

# Nutritional Status of Breast Cancer Survivors 1 Year after Diagnosis: A Preliminary Analysis from the Malaysian Breast Cancer Survivorship Cohort Study



Hazreen Abd Majid, PhD, RD; Low Phei Keow, MMedScPH, RD; Tania Islam, PhD; Tin Tin Su, MD; Marie Cantwell, PhD; Nur Aishah Taib, MD; MyBCC Study Group

## ARTICLE INFORMATION

### Article history:

Submitted 1 December 2016  
Accepted 30 May 2017  
Available online 27 July 2017

### Keywords:

Breast cancer  
Dietary intake  
Malaysian  
Malaysian Breast Cancer Survivorship  
Cohort (MyBCC) study  
Survivors

2212-2672/Copyright © 2018 by the Academy of  
Nutrition and Dietetics.  
<http://dx.doi.org/10.1016/j.jand.2017.05.024>

## ABSTRACT

**Background** Lifestyle factors, such as diet, body weight, and physical activity, are linked to better survival after breast cancer (BC) diagnosis. A high percentage of the Malaysian population is overweight or obese. In addition, studies have shown a disparity in survival among Malaysian women compared with other higher-income countries. The Malaysian Breast Cancer Survivorship Cohort (MyBCC) study aims to study lifestyle factors that affect survival in BC survivors. These are the preliminary findings on the nutritional status of Malaysian BC survivors.

**Objective** Our aim was to evaluate the nutritional status of BC survivors at 1 year after diagnosis.

**Design** This was a cross-sectional study of 194 participants from the MyBCC study, recruited within 1 year of their diagnosis. Participants completed a 3-day food diary.

**Participants** Malaysian women (aged 18 years and older) who were newly diagnosed with primary BC, managed at the University Malaya Medical Center, and able to converse either in Malay, English, or Mandarin were included.

**Main outcome measures** Dietary intake and prevalence of overweight or obesity among participants 1 year after diagnosis were measured.

**Statistical analyses performed** Student's *t* test and analysis of variance or its equivalent nonparametric test were used for association in continuous variables.

**Results** About 66% ( $n=129$ ) of participants were overweight or obese and >45% ( $n=86$ ) had high body fat percentage 1 year after diagnosis. The participants' diets were low in fiber (median=8.7 g/day; interquartile range=7.2 g/day) and calcium (median=458 mg/day; interquartile range=252 mg/day). Ethnicity and educational attainment contributed to the differences in dietary intake among participants. Higher saturated fat and lower fiber intake were observed among Malay participants compared with other ethnic groups.

**Conclusions** Overweight and obesity were highly prevalent among BC survivors and suboptimal dietary intake was observed. Provision of an individualized medical nutrition therapy by a qualified dietitian is crucial as part of comprehensive BC survivorship care.

*J Acad Nutr Diet.* 2018;118:705-713.

**I**N 2012, ALMOST 1.7 MILLION FEMALE BREAST CANCER (BC) cases were diagnosed worldwide and 24% were diagnosed within the Asia-Pacific region.<sup>1</sup> According to the Malaysia National Cancer Registry Report (2007), breast cancer accounted for 32% of all female cancer cases and was the most common cancer in Malaysia.<sup>2</sup> It is also the leading cause of cancer death in Malaysia and, in 2012, accounted for 25% of all deaths among females in the country.<sup>1</sup> A recent, large population-based cohort study of BC patients in Malaysia reported an overall 5-year survival rate

of only 49%, with the highest rate among those of Indian ethnicity (54%), followed by Chinese (49%) and Malay (45%). This survival rate is lower than in high-income countries, where the reported overall survival rate is >80%.<sup>3</sup>

A systematic literature review and meta-analysis of 82 follow-up studies found that obesity is linked with poorer overall and BC-specific survival in pre- and postmenopausal BC patients, regardless of the time point at which the body mass index was measured.<sup>4</sup> Also, overweight and obesity are common, affecting about 36% to 62% of BC survivors,<sup>5-8</sup> and

contribute to a higher risk of cardiovascular morbidity<sup>9</sup> and BC recurrence<sup>10</sup> than in healthy-weight survivors.

Dietary changes before and after BC diagnosis were reported in a study conducted in Malaysia that used a dietary changes questionnaire.<sup>11</sup> The changes include reduced consumption of red meat, seafood, noodles, and poultry, and an increased consumption of fruit, vegetables, fish, low-fat milk, and soy products.<sup>11</sup> However, earlier studies in Malaysia, which used retrospective dietary assessment methods such as diet history and 24-hour diet recall, showed that BC survivors are not meeting dietary recommendations, especially for fruit and vegetable consumption.<sup>7,12</sup>

