

Nursing Management of Cancer Cachexia: A New Frontier

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Cancer cachexia is a harmful metabolic disorder associated with a malignant tumor, and the key to diagnosis is progressive weight loss.^[1] The benefits of available pharmacological interventions are limited and far from the valid endpoint that patients are demanding.^[2] A multimodal approach is thought to be the ideal intervention because cancer cachexia is a multifactorial disease that manifests in various forms, including tissue wasting, malnutrition, physical dysfunction, and psychological burden.^[3] However, no practical multimodal intervention has yet to be established.

Figure 1 shows the pathogenesis of weight loss in cancer cachexia. Cancer itself causes metabolic abnormalities, including chronic inflammation and imbalance in the tissue synthesis/degradation system. Pharmacological options for restoring metabolism are currently limited.^[4] Managing nutrition impact symptoms caused by cancer or cancer treatment is now a standard intervention for cancer-related malnutrition, mainly by dietitians.^[5] We propose here the management of physical impact symptom (PIS), defined as a set of potentially modifiable conditions that result in physical inactivity when left untreated. It is an essential target of intervention by nurses and consists of the following items:^[6]

1. Negative behavioral changes due to cancer or cancer treatment, such as decreased outdoor activity, decreased social behavior, and discontinuation of household habits. Physical activity promotive counseling may be beneficial. It is primarily based on behavioral change techniques, including optimal goal setting, action

- planning and instruction, self-monitoring via a wearable accelerometer or diary, and feedback from instructors
- 2. Physical symptoms that prevent going out: Facial rashes caused by molecular targeted therapy make patients hesitant in going out. Pain due to treatment-related paronychia makes it impossible to wear footwear and worsens when walking. Frequent diarrhea, dyspnea on exertion, and fatigue can increase anxiety and discourage going out. These symptoms are potentially manageable in cooperation with dermatologists or other specialists to promote physical activity
- 3. Risks of fall: Education on fall prevention is essential, especially for the elderly. Their first experience of falling can create a fear of walking that leads to physical inactivity. Patients and caregivers are encouraged to pay attention to instability symptoms (e.g., dizziness, knee pain, and foot numbness), shoe choice (e.g., prohibition of the use of sandals or slippery shoes), and environmental fall hazards (e.g., maintaining a clutter-free floor).

Eating- and weight-related distress is due to reduced food intake and changes in body appearance^[7] that contributes to the psychosocial burden of patients. Furthermore, social isolation distress is caused by the reduced frequency of going outdoors.^[8] This reduces the quality of life of patients and their caregivers.

What, then, is the role of nurses in multimodal care for cancer cachexia? Possible targets for intervention are listed in Table 1, with each profession contributing a different role based on the pathogenesis of cancer cachexia. Nurses can be

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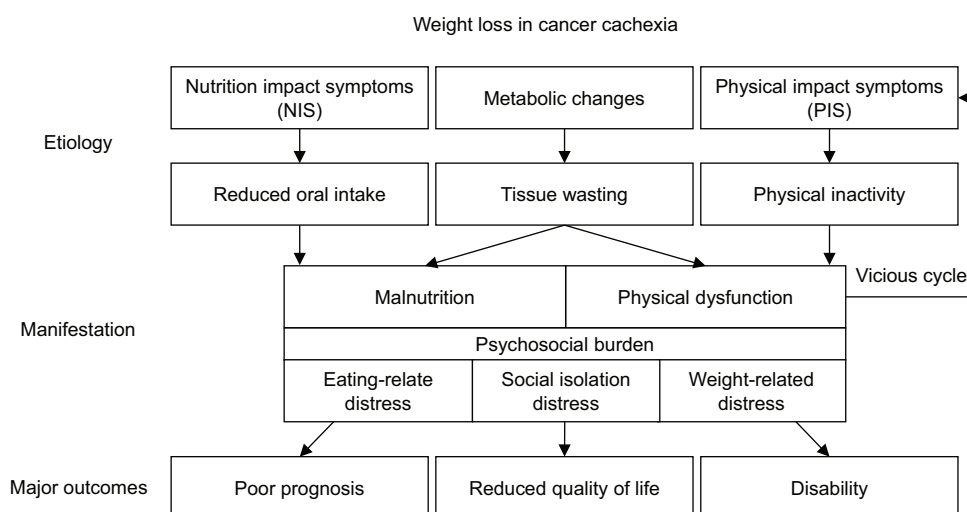


Figure 1: Pathogenesis of weight loss in cancer cachexia. Etiologies of weight loss in cancer cachexia include nutritional impact symptoms, metabolic changes, and physical impact symptoms, causing reduced intake, tissue wasting, and physical inactivity. They manifest physically and psychosocially. These cause psychosocial burden, including eating- or weight-related distress and social isolation distress. This pathogenesis eventually results in major worse outcomes in cancer cachexia, including poor prognosis, reduced quality of life, and disability. Each item is potentially manageable by multimodal intervention for cancer cachexia

Table 1: A model of multimodal interventions in cancer cachexia				
Possible targets for intervention	Role of specialists			
	Nurse	Dietitian	Physiotherapist	Oncologist
Metabolic changes				Anti-cachectic medication
NIS	Symptom management	Nutritional advice		Symptom management
PIS	Physical activity promotion		Instruction for walking	Symptom management
Malnutrition		Oral nutritional supplement		
Physical dysfunction	Motivating patient to exercise		Exercise prescription	
Psychosocial burden consists of three items				
Eating-related distress	Interactive interventions with patients and caregivers, coping support, and motivation	Nutritional advice		Consulting with psychotherapist or psychiatrist if needed
Weight-related distress				
Social isolation distress				
Disability	Coordinating social supports		Exercise prescription	Connecting with home care
Complexity of care	Integration of multimodal care			Optimizing oncologic care

NIS: Nutrition impact symptoms, PIS: Physical impact symptoms

involved in most of these items, especially in managing PIS and psychosocial burden, where they play a more crucial role than any other profession. Interactive interventions involving patients and caregivers can promote behavioral change and social activity, reduce the gap between their ideals and reality,^[9] encourage coping, and improve their quality of life.^[6,7]

Finally, we should note that the complexity of care involving many professionals often results in patient isolation. Specialists demonstrate excellent expertise, often without seamlessly integrating care among them. Consequently, the patient continues to transfer between specialists in confusion, like a bankrupt shuttlecock.^[10] Nurses also play a significant role in coordination. They act as a bridge for dialog between specialists, coordinating care that is coherent and integrated. Nurses are health-care professionals who are closest to patients and their caregivers.

They could voice out the concerns of patients and their caregivers to various specialists. This will help improve problem solving. There is an urgent need to train nurses who will engage in active interventions in this field. Pre- and postgraduate education is essential for nurses to be aware of their role in cancer cachexia care.

Cancer cachexia has plagued humankind for a long time,^[2] but with the emergence of innovative treatments, new light begins to shine.^[4] Future research will tell us more about how multimodal nursing interventions and pharmacologic treatment can be integrated to achieve the full circle of multidisciplinary care. Therefore, cancer cachexia is now a promising frontier in the field of oncology nursing.

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Conflicts of interest

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