

The Experience of Breast Cancer Patients Related to Diet and Eating Patterns after Diagnosis of Breast Cancer: A Descriptive Explorative Study

Yakobus Lau De Yung Sinaga, BSND, MPH¹, Stevani Basry, Ners, M.Kep.²

¹Faculty of Health Sciences, Bhakti Kencana University

²Akademi Keperawatan Kebonjati

Corresponding Author: Yakobus Lau De Yung Sinaga;

Abstract:- Breast cancer is the most frequently diagnosed malignant tumor among women in the world, especially in Indonesia. This is qualitative research with a descriptive exploratory approach that aims to explore the experiences of breast cancer patients related to their diet and eating patterns after being diagnosed with breast cancer. 15 participants in this study were selected using selected sampling. Research data were collected from December 2022 to January 2023. This study used semi-structured data analysis from Braun and Clarke. To ensure the rigor and trustworthiness of this study, the standards used by Korstjens and Moser were applied. There were three themes discovered covered in this study: (1) “Vegetarian is the main dietary choice” (2) “The desire to get better is the reason for a change in diet”, (3) “Prayer can increase a sense of optimism in life.” In conclusion, this study determined that most of the participants felt that a vegetarian diet can ensure better health and have reduced animal-based food, and increased their intake of plant-based food, especially fruits, and vegetables. Further study needs to be done to delve further into the impact of a vegetarian diet on breast cancer patients.

Keywords: *Dietary Therapy, Breast Cancer, Plant-Based Diet.*

I. INTRODUCTION

Breast cancer is the most common cancer that can be found in women and it accounts for 12% of all cancer cases worldwide every year (1). In Indonesia, breast cancer is one of the main causes of death for women with cancer (2). The prevalence of breast cancer in 2012 was 0.49% and then it increased to 0.58% in 2018; it is estimated that in 2040 the prevalence of breast cancer will further increase to 0.89% (WHO, 2020). In Indonesia, breast cancer is one of the major causes of death among women, which is around 30.8% (n = 65.585) of the total female population suffering from cancer (n = 213.436) (Kemenkes, 2022). Meanwhile, in West Java, it is estimated that around 26 per 100,000 women suffer from breast cancer (3). Hence, it can be concluded that breast cancer is one of the cancers that attack women frequently and its prevalence has been increasing every year.

Being a breast cancer patient is a challenging experience in a person's life and not all patients can accept their condition of being diagnosed with breast cancer (4). Some breast cancer patients have changed their daily living habits and are committed to improving their diet and lifestyle in the hope to have a healthier body (5). This is a necessary step because a healthy diet has a role in preventing and helping the process of breast cancer treatment (6). Hence, it can be concluded that when diagnosed with breast cancer, the patient begins to choose a healthy lifestyle including a better diet.

Research studies related to the effect of diet and breast cancer progression are still limited and need to be explored further to reach a strong conclusion (7). Diet is one of the lifestyle factors associated with an increased risk of developing breast cancer (8). Further, eating non-vegetarian food regularly can greatly contribute to the induction of breast cancer (9). On the other hand, consuming fruits, and vegetables, and adopting the Mediterranean diet can reduce the risk of breast cancer (10). In addition, foods derived from whole grains can prevent and help in the treatment of breast cancer (11) while reducing the intake of red meat, fat, and high-sugar foods and drinks can reduce the risk of breast cancer (6). Furthermore, a cross-sectional study on breast cancer patients found that there was a positive relationship between breast cancer risk and intake of red meat, smoked products, organ meats, animal fats, white bread, potato products, and candy (12). In daily life, a change in diet may happen especially when diagnosed with breast cancer, and there were only limited studies that explored and described this kind of experience. Hence, this paper would like to delve further in terms of dietary change among breast cancer patients.

II. METHODS

This is qualitative research with a descriptive exploratory study design, in which the researcher wanted to explore the experience of changing dietary patterns among participants who had been diagnosed with breast cancer in a private hospital in Bandung. The data for this study were collected through semi-structural interviews which lasted approximately 30 to 50 minutes and were conducted in two meetings. The first meeting emphasized the profile of the participants and time contracts for the next meetings and

during the second meeting, the participants were asked a set of questions in line with the purpose of this study. A third meeting also was conducted and planned in case several questions needs to be asked. This study uses thematic analysis from Braun and Clarke (13). The researcher in this study acted as the main data collector (14). In the interview process, researchers conducted pre-interviews with breast cancer patients who were not included in the study as participants to test the feasibility and preparedness of researchers to conduct the interviews. In regards to data collection, the participants who participated in the interview were willing to participate in the research process, but if the participant felt uncomfortable, the participant had the right to stop participating in the data collection process at any time and without facing any coercion.

