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Assessment and oral care: An essential nursing activity for patients receiving cancer treatment

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Abstract

Head and neck radiation therapy and chemoradiation are inherently associated with severe oral complications such as oral mucositis, infection, and functional issues of the oral cavity, significantly affecting the quality of oral cavity health in cancer patients. Oral care in cancer patients is a vital part of nursing care but can be seen as a most neglected job, along with other duties or a tedious task to undertake. Recognizing the effect of cancer treatment and delivery of oral care as per the specific guidelines to cancer patients is not well known, and it is not clear. Literature review reports that nurses lack specific knowledge regarding the importance of oral care in cancer patients. This review attempts to highlight the significance of oral care, assessment of the oral cavity, and systemic way of performing oral care procedures for the management of cancer patients receiving head and neck radiation therapy/chemoradiation.

Keywords: Cancer patients, chemoradiation, chemotherapy, head and neck radiation therapy, oral assessment, oral care, oncology patients

Introduction

Oral care is a vital element of primary nursing care. However, it has become a formal and tedious activity, a content that is not giving an accurate direction; rather, the advice seems to be contradicting as well as much inconsistency in practice as per the report from various research findings (Barker, Epstein, Williams, Gorsky, & Durlacher, 2005; Draper, 2012; McAuliffe, 2007; Pai, Ongole, & Banerjee, 2019). Seldom do the trained personnel teach it and mostly it is allocated to the junior nursing staff in a hospital. Head and neck

radiation therapy and chemoradiation often result in unavoidable oral problems requiring the need for making oral care in cancer nursing a significant aspect of patient care. However, there is a lot of confusion and conflict that surrounds the best nursing practice concerning providing the most appropriate care when using different agents for oral care, oral assessments, and nursing role, which needs to be redressed (Miller & Kearney, 2001).

Oral hygiene is termed as an essential nursing routine, and it is considered an integral part of patients' overall personal hygiene (Malkin, 2009; Ohrn, Wahlin, & Sjoden, 2000). As an essential part of the healthcare team, nurses are in a better position for assessment of the oral cavity and providing oral care with the help of members of the healthcare team. To perform this task, nurses need to possess adequate knowledge of oral cavity, possible oral problems, and best practice guidelines to deliver more appropriate oral care to cancer patients. Few studies reported a lack of information on oral care of patients with cancer in the professional curricula of undergraduate nursing courses (McGuire, Correa,

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Johnson, & Wienandts, 2006; Miller & Kearney, 2001; Pai & Ongole, 2015). Reports from studies also specify the deficiency in education and continuing nursing education among nursing staff about oral care of patients with cancer (Carter, Harris, Kavi, Johnson, & Kanatas, 2009). Authors suggested having continuing education regularly to render more appropriate and updated information to the staff nurses (Perry, Iida, Patton, & Wilder, 2015; Southern, 2007; Speedie, 1983). Trained nurses demonstrated insufficient oral care of patients in the medical wards due to inadequate awareness related to oral health (Adams, 1996).

Oral complications of chemotherapy/radiation therapy treatment

Complications can be acute and chronic. Complications arising during therapy are termed acute complications. Chemotherapy typically leads to the development of severe complications that reconcile once treatment completes. Complications that remain or emerge months to years after the completion of the treatment are known as chronic complications. Along with the incidence of acute complications, radiation therapy can cause permanent damage to oral tissues, thus placing the patient at potential and long time risk for the development of oral problems (PDQ Supportive and Palliative Care Editorial Board, 2002).

Complications of chemotherapy include inflammation and ulcers of the oral mucous membrane, easy bleeding in the mouth, and nerve damage. In contrast, radiation therapy includes fibrosis in the mouth and muscle, tooth decay and gum disease, breakdown of tissue and bone in the area that received radiation. Those caused by either chemotherapy and radiation therapy include oral mucositis, infections, taste changes, dry mouth, pain, malnutrition, dehydration, tooth decay, and gum disease (PDQ Supportive and Palliative Care Editorial Board, 2002).

Head and neck radiation therapy and chemotherapy are intrinsically related to the occurrence of various oral problems, both affecting the hard and soft tissues of the oral cavity and associated structures such as the salivary glands. These complications range from the initial oral mucositis, bleeding gums to osteoradionecrosis. The incidence of oral mucositis plays a considerable role

in the quality of life of cancer patients (Sciubba & Goldenberg, 2006). These oral problems may include severe pain and distress, leading to trouble in eating, drinking, swallowing, and speaking. The potential of receiving infections is mainly due to the effect on oral mucosa leading to oral infection and systemic infection. Xerostomia, a chronic side effect of radiation, leads to changes in taste, raises the potential risk for emerging into dental caries and periodontal diseases (Potting, Mank, Blijlevens, Donnelly, & Van Achterberg, 2008).

