

Advanced Practice Nursing in Head and Neck Cancer: Implementation of Five Roles

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Purpose/Objectives: To apply the five roles of advanced practice nurses (APNs) (administrator, educator, clinician, researcher, and consultant) to the management of patients with head and neck cancer.

Data Sources: Research reports, clinical papers, practice guidelines, clinical experience.

Data Synthesis: APNs assess, conceptualize, and analyze complex patient data. As represented in the five roles, these abilities promote patients' development and implementation of survival skills. These roles were integrated into a cancer resource center, a collaborative endeavor providing patients, families, and community resources with support for coping with the complex issues facing them.

Conclusions: The application of the five roles to this specialized nursing area enables patients to develop survival skills and can provide a framework for support.

Implications for Nursing: Application of APN roles promotes development and implementation of survival skills in patients with head and neck cancer, enhancing their quality and quantity of life and improving compliance with treatment.

Key Points . . .

- The five advanced practice nursing roles are not mutually exclusive. They have a profound interdependence.
- Through the implementation of the five roles, advanced practice nurses can empower patients with head and neck cancer to develop critical survival skills that facilitate independence, enhance self-esteem, and lead to improved outcomes.
- Using the five roles interdependently can foster collaboration with nurses in academia. This can result in the development of oncology-specific curricula for master's-level nursing, stimulation of research in oncology nursing, and creation of opportunities for nurses in academia to complement their practice by enhancing their clinical role.

Head and neck cancer is a broad diagnostic category relating to a malignant process that can arise in areas from above the clavicle (pleura) to the base of the skull (dura). These areas include the lips, oral cavity, paranasal sinuses, nasal cavity, salivary glands, oropharynx, nasopharynx, hypopharynx, and larynx. Head and neck cancer accounts for 5% of the estimated new cancer cases in the United States (Jemal et al., 2004). The majority of these (45%) arise from the mouth (oral cavity and oropharynx) and throat (oropharynx, nasopharynx, hypopharynx). Thirty-eight percent arise in the thyroid gland, and another 16% arise from the larynx. In 2004, 62,130 new cases of head and neck cancer are estimated to be diagnosed. These include oral cavity, pharynx, laryngeal, and thyroid cancers (Jemal et al.). Forastiere, Koch, Trotti, and Sidransky (2001) reported that the combined use of tobacco and alcohol is the most significant risk factor for the development of this type of malignancy.

Head and neck cancers are among the most debilitating malignancies because they affect basic functions such as breathing, speaking, and eating. In addition, head and neck cancers pose a unique set of issues that affect patients' quality and quantity of life. Patients are challenged with learning to care for their tracheostomy tubes for breathing and their gastrostomy and nasogastric tubes for feeding. The development of survival skills for these patients and their families is critical. Early interventions lead to improved outcomes for this patient population (Clark, 1998).

A synergistic effect occurs with carcinogens in tobacco that, when combined with alcohol consumption, places individuals

at an increased risk for the development of head and neck cancer (Harris, 2000). Unemployment, inadequate housing, chronic malnutrition, lack of community and social resources, and lack of education contribute to delayed access to health care. These factors promote advanced-stage disease on initial presentation. This unfavorably influences the early detection, treatment, and survival for patients with head and neck cancer. No other type of malignancy is as visible to the public. Patients face psychological, physiologic, and social issues regarding diagnosis and treatment. Multimodality treatments (radiation, chemotherapy, and surgery) for advanced disease are considered typical in academic settings.

The quality of life and survival of these patients are directly dependent on their ability to become self-sufficient in certain areas of their care and to receive assistance from individuals who are able to cope with the demands of caring for them. A coordinated multidisciplinary approach can identify available resources, provide optimal care, and facilitate the development of survival skills for patients with head and neck cancer.

Patients with head and neck cancer need a skilled multidisciplinary team. This team should include head and neck surgeons, oral and maxillofacial surgeons, prosthodontists,

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medical oncologists, radiation oncologists, radiologists, speech and rehabilitation specialists, nutritionists, social service workers, dentists, and nurses. Such teamwork is critical to the implementation of interventions that lead to the development of survival skills in this select group of patients. Oncology advanced practice nurses (APNs) are essential members of this multidisciplinary team. They initiate and evaluate the effectiveness of self-care survival skills taught before, during, and after hospitalization to ensure quality patient outcomes.

