■ CNE Article/*CJON* Writing Mentorship Article

Understanding Taste Dysfunction in Patients With Cancer

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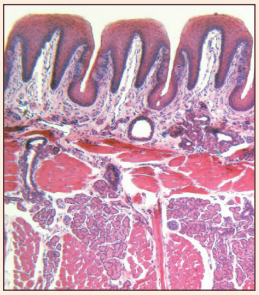

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Taste dysfunction is a significant but underestimated issue for patients with cancer. Impaired taste results in changes in diet and appetite, early satiety, and impaired social interactions. Nurses can play a key role in educating patients and families on the pathophysiology of taste dysfunction by suggesting interventions to treat the consequences of taste dysfunction, when available, and offering psychosocial support as patients cope with this often devastating consequence of treatment. Taste recognition helps humans identify the nutritional quality of food and signals the digestive tract to begin secreting enzymes. Spoiled or tainted foods typically are recognized by their bad taste. Along with the other sensory systems, taste is crucial for helping patients treated for cancer feel normal. This article will review the anatomy and physiology of taste; define the different types of taste dysfunction, including the underlying pathophysiologic basis related to cancer treatment; and discuss potential nursing interventions to manage the consequences of taste dysfunction.

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Taste dysfunction is associated with decreased food consumption, poor appetite, early satiety, altered nutrition, and impaired social interactions (Abe, 2008; Boyce & Shone, 2006; Hutton, Baracos, & Wismer, 2007). Knowledge of the anatomy, physiology, and pathophysiology of taste will help nurses understand the interventions used to manage the effects of taste dysfunction.

The importance of taste often is underestimated. Taste is important because food has sociocultural and emotional significance. Normally functioning sensory systems, which include taste, aid in the maintenance of ordinary daily life (Abe, 2008). Taste is one of the five primary sensory systems, which function to transmit information from the outside world to the mind. The five primary senses are vision, hearing, touch, smell, and taste. Together, those senses enable humans to maintain normal function. That, therefore, is one of the reasons why familiar-tasting food is comforting and pleasant. Taste recognition also helps humans identify the nutritional quality of food, signals the digestive system to secrete enzymes, and signals the pancreas to secrete insulin (Breslin & Huang, 2006). In addition, taste helps protect against ingesting spoiled and tainted foods which typically are recognized by their sour or bitter taste.

Four primary taste modalities exist: sweet, sour, salty, and bitter. Combinations of those basic tastes aid in the recognition of the millions of possible food flavors. But taste is only one component of flavor recognition; flavors also are recognizable by aroma, color, texture, and heat. Taste and flavor are not synonymous terms, although people commonly confuse taste with flavor recognition (Soter et al., 2008). For example, the flavor of chocolate ice cream can be recognized by its cold temperature, smooth and creamy texture, and brown color alone. In addition, taste-perception centers are located in the emotion-sensing areas of the brain (Lundy, 2008; Scott, 2005), which is one reason why food has such powerful cultural and societal significance.

Anatomy of Taste

Taste receptor cells are found in the back of the throat and in the upper one-third of the esophagus, but most are located on the tongue. The anterior surface of the tongue is covered with tiny dome-shaped projections called papillae. Taste receptor cells are found inside the taste buds located on the taste papillae. Four different types of taste papillae are found on the tongue: fungiform, foliate, circumvallate, and filiform (see Figure 1).