Oral complications are the common side effect faced by most cancer patients who are on cancer treatment, especially head and neck radiation therapy/chemoradiation. Some of the oral problems will be seen during treatment, whereas problems like dry mouth, osteonecrosis may continue for years (Basu *et al.*, 2012).

- Past dental care or treatment received
- Past oral issues faced
- Using dentures and elderly patients
- Present nourishment
- The present plan of treatment including the drugs, surgery advice, or radiation therapy
- Regular oral hygiene practices.
- Providing evidence-based oral care

An expert committee was formulated by the association of the MASCC/ISOO to assess the literature to develop empirically supported guidelines for oral mucositis on early identification, prevention, and treatment. Empirically tested best clinical practices were displayed as standards for the practitioners to use the same for routine care of apt patients. This study even suggested for clinicians to conduct a proper quality trial to justify the practices (Rubenstein *et al.*, 2004). Arden cancer network executive group in the UK in 2014 recommended guideline for oral care including a brief introduction, the importance of oral health, aims of the protocol, occurrence of oral ulcer, risk factors for oral ulcer, assessment of oral cavity, oral complications WHO scale, standard mouth care for patients, nutritional considerations, stomatotoxic drugs, and oral assessment tool. This guideline was

developed as version 2 and was implemented at Arden Cancer Network, UK (Watkins, 2014). Quinn (2009) developed an oral care module to address mouth care in cancer care, which included critical facets of oral care, assessment, and treatment in London, UK. This module included various strategies for oral care at hospitals, hospices, and home locations.

A oral care protocol was developed in Pittsburgh, USA based on the nurse navigated patient focused approach by reviewing the various modalities of treatment and consequences of cancer treatment on the oral cavity. This new protocol developed included oral rinsing with normal saline, flossing, and assessment of the oral cavity (Sieracki, Voelz, Johannik, Kopaczewski, & Hubert, 2009). Broadfield L (2006) conducted a study to manage the side effects of cancer therapy by developing good clinical guidelines for addressing and treating the oral complications arising from cancer treatment. According to the author, strictly following oral care procedures could help prevent oral complications. Sternly following oral care and performing oral rinsing can lead to a good foundation of oral hygiene protocol (Broadfield, 2006). Cullen et al. (2018) compiled continuing education updates for oral care for managing oral symptoms in head and neck cancer. In this project, the oral kit was made, which included an ultra-soft toothbrush, dental floss, salt and baking soda packets for oral rinsing, Biotene-based toothpaste, and a denture cup, and other small cups (Cullen et al., 2018).

Weekly expert oral care, which included dental cleaning, scaling, brushing directions, and lifestyle guidance was included as a part of early intervention of oral care and its effect on oral mucositis in patients receiving chemotherapy in Japan Saito et al. (2014). Smink and Gosselin-Acomb (2004) conducted a study to assess if the group received education as an intervention differed in oral care habits from the group that did receive only standard teaching. Initially, patients were educated on oral care aspects like brushing, flossing, and mouthwash use before and during radiation therapy. As a motivational gesture, patients were given points if they have performed the components of oral care as per the protocol.

The promotion of good oral hygiene should be an integral part of clinical practice to decrease the oral bacterial burden and the risk of dental caries (Malkin, 2009). Few pieces of evidence suggest that proper oral care is associated with a reduction in oral complications. However, there is no universally recommended oral care protocol. Constant practice of good oral care can help to lessen the effect of oral complications (Epstein & Barasch, 2018).

Conclusion

Nurses need to be aware that the concept of oral care or oral health is not only cleaning teeth, but there is a constant requirement to have adequate knowledge regarding the possibility of oral problems so that nurses can initiate apt action to address these issues and provide the best possible care. Continuing good oral hygiene during and after cancer treatment can reduce complications such as cavities, oral mucositis, and infections.

If this oral care of cancer patients is prioritized as an essential component of nursing care and the achievement of the primary goal of oral care will guarantee good oral health and a sense of comfort for cancer patients receiving cancer treatment. Cancer patients rely mostly on the healthcare team, especially cancer nurses, to make them aware of oral problems as well as to get the best possible care as oral care is considered to be the most fundamental practice in nursing care and can be planned along with other aspects of patient care.

Providing efficient oral care involves skill highlighting the essential elements required for best clinical practice in nursing, namely oral assessment, defining the aim of oral care, providing oral care, and lastly, documentation and monitoring the outcome of care. In the future, research needs to be planned to know the existing nursing practice, monitor for the outcome of various oral care agents, and awareness of nursing knowledge on implementation of these oral care protocols based on best practice guidelines. This would support more efficient care of the oral cavity correctly when we are caring for a cancer patient receiving cytotoxic cancer treatment.

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