 9(1), 107-108.

Birner, A. (2003). Safe administration of oral chemotherapy. *Clinical Journal of Oncology Nursing, 7*(2). 158-162.

British Oncology Pharmacy Association (BPOA). 2004. Position statement on care of patients receiving oral anti-cancer drugs. *Pharmaceutical Journal, 272,* 422-423. Available at: http://www.bopawebsite.org.

CancerCare Manitoba. (2009). CCMB Best Practices and Nursing Research Committee Oral Chemotherapy Report.

CANO/ACIO. (2010). Position statement on chemotherapy administration and care. Retrieved April 30, 2011 from: http://www.cano-acio.ca/~ASSETS/DOCUMENT/Member%20Communications/positionstatementFINAL.pdf

Dickinson, E. (2007). Clear guidelines on oral chemotherapy needed. *British Medical Journal, January 12.* Retrieved September 9, 2008 from: http://www.medicalnewstoday.com/articles/60656.php

Given, B., Spoelstra, S. & Grant, M. (2011). The challenges of oral agents as antineoplastic treatments. *Seminars in Oncology Nursing, 27*, (2), 93-103.

Goodin, S. (2007). Safe handling of oral chemo agents in community settings. Retrieved October 3, 2008 from http://www.pharmacytimes.com/issues/articles/2007-09_5030.asp

Griffin, E. (2003). Safety considerations and safe handling of oral chemotherapy treatment. *Clinical Journal of Oncology Nursing, 7*(6), 25-29.

Hartigan, K. (2003). Patient education: the cornerstone of successful oral chemotherapy treatment. *Clinical Journal of Oncology Nursing, 7*(6), 21-24.

Hollywood, E. (2001). Nursing strategies for patients on oral chemotherapy. *Oncology, 15*(1), 1-5. Retrieved February 2, 2011 from http://www.cancernetwork.com/displau/article/ 2-2615/95693.

Kav, S. & Bostanci, H. (2006). The role of the nurse in patient education and follow up of people receiving oral chemotherapy in Turkey. *Supportive Care in Cancer, 14,* 1252-1257.

Kav, S., Johnson, J., Rittenberg, C., Fernandez-Ortega, P., Suominen, T., et al. (2008). Role of the nurse in patient education and follow up of people receiving oral chemotherapy: An international survey. *Supportive Care in Cancer, 16,* 1075-1083.

Maloney, K. & Kagen, S. (2011). Adherence and oral agents with older patients. *Seminars in Oncology Nursing, 27,* (2), 154-160.

Moody, M., & Jackowski, J. (2010). Are patients on oral chemotherapy in your practice setting safe? *Clinical Journal of Oncology Nursing, 14* (3), 339-346.

Moore, S. (2007). Facilitating oral chemotherapy treatment and compliance through patient/family focused education. *Cancer Nursing, 30*(2), 112-122.

Myers, L.B. & Midence, K. (1998). Concepts and issues in adherence. In L.B. Myers & K. Midence (Eds.). *Adherence to treatment in medical conditions* (pp.1-24). Amsterdam: Harwood Academics.

Noens, L., De Brock, M., Verhoef, G., Zachee, P., Berneman, Z., Martiat, P., Mineour, P. Ven Eygen, K., Macdonald, K., and S. Degroot. (2009). Prevalence, determinants and outcomes of non-adherence to imatinib therapy in patients with chronic myeloid leukemia: The ADAGIO study. Retrieved May 8, 2011 from: http://docs.google.com/viewer?a=v&q=cache:3ZTDU3p48JsJ:bloodjournal.hematologylibrary.org/content/113/22/5401.full.pdf+adagio+study&hl=en&gl=ca&pid=bl&srcid=ADGEESiz2DxHd-qa3-YzxMjp_h2OX0CkTJYdlQzPNAo9bCD1RafcgQRynT8d1JbpvMD6UQoExNG-pjJrsmbDiujWiUaYDEZ1EmsT_3yDHPV70QZmK4jTivKUQe25LAvFKwINE_Bdvseh&sig=AHIEtbQXw8IJEUn1jbKC-BPjOJyEf8u8cg

Oakley, C. (2010). Introducing the United Kingdom Oncology Nursing Society's Position Statement on Oral Chemotherapy. European Journal of *CancerCare, 19,* 1-4.

Partridge, A.H., Avorn, J., Wang, P.S. & Winer, E.P. (2002). Adherence to therapy with oral antineoplastic agents *Journal of the National Cancer Institute, 94,* 652-661.

Patton, J. (2008). Increased use of oral chemotherapy drugs spurs increased attention to patient compliance. *Journal of Oncology Practice, 4*(4), 1-3.

Ruddy, K., Mayer, E., Partridge, A. (2009). Patient adherence and persistence with oral anticancer treatment *A Cancer Journal for Clinicians, 59,* 56-66.

Sabate, E. (Eds). (2003). Adherence to long term therapies: Evidence for action. Geneva, Switzerland: World Health Organization. Retrieved, 6 July 2004, www.theannals.com, DOI 10.1345/aph.1E071.

Shalansky, S., (2004). Self-Reported Morisky score for identifying non-adherence with cardiovascular medications *The Annals of Pharmacotherapy*, *38*, and (9), 1363-1368.

Spoelstra, S., Given, B. Given, C. & Grant, M. (2011). Policy Implications of Oral Agents. *Seminars in Oncology Nursing*, *27*, (2) 161-165.

United Kingdom Oncology Nursing Society's (UKONS) *Position Statement on Oral Chemotherapy*. Retrieved May 1, 2010 from: onlinelibrary.wiley.com/doi/10.1111/j.1365-2354.2010...x/pdf

Van Eijken, M., Tsang, S., Wensing, M., de Smet, P.A., & Grol, R.P. (2003). Interventions to improve medication compliance in older patients living in the community: A systematic review of the literature. *Drugs and Aging, 20*, 229-240.

Waterhouse, D.M., Calzone, K.A., Mele, C., & Brenner, D.E. (1993). Adherence to oral tamoxifen: A comparison of patient self-report, pill counts, and micro-electronic monitoring. *Journal of Clinical Oncology, 11*, 1189-1197.

Winklejohn, D.L. (2007). Oral chemotherapy medications: the need for a nurse's touch. *Clinical Journal of Oncology Nursing, 11*(6), 793-796.