Family Caring Strategies in Neutropenia

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Aggressive chemotherapy protocols result in approximately half of all patients receiving chemotherapy developing neutropenia (Ozer et al., 2000). Recognition that chemotherapy and dose intensity can make a difference in survival rates for patients with cancer has challenged healthcare providers to find methods to increase the percentage of patients treated with at least 85% of the planned chemotherapy dose (Bonadonna, Valagussa, Moliterni, Zambetti, & Brambilla, 1995; Crawford, Dale, & Lyman, 2004). Neutrophil growth-stimulating factors have become integral parts of cancer treatment to maintain this dose intensity. Although the use of colony-stimulating factors has helped to shorten hematopoietic system recovery in many instances, chemotherapy-induced neutropenia (CIN) continues to be a significant and potentially life-threatening side effect of treatment (Hayes, 2001). Because the advent of ambulatory care options for IV antibiotic and colony-stimulating factor delivery has reduced the incidence of inpatient care (Cappetto, 2004; Donohue & Carbo, 2004; Rostad, 1991), families and patients now manage CIN, and the family is an integral part of the healing environment. However, the family’s experience with and role in managing CIN have received sparse attention in the literature.

Families experience cancer and stressful events related to the illness along with patients with cancer (Matthews, Baker, & Spillers, 2003; Mellon, 2002; Sales, 1991), and the meaning that family members give to an illness event influences the whole family (Mellon; Wilson & Morse, 1991). Families want and need support because they also experience uncertainty and illness-related distress (Mast, 1998; Mishel & Murdaugh, 1987). This article reports the family experience of CIN and suggests nursing approaches that can support family caring strategies during CIN.

Caring for families in distress so that they can be a source of support and strength for their loved ones with cancer is a foundation of nursing practice. Nurses in partnership with a family will enhance the treatment environment, contribute to treatment adherence (Champion, 2001), and minimize the distress of uncertainty. Recent cancer literature has suggested the need to invest in conversations with families about cancer (Duhamel & Dupuis, 2004), develop a program of care to assist family members in managing the stress of cancer (Northouse et al., 2002), and initiate patient and family education related to neutropenia (Cagen, Franco, & Vasquez, 2002; Hood, 2003). Because of their strategic role on a health team that cares for patients with cancer and their families, nurses have the opportunity to provide support to families dealing with the stresses of a cancer illness (Duhamel & Dupuis).

Key Words: neutropenia, psychosocial support systems

The research study that initiated this article was funded by the ONS Foundation Center for Leadership, Information and Research through an unrestricted grant from Amgen. (Submitted June 2004. Accepted for publication July 15, 2004.)

Digital Object Identifier: 10.1188/04.CJON.617-621
The Family Experience of Neutropenia

The initial study that informed this article used a grounded theory methodology to learn how rural families understand and manage the neutropenic experience caused by cancer chemotherapy (Krumwiede et al., 2004). Eligible participants were rural family members who spoke English and had a family member recently diagnosed with neutropenia that interrupted ongoing chemotherapy for a brief period of time. Patients with neutropenia were included in the semistructured family interviews of the seven families (21 individuals). Taped-recorded interviews were transcribed and analyzed using the constant, comparative analysis process to reveal themes that described the family experience.

The central theme revealed by seven families was turbulent waiting with intensified connections. The families had a sense of greater vulnerability in response to the diagnosis of CIN. The threat that cancer posed to the rural family was heighted by CIN. While waiting, family members spoke of “living under a cloud,” “waiting for the other shoe to drop,” and “being on a roller coaster.” Neutropenia threatened the control that families previously had perceived over their situation. With the forced interruption in treatment, family relationships were reemphasized; neutropenia was a clear reminder of potential mortality and the need for families to be connected. The families related “coming closer together” as a result of CIN and their ability to “challenge the cancer,” “embrace life,” and “find their way back from losing time [referring to chemotherapy treatment].”

The intensified connections were directed at their family members as well as nurses caring for the family members experiencing neutropenia. Families reported that their relationship with the nurses became even more significant during the CIN event and interruption of chemotherapy. They searched for connection, reassurance, information, and guidance from their nurses during this threatening event of CIN. Forming a partnership and connecting with a nurse enhanced the family’s trust and contributed to its understanding of CIN and treatment.