As the BC survivor population is growing, the focus of health care is shifting toward better survivorship care, which includes nutritional interventions and lifestyle modifications. Numerous studies on the dietary behavior of and anthropometry measurements and behavioral interventions for BC survivors have been conducted mostly in Western countries, China, and Korea. To date, prospective studies on dietary intake during the survivorship period among the BC population in Southeast Asia are lacking. Disparate rates of survival among Malaysian BC survivors and observed differential survival rates among the various ethnic groups provide an impetus for studying dietary intake and the prevalence of obesity and overweight in this population. Therefore, this study undertakes a preliminary analysis of the nutritional status of BC survivors 1 year  $\pm$  3 months after diagnosis, who are prospectively enrolled in the Malaysian Breast Cancer Survivorship Cohort (MyBCC) study.<sup>13</sup>

## METHODS

### Study Design and Population

The MyBCC study is a hospital-based, prospective cohort study with the primary objective of determining the association between sociodemographic, psychosocial, and lifestyle factors, such as diet and physical activity, on the overall survival and quality of life of multi-ethnic BC survivors. Recruitment started in February 2012 with the aim of enrolling 1,000 participants having treatment at University Malaya Medical Center in the study. To be eligible for inclusion, participants had to be Malaysian women (aged 18 years or older) who were newly diagnosed with BC. The cohort study collected prospective data at baseline and at follow-up at 6 months, 1 year  $\pm$  3 months after diagnosis and treatment cessation. The MyBCC study protocol has been published.<sup>13</sup> The first dietary assessment was conducted at a follow-up visit 1 year  $\pm$  3 months after treatment cessation for the qualified participants. The University of Malaya Institutional Review Board (no. 896.150) approved the study protocol and all participants provided written informed consent.

### Data Collection and Management

**Study Participants.** This nutritional status study is part of the MyBCC study. A total of 337 participants were eligible with the first year follow-up time point (1 year  $\pm$  3 months, after diagnosis).<sup>13</sup> Of these, a total of 264 (78.3%) returned for the follow-up at this time point, while 73 (21.7%) dropped out. The reasons for nonparticipation included missing clinic appointments, transfer to another hospital for treatment, refusal to participate further, or death during the study period. Of the 264 participants, 31 were followed up later

than 1 year ( $\pm$  3 months) after diagnosis and were therefore excluded from this study. Therefore, 233 participants received the food diary for the dietary assessment. Among those who received the food diary, 39 failed to return it. The overall response rate for the dietary assessment was 83.3% and 194 participants who completed the food diary were included in this study.

**Sociodemographic and Clinical Data.** Sociodemographic data were obtained from the participants by a trained research assistant who conducted face-to-face interviews based on a questionnaire at study entry. The data analyzed in this study were date of birth, ethnicity, education level, total household income, marital status, smoking behavior, alcohol consumption, postmenopausal status, and medical history. Menopausal status was defined as discontinuation of menstruation for 12 months or more. The clinical data analyzed were BC stage, treatment modalities (surgery, chemotherapy, radiotherapy, hormonal therapy), and hormone receptors status (estrogen receptor, progesterone receptor). The BC stages were classified according to the seventh edition of the American Joint Committee on Cancer classification system<sup>14</sup> and further categorized into early stage (0, I, and II) and advanced stage (III and IV) for statistical analysis.

**Anthropometry Measurements.** Research assistants and nurses took all the anthropometric measurements using calibrated tools, after having received training based on a standard protocol. Body weight, height, and body fat were taken at study entry and the subsequent follow-up sessions.

Height was measured using a stadiometer (Seca 213 Portable Stadiometer; Seca). The measurement was taken twice and the mean of the measurements to the nearest 0.1 cm was used. Body weight and body fat were assessed using a body composition analyzer (Tanita BC-418 Body Composition Analyzer; Tanita Corporation). Body weight and body fat were measured to the nearest 0.1 kg and 0.1%, respectively.

Percentages of body fat of 25% to 35% and 25% to 36% were categorized as normal for the Asian population aged 20 to 59 years old and 60 to 79 years old, respectively.<sup>15</sup> The body mass index was calculated as the weight in kilograms divided by the square of the height in meters ( $\text{kg}/\text{m}^2$ ). The participants' weight status was classified according to the World Health Organization body mass index classification for the Asian population.<sup>16</sup>

**Dietary Intake Measurement.** Dietary intake was assessed using a 3-day food diary, which was completed once active cancer treatment had ended. It was assumed that dietary intake at this time point would be more representative of habitual dietary intake, as dietary intake often changes during the active BC treatment phase.<sup>12</sup> Two booklets were designed for the dietary assessment, entitled *Food Diary for Malaysian BC Research* and *Food Mini Album for Malaysian BC Research*. The latter included food and drink portion size illustrations to facilitate portion size quantification. The booklets were distributed to the participants with a return envelope. A trained research dietitian provided an in-person explanation and detailed instructions to the participants on how to record their dietary intake using the booklets. Participants were encouraged to record all food and drink

Download English Version:

<https://daneshyari.com/en/article/8571776>

Download Persian Version:

<https://daneshyari.com/article/8571776>

[Daneshyari.com](https://daneshyari.com)