ORIGINAL ARTICLE

DIETARY AND LIFESTYLE CHANGES OF MALAYSIAN BREAST CANCER SURVIVORS: A QUALITATIVE STUDY

A.A Redhwan [1], M.N Md. Idris [1], C Robert [2]

[1]Department Of Community Medicine, Faculty Of Medicine, National University Of Malaysia, [2] School Of Medicine And Health Science, Building 3, Level 2, Room 11 Jalan Lagoon Selatan, Monash University Sunway Campus, 46150 Subang Jaya, Selangor DE

ABSTRACT

Objective **:**This study was performed to determine changes in diet and lifestyle among breast cancer survivors in Malaysia.

Methods **:**This was a qualitative study done on fifteen survivors (8 Malays and 7 non-Malays) obtained from the Oncology and Surgery Department, National University of Malaysia Hospital. The study was conducted using a semi-structured interview format. The data obtained were sorted into various categories via content analysis.

Results **:**Majority of breast cancer survivors increased their fruit and vegetable intake following diagnosis. Some non-Malays changed to vegetarian whereas all the Malays remained on the same dietary pattern. As far as exercise was concerned, all Malays did not exercise before diagnosis, but did so after diagnosis, whereas most of non-Malays did not exercise either before or after diagnosis.

Conclusion **:** Some changes were noticed in dietary and lifestyle behaviors after diagnosis among some survivors. The differences were due to their different cultural and religious backgrounds.

Keywords **:** lifestyle, dietary, breast cancer, qualitative

Correspondence to:*Redhwan Ahmed Al-Naggar*
Department of Community Health, Faculty of Medicine, National University of Malaysia, Jalan Yaacob Latif, Bandar Tun Razak, 56000 Cheras, Kuala Lumpur, Malaysia (e-mail: radhwan888@yahoo.com)

INTRODUCTION

Breast cancer is the most common cancer in Malaysian women and the commonest cause of death due to cancer for women in Malaysia [1]. There is a possibility that the cancer burden will increase due to changes in lifestyle and environment and due to ageing of the population [2, 3].

A great deal about nutrition and physical exercise were known to influence cancer incidence. Some studies showed that, lower total and saturated fat intake, lower alcohol intake, increased fiber intake, increase fruits and vegetables intake, avoidance of postmenopausal obesity, and maintaining a healthy body weight were the factors that can reduce the breast cancer incidence [4-8]. One of the studies showed that women who exercise regularly are less likely to develop breast cancer compared to those women who do not exercise [9].

Evidence has suggested that several modifiable risk factors may reduce disease incidence and possibly disease recurrence [10]. The dietary practices of survivors who have been treated for breast cancer have been described in many studies. In one study, it showed that 66.3% of patients reported making lifestyle changes: 40.4% made one or more dietary changes, 20.8% added new physical activity [11]. Demark-Wahnefried et al (2000) indicated that the majority of breast cancer survivors reported that they already changed to a healthy lifestyle, including lower dietary fat intake, higher fruit and vegetable intake and more frequent physical activity than reported for the general population [12]. In other study, it showed that 31.9% of women had changed their diet after the diagnosis of breast cancer, with the predominant changes being reduced fat, red meat and sugar intake and increased consumption of fruit and vegetables [13]. A report by Saxe and colleagues (1998) demonstrated that higher levels of energy, total fat, saturated fat, and monounsaturated fat were associated with increased risk, whereas bread and cereal consumption was associated with decrease risk of breast cancer recurrence [14]. Another study by Herbert and colleagues (1998) revealed that daily intake of butter, margarine, lard, red meat, liver, bacon, and beer were associated with increased risk for breast cancer recurrence [15].