APNs practice in a variety of specialty settings. Literature from these specialty areas supports the use of APN roles. The American Academy of Nurse Practitioners' (2002) position statement on the role of nurse practitioners as APNs stated that the APN "demonstrates leadership as a consultant, educator, administrator, and researcher." APNs collaborate with physicians and practice independently in areas of general medicine, family practice, emergency centers, and other clinical settings. The American Association of Nurse Anesthetists (2002) outlined administrative, educational, research, and clinical components in its scope of practice. Certified RN anesthetists perform these roles as APNs in the specialty setting of anesthesia. Finally, the scope of practice for pediatric nurse practitioners as APNs defines a variety of role behaviors such as healthcare provider, consultant, educator, researcher, and administrator (National Association of Pediatric Nurse Practitioners, 2000).

Advanced practice nursing in the specialty setting of oncology is realized through use of the five roles outlined by the Oncology Nursing Society survey: administrator, educator, clinician, researcher, and consultant (Brant, 1996; Lynch, Cope, & Murphy-Ende, 2001). They are demonstrated using the case study that follows.

Case Study

A 53-year-old male presented to the ear, nose, and throat clinic complaining of pain in the oral cavity of two-month duration. He had no prior medical conditions or surgical history. His social history was significant for 60 pack-years of tobacco use and moderate alcohol consumption. He reported no allergies and was not taking any medications.

Physical examination revealed a deep, ulcerated, raised lesion approximately 4 cm x 2 cm x 2 cm in the right retro molar trigone area with extension onto the right lateral tongue base. His neck had no palpable adenopathy. Foul breath odor and poor dentition were noted. Speech was limited, and he presented with a muffled, garbled (as if something hot has been placed on the tongue) voice. Trismus was evident. A computed tomography scan revealed no adenopathy in the neck or metastatic disease in the chest. The area was biopsied, and the pathology report indicated a moderately differentiated squamous cell carcinoma.

He was staged according to the American Joint Committee on Cancer staging system of the oral cavity as T3 N0 M0, or stage III disease. His wife was his only support system. He worked in a dry cleaning business but became unemployed before his diagnosis.

His case was presented at a multidisciplinary head and neck tumor conference. A treatment plan was formulated that included total dental extractions, tracheotomy, percutaneous endoscopic gastronomy (PEG) (gastric feeding tube place-

ment), right supraomohyoid neck dissection, mandibulotomy with composite resection of the tumor, radial forearm free-flap reconstruction, split-thickness skin graft, and postoperative radiation therapy.

Successful implementation of a treatment plan and development of a patient's survival skills are dependent on an APN's clinical expertise and ability to coordinate and facilitate communication among the various disciplines. APNs can accomplish this by using the roles fundamental to advanced practice nursing.

Advanced Practice Nurse Roles

Administrator

To function optimally using the administrative role, oncology APNs must develop an understanding of their working environment's organizational structure. APNs need to collaborate with department heads from various disciplines. Oncology APNs use management skills to create an environment that is conducive to meeting the needs of patients with head and neck cancer by working with and through these individuals and disciplines.

Management uses the skills of supervising, controlling, planning, coordinating, and organizing (Cadwell, 2002). Oncology APN use these skills to develop a collaborative relationship between patients' available support systems and members of the multidisciplinary healthcare team. In head and neck cancer, this type of collaboration is fundamental in devising a treatment plan with options that are therapeutic, feasible, and mutually agreeable.

Oncology APNs must acquire an understanding of the working environment's organizational hierarchy. This insight is useful in organizing, planning, and coordinating different disciplines involved in the treatment plan. Key individuals within various disciplines need to be identified ahead of time to facilitate communication and implementation of a treatment plan. APNs in this domain of practice contribute to and coordinate information for the multidisciplinary team. This information focuses on patients' support systems, their ability to learn new survival skills, and necessary referrals before, during, or after treatment is initiated. This also leads to optimizing the treatment plan and ensuring compliance.

