Review Article

Strength in Synergy: The Essential Role of Onco-Nutrition Multidisciplinary Teams in Cancer Care and Recovery

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Abstract: Cancer-associated cachexia and anorexia syndrome (CACS) is a significant problem of oncology population, which is characterized by an unintentional loss of weight and constant inflammation. Malnutrition is encountered in about 75 % of all patients with cancer, which increases likelihood of complication, lowers the adherence to treatment, and lowers the quality of life. Malnutrition predisposition is especially relevant in older people and patients with head and neck, lung, and stomach cancer patients.

The Nutritional screening and intervention is essential to the identification and recovery of malnourished patients because of a timely approach. Research has shown that post-operative nutrition intake may be improved through nutritional supplementation and that early clinical nutrition interventions are linked to substantially better treatment outcomes. There are multiple tools of nutritional assessment screening malnutrition, and acting nutrition assessment and intervention showed better patient outcome.

Nutritional therapy has continued to be an important part of cancer management and it includes personalized interventions, including oral nutritional supplement and nutritional counseling. Constant nutritional screening and evaluation is crucial in the formulation of efficient treatment plans. Focus on nutritional issues and individualized approach may enhance the treatment results and allow the patients to live a better life. Since healthcare professionals can alleviate the harmful consequences of malnutrition, they will be able to improve patient care and maximize their outcomes. Eating therefore should form part and parcel of the treatment of cancer in order to push towards patient outcomes.

Keyword: Cachexia, Neoplasms, Malnutrition, Diet therapy, Patient care team, Nutritional assessment, Nutrition therapy.

INTRODUCTION

Cancer-associated cachexia and anorexia syndrome (CACS) is a significant concern for cancer patients, primarily manifesting as unintended weight loss. It is a type of disease-related malnutrition linked to chronic inflammation, causing gradual functional decline due to continuous loss of skeletal muscle and/or fat. Unlike traditional dietary therapy, CACS is not fully reversible [1].

About 75% of cancer patients experience malnutrition [2], which is linked to increased risk of chemotherapy-induced complications, lower treatment compliance, increased complication rates, prolonged hospital stays, suboptimal post-surgical outcomes, and an unsatisfactory quality of life. Addressing the nutritional needs of these patients is crucial, as malnutrition not only diminishes their quality of life but also contributes to 10% to 20% of mortality in cancer patients [3].

Malnutrition may result due to increased caloric uptake by highly mitotic tumor cells, inadequate dietary intake, or secondary to cancer therapy, resulting in a loss of muscle mass, a drop in physical functions, and declining clinical outcomes. Compared to patients with other cancer types, malnutrition is more common and severe among older patients and those with upper gastrointestinal (GI), head and neck, and lung malignancies [4].

Upper GI malignancies, specifically esophageal cancer is associated with the highest risk for malnutrition and weight loss [5]. In a research done in 1988 by Japanese doctors, the impact of nutritional supplementation in patients with gastrointestinal cancers was studied. A significant correlation between preoperative nutritional state and the incidence of postoperative issues was explored which proved the importance of improvement of nutritional status by preoperative nutritional support [6].

Additionally, extended hospital admissions can result in sarcopenia in cancer patients as well. Sarcopenia is a condition characterized by extensive weight loss affecting a high percentage of cancer patients with the prevalence depending on the type of primary tumor and stage of disease [7].

The available evidence suggests that early clinical nutrition interventions appear to be linked to lower therapy-related toxicities, higher relative dosage intensity, and fewer treatment delays for cancer patients. In order to identify and treat patients who are malnourished or in danger of malnutrition early on, it is imperative that nutritional screening be done on a regular basis [8].

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Various malnutrition screening tools can be used to easily asses the nutritional status of respective patients. Some of these tools include the Patients Association Nutrition Checklist, Simplified Nutritional Appetite Questionnaire, and the Malnutrition Screening Tool. A study carried out in the Johns Hopkins Pancreas Multidisciplinary Clinic (PMDC) in 2017 states that for individuals with pancreatic adenocarcinoma, proactive nutrition assessment and intervention are linked to better results [9]. As previously discussed, Nutritional therapy is a crucial component of cancer treatment, involving tailored interventions such as oral nutritional supplements, nutrition counseling education, and when necessary, enteral or parenteral nutrition support [4].

Given the imperative role of nutritional intervention in cancer care, entire plan cannot be accurately assessed or devised in a single instance. This limitation in conventional management contributes to inadequate nutritional status among cancer patients. In the study by Xueqing Ou *et al.* patients undergoing chemo radiotherapy (CRT) for nasopharyngeal cancer were enrolled and they were allocated to either MDT or routine nutrition management [10]. Patients who were managed under MDT setting had fewer documented weight loss and lesser treatment breaks in comparison to the other group.