A little is known about the influence of the lifestyle on survival rate among breast cancer survivors. Dietary fat has been linked to shortened survival in some studies [16, 17] but not others [18, 19]. As a recent review, epidemiological studies of the associations between nutritional factors and progression or recurrence of breast cancer have generally focused on two major factors, body weight and diet. Total fat intake was significantly inversely associated with survival [20]. Evidence for a relationship between the intakes of fruit and vegetables and risk for recurrence or survival is somewhat more supportive [20]. Only one study published to date has specifically addressed the relationship between exercise or physical activity and survival after the diagnosis of the breast cancer [21], and this investigation did not identify a beneficial effect.

METHODOLOGY

In-depth semi-structured face-to-face qualitative study was conducted on 15 Malaysian women. The sample includes Malaysian women who were diagnosed with breast cancer at any stage, one year or more after diagnosis. They were no longer on active treatment such as chemotherapy, surgery, or radiation therapy. Survivors were obtained from the Oncology and Radiotherapy Department and from the Surgery Department, National University of Malaysia Hospital. They were contacted and asked to participate. Those who volunteered were explained of the purpose of the study, and a written informed consent was obtained. Tape recording was used with participant permission and the interview took approximately 60 minutes. The patients were interviewed between March and July 2007.

Once a participant was screened for eligibility and had verbally given their consent by phone to the interview, an appointment for a face-to-face in-depth interview was arranged. Participants were interviewed at their residence or in a mutually convenient location. At the beginning of the meeting, the interviewer introduced himself, briefly repeated the study

purpose, reviewed the elements of informed consent, and asked the patient to sign the informed consent document. The interviewer followed a standardized protocol to ensure that all the participants' interviews were conducted in a similar manner and that an identical set of questions were discussed. After the interview was over, participants were given a token of appreciation to compensate for their time. This study was approved by the ethical committee of the Faculty of Medicine, UKM. The obtained data were sorted into various categories based on content analysis. Due to the small sample size, the data was analyzed manually.

RESULTS

Socioeconomic characteristics

A total of 15 women (8 Malays and 7 non-Malays) were interviewed. Twelve (80%) of the participants were older than 50 years old. Eight (53.4%) of the Malay participants were married. Ten (66.7%) of the participants had finished their primary or secondary education. Most of the non-Malays (46.7%) had a monthly income of more than RM 3,000 (see Table 1). However, most women have normal weight. Regarding changing weight before and after diagnosis, most of Malay survivors decreased their BMI after treatment. One of them maintains the same weight before and after diagnosis whereas another one increases weight after diagnosis. No data available for non-Malays after diagnosis.

As shown in Table 2, majority of participants (53.4%) had a history of using contraceptives. Most women had received more than one treatment modality.

Eating lifestyle

Regarding **fruits and vegetables** intake, all survivors (Malays and non-Malays) increased their fruits and vegetables intake after diagnosis.

Regarding **changing diet to vegetarian**, all Malays did not change to vegetarian after diagnosis.

Some non-Malays changed to vegetarian at least two years after diagnosis, after that they started to eat meat, fish and chicken again but very little.

"*I changed to vegetarian for two years after diagnosis"*

(Chinese, 53 years, married, secondary education)

Regarding coconut milk usage, most Malays cooked using coconut milk every day before diagnosis but after diagnosis they reduced it to once-a-week. All non-Malays did not use coconut milk before or after diagnosis.

Regarding eating red meats, most Malays still eat a lot of red meats after diagnosis.

Most of non-Malays still eat red meats after diagnosis.

"*I took 90% meat after diagnosis*"

(Indian, 54 years, widowed, tertiary education)

Regarding **sweet foods**, all Malays still take sweets after diagnosis but not much. Most of the non-Malays still take sweets after diagnosis but not much.

"I still like and eat fried and oily food, drink coffee and I like sweet food."

(Chinese, 59 years, single primary education)

Regarding **salty food** intake, most Malays still maintain eating salty foods (salty egg and salty fish) after diagnosis although the amount consumed has been reduced, conversely, most non-

Malays did not eat salty foods after diagnosis.