The coordination of multiple interdisciplinary teams, such as dentistry, general surgery, plastic surgery, and otolaryngology, before or at the time of surgery, exemplifies the administrative APN role in the management of patients with head and neck cancer. The ability to establish working relationships and network with key individuals in various disciplines allows for a smooth, uninterrupted, coordinated approach to the surgical component of the treatment plan. The ability to facilitate communication and the timing of the interventions among other disciplines, such as postoperative nursing care, home care, and community resources, exemplifies this behavior and allows for a successful outcome.

In this case, one treatment issue was whether to use a PEG or a nasogastric tube for supplemental feeding postoperatively. The APN recognized the environment at home, the available support, the patient's ability to learn a new skill, additional treatment required after surgery, the obvious cosmetic disadvantage of the nasogastric tube, and the increased risk for aspiration and displacement at home and recommended PEG tube placement. The other interdisciplinary teams agreed with the

recommendation, and the APN facilitated the additional surgical team for placement of the PEG tube at the time of surgery.

In the postoperative period, interactions with family and homecare agencies facilitated continuity of care at home. Interactions with nursing staff regarding postoperative care and feeding instructions reinforced previously learned skills. The APN's recommendation and the request for additional resources optimized patient care.

Analysis of the records kept at the multidisciplinary conference enabled the APN to develop a database. This will provide information for future research proposals and assist the oncology APN in selecting patients who will benefit most by presentation at the multidisciplinary conference.

Educator

To function in this role, oncology APNs use principles of adult-learning theory. Knowles' (1980) classic theory on adult learning describes "the teachable moment." This concept remains applicable and relevant to adult education because it teaches that motivation is based on a perceived need. This occurs after the learner has gone through a process of identifying a need and desiring more knowledge or skills to fulfill this need. The motivation or readiness to learn occurs with a perceived need to know or do something. This is evident especially with patients with head and neck cancer in that the motivating force is basic survival. They need to manage tracheostomy or laryngectomy tubes to breathe, manage various types of feeding tubes for nutrition, and learn new ways to communicate. These survival skills must be taught to patients and caregivers.

Identification of the teachable moment with patients with head and neck cancer can occur at various times. At the time of initial diagnosis, treatment options are discussed. Patients and caregivers begin to understand the disease process and available treatment. The ability to accurately assess this situation, one that may be overwhelming for patients or their support systems, leads APNs to recognize a teachable moment.

A teachable moment can occur after surgical intervention. Patients recognize that they may no longer be able to communicate, swallow, or breathe in the same manner that they did preoperatively. Patients' support systems (family and friends) also must deal with these body alterations. Motivation for patients and caregivers to learn new survival skills is influenced by multiple factors, such as fear of the unknown, stress levels, past experiences, cognitive and affective states, culture, and health beliefs. Only when a teachable moment is acknowledged can the establishment of mutually acceptable goals and objectives for patients and their caregivers take place.

In the case cited, teachable moments were recognized at the initial visit, during the preoperative phase, and postoperatively. The initial assessment disclosed several important situational factors. Fear of the unknown motivated this patient to learn. Recent unemployment caused financial stress for the patient, which was exacerbated further by role reversal and cultural issues.

Recognition and acceptance of the diagnosis of cancer are important factors to consider. The willingness to seek care and maintain compliance with treatment is dependent on patients accepting the cancer diagnosis. Once patients seek medical intervention, another teachable moment can be identified. Other important factors to consider are culture and gender. For ex-

ample, in this case, recognition of the loss that this individual experienced and will experience because of treatment is a factor in the assessment of a teachable moment and subsequent interventions. As a stoic male of Italian descent, the patient's need to depend on others was quite stressful. His motivation to become independent was a component in resolving some of this stress. Preoperatively, the opportunity to learn how to manage a tracheostomy and feeding tube was provided. This empowered the patient and his wife to manage critical survival skills of breathing and eating. Acquiring these skills enabled the patient to accept some of the loss he would experience with the proposed treatment. He expressed this by his willingness to learn these skills and allow his wife to assist in this learning process.

