

# Challenges and Recommendations for Dietary Management of Metastatic Breast Cancer Patients in Low-resource Settings

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## Abstract

Breast cancer ranks as the most prevalent cancers among women with around 2.3 million cases newly diagnosed in the world, including in Indonesia. Among many factors, lifestyle changes, delayed diagnosis, and limited access to healthcare services to be are the leading cause of increased diagnosis. The challenges for breast cancers do not end there, metastases could occur which leads to higher health burden. In low resource setting in particular, cancer nutrition management can be such a challenge due to lack of nutrition training on cancer nutrition among healthcare professionals, lack of confidence of family caregivers due to limited knowledge in cancer nutrition management, and absence of cancer nutrition management guideline. There needs to be evidence-based dietary recommendations to be implemented as part of public health policy related to cancer nutrition management. Such dietary recommendations would help alleviate health burden in breast cancer patients, decreasing potential risk of metastasis and other indicators of poor prognosis.

**Keywords:** Metastatic breast cancer- cancer nutrition management- low-resource setting

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## Introduction

Cancer patients are at risk for malnutrition. This is due to changes in energy metabolism following cancer therapy including chemotherapy and radiotherapy. Patients in developing countries, including in Indonesia, experience a severe malnutrition [1, 2]. It has been reported that approximately one in five cancer patients die due to malnutrition rather than the progression of the cancer itself [3, 4]. Therefore, proper adequate assessment in meeting nutrition needs plays a significant role in the management of cancer.

We aim to present the challenges to support dietary needs for breast cancer patients and their family especially those in metastatic condition in Indonesia, as an example of the low resource setting. We also attempt to provide some practical recommendations for meal management for metastatic breast cancer (mBC) patients to be applied in low resource settings.

### *Understanding the nutritional challenges faced by metastatic breast cancer patients*

Aggressive cancer treatment, such as chemotherapy, negatively impact of the quality and intake of both micro and macronutrients, which leads to a decline of the patients' nutritional status [5]. Breast cancer patients undergoing chemotherapy often experience eating related issues, including vomiting, nausea, dry mouth and loss of appetite, which results in hunger along with dry mouth [6]. Additionally, changes in taste are linked to a decline in body mass index [6].

Self-care behaviors for managing chemotherapy may affect health outcome for patients with breast cancer. Recent longitudinal study in India has shown that, in general, the self-care behavior of women with breast cancer for managing chemotherapy side effect were inadequate [7]. This highlights the need for family caregivers' involvement to support them at home.

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### *Daily practices of metastatic breast cancer patients and family caregivers in Indonesia for meal preparation*

In many parts of Asia, meals are deeply associated with kinship, love and comfort. For instance, in Singapore, food is considered an integral part of dignity and identity, preserving cherished memories and symbolizing resilience [8]. Even patients in palliative care often seek to maintain their regular meals, viewing mealtimes as a source of comfort [8]. Similarly, in Japan, family caregivers put great effort into preparing meals for patient. Therefore, in some cases, patients are willing to eat as a way to showing their appreciation for the care and support provided by their family through food [9].

Eating problems for cancer patients put significant pressure on family caregivers, particularly due to a lack of knowledge and skills for managing nutrition [10]. In Indonesia, a country with a strong caregiving culture, family caregivers play a pivotal role to supporting patient. Family caregivers provide meal support for breast cancer patients [11]. A patient's lack of appetite can cause significant concern for family caregivers [12]. Meal preparation serves as an expression of love and affection which taken very seriously by the caregivers. This may lead to tension between when patient refuse food they have been prepared [12].

Since family plays an important role in nutritional care, it is vital for healthcare professionals to provide them with proper education in meal management. In Japan, meal preparation causes distress for family caregivers and had a need for nutritional support [9]. However, in Southeast Asia, nurses are currently the primary collaborators for nutritional care in cancer management, highlighting the limited involvement of professional dieticians [13].

### *Limited dietary guidelines for cancer survivors*

As reported by the World Cancer Research Fund/American Institute for Cancer Research (WCRF/AICR), recommendations for cancer prevention include implementing a healthy and balanced diet to maintain proper weight management and being physically active [14]. The journey of cancer survivorship care should go beyond cancer surveillance, which covers cancer prevention for recurrence and metastasis [15]. Despite the important role of dietary management in cancer prevention for recurrence and metastasis, studies have reported that cancer patients and survivors reported lack of effective dietary information from healthcare providers during and following treatment [16]. This Australian study identified several gaps in dietary management for cancer patients including: 1) managing ongoing symptoms, 2) healthcare professional support for proper weight management, and 3) practical skills for adhering to healthy eating [16]. When low source settings are being considered, as such in Indonesia, there are other factors to consider: translatability of international dietary management guideline to local Indonesian food source and accessibility related to cost and time spent by caregivers in preparing and planning the menu should also be kept in mind.

There is limited evidence showing some dietary interventions in cancer management, including increasing

fruits, vegetables, and fiber intakes [17]. A randomized controlled trial of a dietary intervention administering a home-based mentored vegetable gardening has been shown to increase fruits and vegetables intakes in addition to increasing physical activity [18]. However, none of the studies referred to here were done in Indonesia. Highlighting the challenges in translating the recommendation for dietary management from these dietary interventions. Considering the importance of dietary management in cancer prevention for recurrence and metastasis including in breast cancer patients, we need to provide evidence-based dietary recommendations to be implemented as part of public health policy. Only when we move in that direction can we start seeing the impact of mortality reduction from malnutrition in cancer patients.

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