DISCUSSION

It is best to have a detailed discussion of the patient's condition in a site-specific multidisciplinary tumor board meeting before starting the first phase of cancer management. A complete cancer service of the highest caliber must include these meetings. Tumor boards provide us the chance to assess the integrity of initial workups, investigations, and, in some situations, to make the required adjustments in tumor staging and sub-staging. Owing to this approach, every case reviewed in tumor boards is guaranteed to have precise treatment recommendations [11].

MDT tumor boards have been demonstrated by scientific data to change management choices and save expenses. For MDT tumor boards to be successful, physicians must participate actively and effectively, and hospital administration must manage the boards well to ensure that they are productive despite the time and effort required. A research done in the UK found that crucial elements for an effective MDT tumor board were patient selection for discussion, proforma or checklist use, patient-related factor description, and key member engagement [12].

According to a research, patients with head and neck cancer yielded better results in terms of feeding and swallowing when treated by telemedicine and multidisciplinary teams [13]. In another study [14] a multidisciplinary team approach (for nutritional interventions conducted by specialist nurses), improved prealbumin levels in colorectal cancer patients undergoing chemotherapy, with no weight change since patient weight, serum albumin, and prealbumin levels reflect the nutritional status of cancer patients and have been found to be important predictors of prognosis of many cancer patients [15].

Administering tailored nutrition therapy has improved lab markers, weight, and body mass index (BMI) for patients with head and neck cancer, decreased the likelihood of developing malnutrition, enhanced their quality of life, decreased the risk of radiation-related side effects, and increased long-term effectiveness [16].

Nutrition management helps identify patients with low nutritional status in time to provide better nutritional support. The physical state of every patient can be thoroughly evaluated from several perspectives when multidisciplinary team nutrition management is used, enhancing the effectiveness of therapy.

Onco-nutrition teams can individualize nutritional interventions based on the patient's cancer type, treatment stage, and unique health necessities. Collaboration with designated specialists ensures that nutrition complements various types of cancer therapies and other treatments, improving the patient's endurance and overall recovery. Partnership between nutritionists, oncologists (medical, surgical and radiation), psychologists, nurses and other specialists ensures that the physical, emotional, and mental aspects of patient care are dealt with unanimously. With such multi disciplinary approach, the treatment side effects can be managed, immune function fortified, provide emotional support as well as coping mechanisms, all of which are key to a good recovery [17, 18].

Furthermore, our proposed onco nutrition MDT has the potential to offer care beyond active cancer patients to cancer survivors. Onco nutrition teams supplement cancer survivors with patient specific dietary plans that prevent cancer recurrence by fortifying with nutrients that initiate optimal immune function, aid in maintaining a healthy BMI and include necessary dietary constituents for facing long term side effects of cancer treatment such as fatigue, digestive issues, neuropathy, or cognitive changes [19, 20].

The after effects of cancer treatment put many cancer survivors at high risk of other health conditions, most commonly heart diseases, as well as diabetes or obesity [20]. Through individualized meal plans, the onco-nutrition team helps to prevent or manage these comorbidities, where food choices not only prevent cancer recurrence but solve other emerging problems with health.

Besides well documented positive effects of adequate nutrition on physical health, nutrition also plays a big part in mental health, which is often neglected during cancer recovery [21]. And poor diet can make feelings of anxiety, and depression worse, leading to cognitive regression following cancer treatment. Working with psychologists or psychiatrists reveals that a diet filled with mood boosting nutrients (such as omega 3 fatty acids and B vitamins) can actually create a positive emotion in your life [22]. As a result, such an integrated approach does not only address physiologic recovery but it also may improve mental resilience, so critical in cancer survivorship.

CONCLUSION

Given that a cancer patient's nutritional needs may change over time, an onco-nutrition MDT has to deliver on regular basis and alterations of a survivor's care plan to achieve appropriate management strategies.. This continuous cooperation lowers morbidity further by enabling the team to identify and treat any new nutritional deficiencies, monitor long-term health risks, and stop complications before they arise.

Therefore, we propose that a multidisciplinary culture relating to Onco-nutrition teams consisting of oncologists, professional nurses, clinical nutritionists, and the patients themselves should be introduced to cater to the nutritional demands of cancer patients arising from the background of cancer pathogenesis or treatment adverse effects.

ABBREVIATIONS

BMI: Body mass index.

CACS: Cancer-associated cachexia and anorexia syndrome.

CRT: Chemoradiotherapy.

GI: Gastrointestinal.

MDT: Multidisciplinary team.

PMDC: Pancreas Multidisciplinary Clinic.

UK: United Kingdom.

AUTHORS' CONTRIBUTION

Amna Farooqui: Conceptualization, Writing Draft, Critical review and revision the manuscript, Final approval, Final proof to be published.

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ETHICAL DECLARATIONS

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Not applicable

Ethical Approval

Not applicable.

Consent to Participate

Not applicable.

Consent for Publication

Consented.

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