

Systematic Review of Malnutrition Risk Factors to Identify Nutritionally At-Risk Patients With Head and Neck Cancer

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BACKGROUND: Patients with head and neck cancer are prone to malnutrition, which can lead to adverse health outcomes. A review of the literature revealed a lack of systematic reviews addressing risk factors for malnutrition in this population.

OBJECTIVES: This study aimed to fill the knowledge gap by identifying risk factors for malnutrition in patients with head and neck cancer.

METHODS: A comprehensive search was conducted in PubMed®, Web of Science, Embase®, and Cochrane Library databases, spanning from their inception until June 2023. Three researchers critically evaluated the inclusion and exclusion criteria. Two investigators independently screened the literature and extracted data, resolving any discrepancies through consensus.

FINDINGS: This systematic review includes 18 studies. The results indicated that risk factors for malnutrition in patients with head and neck cancer encompass disease-related, genetic, lifestyle, nutritional health, physiologic, psychological, and treatment-related factors.

KEYWORDS

cancer; head and neck; malnutrition; risk factor

DIGITAL OBJECT IDENTIFIER

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HEAD AND NECK CANCER (HNC) IS THE SEVENTH MOST COMMON type of cancer worldwide and refers to a diverse group of malignancies arising from the anatomic sites that compose the upper aerodigestive tract (Mody et al., 2021). In 2018, there were 890,000 new cases and 450,000 deaths (Bray et al., 2018), and these numbers rose to 931,922 new cases and 467,125 deaths in 2020 (Sung et al., 2021). Malnutrition is a common and serious issue for patients with HNC, resulting from the characteristics of the disease and its treatment. HNC is often diagnosed in its advanced stages (stages III–IV), which leaves many patients malnourished and at increased risk for further malnutrition (Bressan et al., 2016). The prevalence of malnutrition or risk of malnutrition at the time of diagnosis ranges from 20% to 67% in patients with HNC and can exceed 80% during the course of the disease (Silva et al., 2019). Long-term severe malnutrition can increase treatment toxicity, reduce response to treatment, raise the risk of infection, prolong hospitalization, lower quality of life, and reduce the survival rate of patients with HNC, all of which are crucial factors that affect the prognosis of patients with HNC (Bao et al., 2020; Kono et al., 2021). Studies (Li et al., 2014; Müller-Richter et al., 2017) have shown that because of the dual effects of increased consumption of energy and decreased intake of calories and nutrients during treatment, patients with HNC have varying degrees of risk for malnutrition. In addition, because of the tumor's location, patients with HNC often encounter challenges with oral intake, gustation, and appetite, which further heighten the risk of malnutrition (Dechaphunkul et al., 2013). The treatment and complications arising from the tumor itself also can severely impair oral feeding, rendering patients more vulnerable to nutritional issues. Consequently, the likelihood of malnutrition can increase from 3%–52% before radiation therapy to 44%–88% after (Tunzi et al., 2022). Chemotherapy often leads to side effects such as mucositis, enteritis, and colitis, thereby exacerbating malnutrition (Lee et al., 2023). The stress response from surgery can trigger catabolism, which often results in malnutrition postoperation (Tong et al., 2022).

Although several studies have explored risk factors for malnutrition in patients with HNC, a comprehensive systematic review on this topic is lacking. The objective of this article is to bridge this gap by conducting a systematic review to identify the risk factors for malnutrition in patients with HNC in general.