Postoperatively, the patient and his wife were ready to review these skills along with additional skills concerning wound care and communication. These interventions and proper timing of implementation provided this patient and his caregiver with the ability to manage survival skills successfully.

Clinician

APNs make independent and collaborative treatment decisions. APNs are viewed as expert clinicians who assess both medical and nursing problems within clinical practice (American Academy of Nurse Practitioners, 2002). They integrate theory into their practice.

Challenges in clinical practice for patients with head and neck cancer are significant. The pretreatment assessment is a process that helps identify situational factors that affect patient outcome. This process also decreases anxiety and increases compliance with a treatment plan. By establishing a therapeutic rapport with patients and their caregivers, APNs can implement interventions that assist patients in creating alternatives for living more effectively and developing necessary survival skills. The interview process is the initial step in establishing therapeutic rapport.

Ivey (1994) outlined five stages in the development of therapeutic rapport. Stage I is rapport structuring, stage II is data gathering, stage III is outcome determination, stage IV is rapport structuring generating alternative solutions, and stage V is generalization. This theoretical framework can be integrated into the advanced practice scenario.

Stage I: Rapport structuring involves making a connection with patients. It enables patients to feel comfortable with the APN. Structure focuses the process on specific issues that concentrate on what will and will not be done with patients.

In the case cited, rapport began at the time of initial contact. A conversation in a relaxed atmosphere facilitated this structuring process. The conversation assured the patient and his wife that the APN would be a contact person for him during the workup phase and hospital stay. The APN would coordinate and facilitate a safe discharge home with appropriate equipment and additional support through local visiting nurse services. The APN would see the patient during follow-up visits and facilitate communication with the physicians involved in his care. This helped to decrease some anxiety and facilitated data gathering and initial instruction about the disease process and anticipated treatment. During this patient's workup phase, the oncology APN arranged appointments and accompanied the patient to them along with other members of

the multidisciplinary team. This provided the patient with continuity and a feeling of security within the hospital setting. This also allowed the therapeutic rapport to develop.

Stage II: The data-gathering phase identifies patients' perceptions of the disease process and how medical intervention, or lack of intervention, will affect quality and quantity of life. Treatment options and side effects are explained in language that patients and their caregivers can comprehend. Each member of the multidisciplinary team reviews their role and discusses the side effects and rationale for treatment with the patient. The APN in this case gained further insight into the patient's and his wife's perceptions of the disease process and the degree of motivation they would have in complying with the treatment plan by accompanying them to the various consultations.

Stage III: Outcome determination involves the oncology APN developing insight into what the patient wants. The plan of treatment must coincide with the patient's desires. Social, cultural, and economic factors need to be identified. In this case, the patient and his wife were in agreement with the proposed treatment plan. This was identified after all phases of the treatment plan were discussed. The patient and his wife had gained new survival skills that allowed them to feel secure and adequate in providing the care that would be necessary after the medical and surgical interventions were initiated. Social and economic factors were considered, and a referral to the social service department was made.

Stage IV: Rapport structuring generating alternative solutions, creative problem solving, and resolving patient issues are accomplished during this stage. In this case, these issues involved tobacco abuse, alcohol abuse, depression, and lifestyle changes. The patient's available resources for management of issues related to finances, home care, and follow-up after treatment were identified and agreed on. The development of alternative support systems may be necessary and should be based on what is mutually identified. In this case, referrals were made to psychiatry for depression and a substance abuse counselor for alcohol and tobacco cessation.

Stage V: Generalization is the process by which learning is transferred. It enables patients to change behaviors, thoughts, and feelings and is dependent on the recognition of cultural and individual differences. This process enables patients and APNs to identify essential support systems needed for care in and outside of the hospital environment. The generalization process is based on patients' treatment plans and the resolution of identified situational issues. As it did in this case, resolution may include the development of additional support from community resources such as church groups or family members, applications for necessary financial support, referral to homecare agencies, alcohol and tobacco counseling, hospice referral, and transportation for follow-up visits or additional treatment (Ivey, 1994).