Data analysis revealed that families developed family caring strategies to manage this period of waiting for chemotherapy to resume. These strategies included family inquiry, family vigilance, and family balancing (see Figure 1). The process of turbulent waiting with intensified connections encouraged strategies that led family members to new ways of understanding themselves with an expanded capacity for caring for and protecting their family.

Family Caring Strategies

The family caring strategies that emerged with a neutropenic event had several purposes in the family. These strategies helped families to gain a sense of control over the powerlessness they felt during CIN and the fall and rise of cell counts in response to chemotherapy. Through the process of family inquiry, families developed an understanding of the neutropenic event. With this understanding, families worked to establish a protective environment for their family members with neutropenia through the process of family vigilance. The vulnerability that emerged with CIN and the interruption in chemotherapy tempered their hope for a cure and often meant that families had to readjust their perspective on the cancer diagnosis and goals for the future. As families waited to resume the chemotherapy and the treatment plan, they felt vulnerable to the dangers of cancer and the CIN event. To implement family inquiry and family vigilance, families attended to the demands of ongoing family life in the presence of fluctuating cell neutrophil counts through the process of family balancing. These social processes (family inquiry, family vigilance, and family balancing) suggest nursing approaches that can enhance the family’s ability to manage neutropenia (see Figure 2).

Family Inquiry

Family inquiry included family members seeking information, questioning healthcare providers and other families dealing with neutropenia, and appraising the meaning of the CIN situation. Barriers to the process of family inquiry were multifaceted. First, some family members reported that they were referred to more than one nurse to have questions answered. This resulted in receiving inconsistent messages. Family inquiry also was affected by traveling to multiple clinics for aspects of care. This resulted in multiple information sources, some of which conflicted. Additionally, some family members were unable to reach a particular contact person by telephone and thus lacked direction for decision making.

Nursing care that recognizes the family inquiry strategy anticipates the family’s need for consistent information, access to ongoing information, and interpretation of that information. Nurses who understand the family’s heightened need for connection through

**Figure 1. Family Caring Strategies**

- **Family Inquiry**
  - Seeking information about neutropenia from healthcare providers and other affected families
  - Critiquing approaches to neutropenia care
  - Weighing the chances for survival

- **Family Balancing**
  - Helping patient with activities of daily living
  - Providing entertainment at home
  - Changes required in family roles and activities
  - Planning activities for times of “high counts”

- **Family Vigilance**
  - Monitoring symptoms
  - Protecting the patient from infection
  - Advocating for effective management of neutropenia
Family Inquiry: the family’s seeking, questioning, and appraising information about managing neutropenia

Supportive Nursing Approaches
- Provide focused information (e.g., brochures, Internet sources).
- Interpret the information provided (e.g., review brochure[s] with family decision maker).
- Provide consistent, ongoing information and interpretation (e.g., nurse case manager).
- Acknowledge uncertainty and threat of the situation (e.g., speak with involved family member[s] about other families’ concerns with interrupting chemotheraphy).
- Acknowledge value of family group gathering information (e.g., emphasize the importance of different family member perspectives on the situation).

Family Vigilance: the family’s focus on protecting the family member with chemotherapy-induced neutropenia (CIN)

Supportive Nursing Approaches
- Teach signs and symptoms of infection (e.g., temperature > 38.5°C or 101.3°F, chills, oral ulceration, burning on urination, diarrhea, pain at IV or access site, absolute neutrophil count [ANC] < 500/mm³).
- Teach family management strategies (e.g., strict hand washing, avoid uncooked fruits and vegetables, limit visitors [especially those with active signs of infection], avoid crowded situations and group eating functions).
- Teach family advocacy role (e.g., contact appropriate healthcare provider when signs and symptoms of infection occur).

Family Balancing: the family’s response to the demands of ongoing family life with fluctuating neutrophil counts

Supportive Nursing Approaches
- Acknowledge the need to balance family roles with CIN (e.g., fatigue of patient will decrease their availability for usual roles).
- Discuss advantages of sharing duties to get family work done (e.g., rotating driving to treatment site).
- Discuss ways to balance family life with CIN (e.g., planning leisure travel and/or family celebrations for when ANC is at its peak).