"*I heard people say we can take meat but not the fat of it*."

(Malay, 51 years, widowed, primary education)

As far as **fried foods** were concerned, most Malays still eat fried foods after diagnosis; while some did reduce their fried food intake, unlike the non-Malays where majority of them still maintain their fried foods stuff following diagnosis.

"I take the same food as before the diagnosis because the doctor didn't tell cannot eat anything."

(Malay, 51 years, widowed, primary education)

Table 1 Demographic characteristics of participants

Variable	Malay n = 8	(%)	Non-Malay n = 7	(%)
Age (years)				
<50	2	25.0%	1	14.3%
≥50	6	75.0%	6	85.7%
Years after diagnosis				
1-2	-	-	2	28.6%
3-4	3	37.5%	2	28.6%
≥5	5	62.5%	3	42.8%
Marital status				
Single	-	-	2	28.6%
Married	5	62.5%	3	42.8%
Widowed	3	37.5%	2	28.6%
Education status				
Primary	2	25.0%	2	28.6%
Secondary	4	50.0%	2	28.6%
Tertiary	2	25.0%	3	42.8%
Occupation				
House wife	5	62.5%	3	42.8%
Teacher	1	12.5%	3	42.8%
University lecturer	2	25.0%	-	-
Bank senior executive	-	-	1	14.3%
Monthly income				
<1000	3	37.5%	2	28.6%
1000-3000	3	37.5%	1	14.3%
>3000	2	25.0%	4	57.1%
Number of children				
0	-	-	2	28.6%
1	1	12.5%	-	-
≥2	7	87.5%	5	71.4%
BMI				
Underweight <18.5	-	-	-	-
Normal weight 18.5-24.9	4	50.0%	5	71.4%
Overweight ≥25	2	25.0%	1	14.3%
Missing data	2	25.0%	1	14.3%

Table 2 Clinical variables of participants

Variable	Malay n = 8	(%)	Non-Malay n = 7	(%)
History of oral contraceptive use *				
Yes	3	37.5%	5	71.4%
No	4	50.0%	2	28.6%
No answer	1	12.5%	-	-
Type of treatments***				
Mastectomy	6	75.0%	4	57.1%
Lumpectomy	3	37.5%	4	57.1%
Chemotherapy	6	75.0%	-	-
Radiotherapy	8	100%	4	57.1%
Tamoxifen	6	75.0%	5	71.4%
Traditional medicine	4	50.0%	3	42.8%

*** Some survivors received more than one type of treatment

Physical activities

All Malays did not exercise before diagnosis but most of them exercised after diagnosis such as jogging and walking; and some exercised every day. Two of the survivors never exercised before or after diagnosis.

"Before and after diagnosis is the same; I did not do any exercise."
(Malay, 51 years, widowed, primary education)
"I do slow walking around the area of the house."
(Malay, 58 years, widowed, secondary school education)
"I go for jogging every day after diagnosis"
(Malay, 47 years, married, tertiary education)

Most of non-Malays did not exercise before or after diagnosis, but three do exercise, while one exercised daily.

"*I just work; my work…is demanding, must give report to a very demanding boss. So, I don't have time to exercise."*
(Chinese, 42 years, married, tertiary education)
"I was very active but after the operation I'm no longer active until now, I cannot jog much, but I go for regular dancing"
(Chinese, 54 years, single, tertiary education)

Smoking and drinking alcohol

All Malay survivors did not smoke or drink alcohol. Most non-Malays did not smoke or drink alcohol except one.

"I drink alcohol occasionally."
(Chinese, 54 years, single, tertiary education)

Traditional medicine practice

Regarding the **traditional medicine**, most Malays sought traditional medicines such as herbs from a 'bomoh' before the start of surgery and treatments, whereas most Chinese sought advice from a singseh or use herbs after diagnosis.

