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# Patient Education: The Cornerstone of Successful Oral Chemotherapy Treatment

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The number of patients receiving oral chemotherapy agents and the intensity of these agents are predicted to increase in the near future. Oral chemotherapy offers many potential advantages, such as patient convenience, elimination of the need for IV access, and the ability to achieve sustained drug levels. One drawback, however, is the likelihood that oral chemotherapy treatment distances patients from their healthcare providers and, therefore, changes the way patients are monitored. Opportunities for professional assessment may be fewer and farther between than assessments of patients who receive IV chemotherapy (Birner, 2003).

Patient education, therefore, becomes the cornerstone of successful oral chemotherapy treatment. Effective patient teaching about oral chemotherapy promotes patient safety, optimal dosing, adherence to the treatment plan, accurate assessment of side effects and toxicities, and implementation of self-care measures.

## Medication Adherence

The issue of medication adherence is a minor one with regard to IV chemotherapy but a potentially large one with oral chemotherapy administration. In many cases, the degree of patient adherence with an oral chemotherapy regimen is related directly to the degree of treatment success. Nonadherence to a prescribed oral chemotherapy treatment plan generally will result in ineffective or inadequate treatment.

Adherence issues are not well understood, and the specific process of medication adherence is difficult to measure with any degree of accuracy. However, this concept has

Because patients with cancer self-administer oral chemotherapy, they typically do not receive the same amount of teaching and monitoring as patients receiving IV chemotherapy. Patient education is vital to promote patient safety, optimal dosing, and adherence to the treatment plan. Oncology nurses need to tailor their patient education efforts to the individual needs of each patient and use resources such as medication information sheets to reinforce teaching. This article reviews the process of teaching patients about oral chemotherapy and discusses the unique patient education challenges associated with orally administered chemotherapy.

**Key Words:** Patient education, patient compliance, self care

been described in the literature and the information can be used to guide the teaching of patients receiving oral chemotherapy.

Clinicians generally assume that patients are taking medications as prescribed and believe their patients when they say they are doing so (Partridge, Avorn, Wang, & Winer, 2002). In chronic medical conditions, such as diabetes and hypertension, estimates of medication nonadherence range from 15%–93% (Myers & Midence, 1998). Although patients with cancer are thought to be highly motivated by the gravity of their disease (Waterhouse, Calzone, Mele, & Brenner, 1993), a noncompliance rate of 43% was reported in a study of 51 outpatients with breast cancer who received 26 weeks of oral cyclophosphamide (Lebovits et al., 1990).

A study examining allopurinol and prednisone compliance in a cohort of outpatients who received concomitant chemotherapy for hematologic malignancies found that, with no interventions, complete compliance with the oral medication regimen occurred in only 17% of the patients (Levine et al., 1987). Furthermore, pharmacokinetic analy-

sis found that actual compliance was less than half that suggested by patients' self-reports. However, the researchers also found that measures designed to increase compliance, including patient education, home psychological support, and exercises in pill taking, were able to increase compliance nearly threefold (Levine et al.).

Measuring compliance is challenging at best. Pill counts can be unreliable because patients can manipulate them, especially when they know their pills will be counted. Also, pill counts do not confirm adherence to a particular dosing schedule.

The microelectronic monitoring system (MEMS) is a newer method to assess compliance. The system uses an "intelligent" tablet bottle that electronically records the date and time (to the nearest hour) when the cap is removed. Data are collected for up to several weeks, recorded, and processed by a computer to generate a list of the dates and times of bottle openings and a graph of the number of doses taken daily, the number of missed or extra doses, and the dosing intervals (Partridge et al., 2002). Although opening a pill container does not necessarily mean that the patient ingested the pill as prescribed, MEMS may help to provide a more accurate assessment of a patient's medication compliance.

Noncompliance affects all age groups, but older patients are more vulnerable to

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