This relationship and type of communication can enhance the family’s trust level in the healthcare team and the CIN regimen. Intentionally developing a family-nurse connection acknowledges the intensity of the family’s need to connect during this time. Nurses who care for families need to understand the uncertainty and threatening nature of the neutropenic event because it interrupts the chemotheraphy that often is viewed as a lifeline of hope. Discussing the CIN event with a family requires a therapeutic manner where the nurse acknowledges the family’s concern about chemotheraphy interruption while interpreting the relatively predictable and manageable nature of the neutropenic response to chemotheraphy. Extending teaching to families will decrease their uncertainty because they will know what to expect of the treatment regimen (Buchsel, Forgy, Grape, & Hamann, 2002).

The following interview questions could be used to uncover family understanding and concern surrounding the interruption of chemotheraphy: What does it mean to you that your family member has “low counts”? What is it like for your family during this time when chemotheraphy is stopped? If nurses recognize that patients and families experience the threat of having blood counts drawn, which can lead to the interruption of chemotheraphy, they may not consider such an activity as routine. The blood draw can become an opportune time for developing a therapeutic connection with the patient and family.

Family Vigilance

A social process in which a family focuses on protecting the family member with CIN is the strategy of family vigilance. This family process emerged as a caring strategy when family members responded to the threats of neutropenia by wanting to protect their loved one. Monitoring symptoms and the activities of their family member became a priority for the family. At times, conflict surfaced when families expressed concern that their loved ones failed to participate in the protective strategies or did not value a protective measure in the same way as a different family member. For example, a patient with CIN insisted on working, despite the risks of exposure to others, while a family member struggled to keep her home and monitor her for infection.

Nurses who are committed to supporting family vigilance first must recognize that protection of the family member with cancer is a fundamental process in any family that emerges even more strongly in the situation of neutropenia and threat of infection. Explaining to the family that vigilance is a normal response to CIN can help them to accept the distress that emerges from being watchful. Ensuring that patients and family members have a similar understanding of symptoms and clear guidelines for action can be an effective nursing strategy to minimize and help resolve conflict in a family. For example, families as a whole should receive specific guidelines about a temperature elevation that warrants notification of a healthcare provider. Family education is a primary responsibility of the nurse during this vulnerable experience of CIN. Families could receive the essential education about neutropenia, such as the meaning of the terms absolute neutrophil count, blood count, and nadir (Cagen et al., 2002), so that they can attach a meaning to cell counts. Explaining possible side effects of growth-stimulating factors given to treat CIN also can help families to understand the meaning of particular symptoms that may emerge during treatment.

Incorporating an intentional family educational approach where the nurse interprets information could help family members to create a protective environment for patients with CIN. This could increase the family’s feeling of control and understanding related to protecting its loved one. Various teaching aids have been developed by the Oncology Nursing Society, such as the series of NeutroPhil posters and the NeutroPhil: Your One-in-a-Million Bodyguard brochure, or nurses can develop their own materials that reflect practice guidelines of their institution (Wujcik, 2004). Gathering family members together for a teaching session focused on neutropenic precautions to prevent infection, such as hand washing, limiting visitors who may have infections, and limiting exposure to environmental organisms in crowds, diets, and soil (Wujcik), may lead to a family dialogue about the meaning of vigilance and protection in their particular family. Nurses working with the family as a whole can begin to manage any conflicts when instituting protective measures that may emerge in the family.

The family process of vigilance includes family members attempting to connect even when they do not live in close proximity to one another. Nurses can help families to find ways to maintain their watchful eye from a distance, such as increased telephone or e-mail communication. Families can benefit from knowing that increased connection is an expected family process that emerges while waiting for chemotheraphy to resume and dealing with the threat of infection or lapse of treatment.
During this watchfulness, family members may begin to assume the role of advocate for their family member with CIN. Nurses can teach advocacy skills so that families feel more comfortable in the role and can be more effective advocates for their loved one. Educating families about how to maintain a protective environment and access the healthcare system when signs and symptoms of infection occur may minimize uncertainty during the CIN experience. Nurses must understand that family advocacy is an activity that meets the family’s need to protect. Family advocacy is one dimension of family vigilance that can be helpful to patients, families, and nurses.