In the case cited, once therapeutic rapport was established, the topic of cancer was discussed with a focus on the patient's specific site. The establishment of the therapeutic rapport and the assessment that followed gave the APN insight into the meaning of this diagnosis for the patient and his wife. This allowed for a more patient-oriented discussion about related topics. Risk factors, along with self-abusive behaviors, were identified and explored further. Referrals to support programs such as smoking cessation, alcohol counseling, and financial counseling were offered.

Researcher

APNs in head and neck oncology use research to investigate patient care issues and evaluate and improve practice in addition to promoting professional development. Implementation of these principles, combined with the situational issues that patients with head and neck cancer face, led to the development of a resource center for patients with head and neck cancer.

A proposal to establish a resource center for patients with head and neck cancer was written by the author that addressed the disease process, treatment options, and side effects. Challenges associated with the complex management, care, and rehabilitation issues that patients with head and neck cancer and their caregivers face were reported. The necessity for developing critical survival skills within this patient population was demonstrated. A grant from the Health Care Foundation of New Jersey was secured for this project.

Upon receipt of the funding, the Head and Neck Cancer Resource Center (HNCRC) was established. Three nursing faculty members from the School of Nursing at the University of Medicine and Dentistry of New Jersey (UMDNJ) were hired on a part-time basis to implement goals and objectives of the center. The HNCRC developed into a collaborative effort between the UMDNJ Medical School (Division of Otolaryngology and Head and Neck Surgery, Department of Surgery), and the UMDNJ School of Nursing (Faculty Practice Plan) and University Hospital.

The mission of the HNCRC is to provide patients, their families, and community resources with the necessary skills, equipment, and support to cope with head and neck cancer. This initiative provided the means to create an organized infrastructure between the hospital and the School of Nursing. It provides intervention, education, and resources for the complex issues that face these patients and their caregivers. This funding also provided for salaries for staff and the means to purchase some of the necessary equipment for this patient population. This program and the multidisciplinary conferences generate databases that have facilitated additional research proposals. As a result of this collaboration, an oncology specialty tract in the School of Nursing's master's program is being established. It will be the first in the state.

Consultant

As consultants, oncology APNs provide expertise in the management of patients with head and neck cancer. Patients, caregivers, members of the multidisciplinary team, other healthcare professionals, and public organizations can gain information from APNs that will help them to make informed decisions regarding care and management of head and neck cancer.

In the consulting role, oncology APNs facilitate problem solving and decision making, communicate and coordinate treatment plans with various disciplines, and motivate patients, team members, and caregivers regarding implementation of the various interventions of the treatment plan. In this case, the APN served as a consultant to the homecare agency. Specific details about the surgery and wound management, along with information obtained during the initial assessment were provided. Reviewing what was taught to the patient and his wife pre- and postoperatively enabled the visiting nurse to build on the patient's knowledge.

During the patient's postoperative period, the APN was consulted by staff to assist in wound assessment, tracheostomy

care, oral care, and patient teaching. This provided the APN with the opportunity to teach staff members about head and neck cancer with a focus on the oral cavity. It also provided an opportunity to market the HNCRC as a resource for nursing staff when caring for patients with head and neck cancer.

Conclusion

The use and application of the five roles are the nucleus of advanced practice in oncology nursing. These roles are not used independently. Rather, they mesh to form the essence of advanced oncology nursing practice. Application of these roles at the advanced practice level of nursing with patients with head

and neck cancer provides the means for patients to develop critical survival skills. The development and successful implementation of these survival skills enhance the quality and quantity of life and improve compliance with treatment.

Application of these roles to the specialized field of head and neck oncology improves patient outcomes and enhances practice competency. Use of this model in other specialized fields of advanced practice oncology nursing can be beneficial.

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For more information . . .

- National Cancer Institute: Head and Neck Cancer Home Page www.nci.nih.gov/cancer_information/cancer_type/head_and_neck
- Support for People With Oral and Head and Neck Cancer www.spohncc.org
- OncologyChannel: Head and Neck Cancer www.oncologychannel.com/headneck

Links can be found at www.ons.org.