"I went to bomoh after weeks of diagnosis"
(Malay, 60 years, widowed, primary education).
"I still take the Chinese herbs until now"
(Chinese, 53 years, married, secondary education).

DISCUSSION

This is the first study of this type in Malaysia. Women who have been treated for invasive breast cancer are known to have increased risk for secondary cancers, including recurrence and chronic illnesses, for example diabetes and cardiovascular disease [22, 23]. Women previously treated for early stage breast cancer are highly receptive to nutrition education [24]. Thus, understanding the patterns of dietary intake and lifestyle behaviors in this population both before and after diagnosis of breast cancer is the first step towards developing relevant approaches to eating behavior modification that will result in reduction in morbidity and mortality for this unique population.

Despite the known risk factors of breast cancer and its recurrence, participants still practiced unhealthy lifestyle after diagnosis. This may be partly due to the small sample size, the educational status of the participants, economic and age status (most of the participants are older than or equal to 50 years old). Others have reported similar finding that older patients less likely will adopt new lifestyle practice in response to diagnosis of cancer [25-27].

Slight differences in lifestyle changes were reported (e.g.: eating more fruits and vegetables, exercise); different lifestyles among the various races were noticed. Other studies reported the same findings that the most common dietary changes were an increased consumption of fruits and vegetables [13, 28]. This might be due to cultural and religious background differences. For instance, drinking alcohol among non-Malays, Malays sought treatment from 'bomoh', etc., however, Chinese sought treatment from 'singseh'; same findings were reported by Lee and colleagues (2000) that breast cancer survivors are very likely to use alternative or complementary therapies. Coconut milk were used by most Malays, however the non-Malays did not. Non-Malays changed to vegetarians however, the Malays did not.

Regarding physical activity, some women started to do physical activities after breast cancer diagnosis. Same findings were reported by Patterson et al. (2003) that some patients reported making changes in physical activity after diagnosis. The women did not exercise after diagnosis partly due to the lack of knowledge and because of the educational status and attitude of the participants (they prefer to stay in the house watching TV). It may also be due to the absence of health care professionals' (HCP) advice. Some patients stated that no one (HCP) told them any thing about lifestyle changes or improving their eating habits.

Physicians could play a key role in promoting behavior change in this area because previous studies showed that their recommendations have a powerful impact on patient's behaviors [30, 31].

Drinking alcohol was reported in non-Malays but not in Malays. This is obviously because of the religion; in Islam alcohol is prohibited for the Muslims.

Culture and heritage play an important role in lifestyle changes (Malays like to eat fried food and cook using coconut milk) whereas the Chinese like to eat soups and steam food. Due to this factor, the non-Malays can easily convert to vegetarian diet whereas Malays found it so difficult. Another reason may be due to the socio-economic status where the Chinese has a higher income than the other races.

The decrease in weight was partly due to the treatment or possibly sub-clinical progression of the disease. It could also be due to the dietary and lifestyle changes.

CONCLUSION AND RECOMMENDATIONS

From this study, most women diagnosed with breast cancer made changes in their diets and lifestyles.

In general, all races increased their fruit and vegetable intake. The Malays tend to maintain their fried food diet, reduced their coconut milk and salt use during cooking and increased their physical activities such as walking and jogging. Since the Malays do not smoke or drink alcohol due to their religion, this question is irrelevant.

Most Malays and Chinese consulted their traditional medical practitioner. The non-Malays reduced their fat intake and did not seem to change their lifestyles. All non-Malays interviewed did not smoke or drink alcohol except for one and that person did not change before or after diagnosis. Some changed to full vegetarian.

The recommendations are to increase the awareness regarding healthy dietary and lifestyles among cancer patients through the media, and campaigns, e.g. (stop smoking and drinking, exercise at least three times a week, maintain normal body weight, increase their intake of fruit and vegetables, reduce salty, oily, fatty and sweet foods, etc.). Family members should be encouraged to practice healthy lifestyles and go for periodic health screening.

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