**Family Balancing**

The family caring strategy of balancing is the family’s response to the demands of ongoing family life with fluctuating neutrophil counts. Families were forced to manage their normal roles while dealing with the CIN event. They often were thrust into structuring activities around the neutropenic experience, such as trips to distant clinics for blood draws and injections or planning vacations to coincide with anticipated count levels. Family members with cancer were compelled to struggle with CIN while they managed the tasks and demands of their stage of growth and development, work responsibilities, family obligations, and leisure roles. Similarly, families were moving through their own stages and tasks of growth and development while managing CIN. For instance, a grandmother was limited in her nurturing role of a new grandchild because of low counts. When families worked in unity to balance all of their family roles, they were better able to manage the uncertainty and vulnerability of CIN. For example, a brother described being the social coordinator, providing at-home entertainment for his sister during CIN so she didn’t need to go out. The entire family valued this brother’s role in her CIN management.

Nurses can support the family caring strategy of balancing by providing consistent messages that help to minimize uncertainty and confusion in the family. A nurse dialogue that engages the whole family in conversation about the need to share work duties and to balance family roles and functions with the demands of neutropenia can support families. Discussing with families their specific roles in managing CIN can minimize the distress of this experience. For instance, when the individual with CIN is fatigued, roles normally occupied by that individual will need to be assumed by others. Additionally, patients with cancer often must depend on family members for transportation to clinics for colony-stimulating factors or blood count monitoring. This certainly can disrupt normal family routines and relationships. Rotating driving responsibilities among family members and friends may minimize these disruptions. Of similar importance to balancing family roles and work is balancing family life so that celebrations, meaning-making events, and family leisure can coexist with CIN. This may mean doing things such as planning travel events for when the absolute neutrophil count is at its highest in the chemotherapy cycle. Family celebrations also may need to be delayed until a time when fatigue or threat of infection is minimal.

**Conclusion**

Decreasing the family’s sense of vulnerability and maintaining family integrity throughout the neutropenic experience honor the nursing profession’s commitment to a family cancer experience. When nurses help families to engage in family caring strategies, they support the family’s integrity during the CIN experience. Although the benefits of supporting a family may not be evident to the nurse immediately, the long-term gains are significant. Giving families a way to maintain their protective and caring responsibilities supports their continued growth and development. As families use caring strategies with their loved ones, they gain new functional skills that also can be helpful in other aspects of family life. Nurses need to develop creative family intervention approaches that are constructed from the perspective of a family-professional partnership. These approaches will enable nurses to simultaneously support the family cancer experience and ongoing family growth and function.

The authors wish to thank the other members of the research team who participated in the study that resulted in this article, including Shirley Murray, MS, LSW, in the School of Nursing at Minnesota State University in Mankato; Dave Andros, MS, at Andros Family Services in St. Peter, MN; Glenn Harman, MD, at Immanuel-St. Joseph’s-Mayo Health System’s Regional Cancer Center in Mankato; and Karl Rydholm, MD, at Messiah Lutheran Church in North Mankato.

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**References**


**Rapid Recap**

**Family Caring Strategies in Neutropenia**
- Families reported that their relationship with the nurses became even more significant during the chemotherapy-induced neutropenia (CIN) event and the interruption of chemotherapy.
- The vulnerability that emerged with CIN and the interruption in chemotherapy tempered family hope for a cure and often meant that families had to readjust their perspective on the cancer diagnosis and goals for the future.
- Families developed family caring strategies of inquiry, vigilance, and balancing to manage this period of waiting for chemotherapy to resume.
- The process of turbulent waiting with intensified connections encouraged family caring strategies that expanded the families’ capacity for caring for and protecting their family members.
- Nurses can support family caring strategies throughout the CIN experience.
- Nurses need to develop creative family interventions that support the family cancer experience and are constructed from the perspective of a family-professional partnership.