The data collection began in December 2022 to January 2023. Interviews were conducted face-to-face in two meetings. Additional information that was not obtained during those two meetings was asked through telephone. The core question of the interview was, “Can you tell me about your experience regarding diet and eating patterns before and after being diagnosed with breast cancer?”. Then, the probing questions that arise are (i) Can you tell me in more detail about that?”, (ii) “What type of diet and eating pattern do you have currently?”. The interviews were conducted for 30 to 50 minutes. It was recorded with the permission of the participants and the recordings were only listened to by the researchers; it was also given a recording code, such as RP 1 (Recording of Participants #1), RP2 (Recording of Participants #2), and so on. After that, the recording was made into the transcript.

15 participants met the inclusion criteria. Participants in this study were selected using purposive sampling. There were 15 breast cancer patients with stages ranging from 2A to 4 (late stage), of which there were two participants with stage 2A, four participants with stage 2B, two people with stage 3A, three people with stage 3B, and four people with stage 4. This study found out also that there were 13 participants who either avoid or reduce their meat intake and increased their fruit and vegetable consumption.

In regards to their treatment, 13 participants undergo surgery, one participant used hormonal therapy and one participant had not used any medical therapy to treat her breast cancer. The duration of their dietary change ranges from three months to ten years. The age of the participants ranged from 45 to 72 years old, and the educational level varied from elementary school to a bachelor’s degree. In terms of their religion, twelve of the participants are Muslim and the other three are Christians. Eleven participants are Sundanese, two of the participants are Bataknese, and the other two are Javanese.

All of the participants changed their diet after being diagnosed with breast cancer. All of them increased their fiber intake in the form of fruits and vegetables. 13 of the participants identified themselves as vegetarian and two participants reduced their meat intake. Participants were

given codes for example P1 (Participant One), P2 (Participant Two), and so on.

The followings are the rigor and trustworthiness that served as a foundation for this study (14).

- **Credibility:** Researchers met participants twice due to the COVID-19 pandemic. Hence, researchers clarified and validated the data at the second meeting, namely the results of the interviews and recordings shown to every participant so that the transcripts matched the perceptions of participants. Credibility in this study was obtained from the recorded interview results, transcripts, and themes obtained was also shown to the research team.
- **Transferability:** Researchers make a clear, detailed, and systematic description of the research results so that the information conveyed is complete and the context of this study can be used in other situations.
- **Dependability:** Researchers conducted a process audit with the research team starting from determining the research problem, selecting participants, analyzing data, and testing the validity of the data.
- **Confirmability:** The researcher has conducted member checks regarding the interview transcripts which are per the experiences conveyed by the participants. In addition, the researcher conducted a trial audit by the research team.

III. RESULTS AND DISCUSSION

The results of this study provide an overview of the experiences of breast cancer patients related to diet and eating patterns used after being diagnosed with breast cancer. This experience is described in three research themes, namely: (1) vegetarianism is the main diet choice; (2) The desire to recover is the reason for changing diet; (3) prayer can increase a sense of optimism in life.

➤ *Vegetarianism is the main diet choice*

In this study, all participants mentioned that they have changed their diet to a vegetarian diet. According to the interview, all of the patients mentioned “...I ate more fruits and vegetables...I tried to avoid meat.” This is supported by research related to vegetarianism in which there is an increase in daily intake of fruits and vegetables, emphasized intake of complex carbohydrates, drinking plant-based milk and eating legumes to get sufficient calcium, and limit high fat, salt, and sugar intake (National Health Service, 2022). A vegetarian diet reduces the risk of developing breast cancer and increases the immune system as well (2). The vegetarian diet is one of the fastest-growing dietary patterns today and this diet is associated with consuming sufficient amounts of various vitamins such as ascorbic acid, folic acid, vitamin A, vitamin B12, and vitamin E (15). In regards to this matter, the vegetarian diet consumed by the participants in this study was a diet that consumed more fruits and vegetables followed by plant-based protein food.

Choosing a vegetarian diet can provide positive results such as better physical health and also vegetarianism is an option not to eat animal or meat products (16). A

prospective study among participants from the UK Biobank in 022 found a lower risk of postmenopausal breast cancer in vegetarian women (17). A cohort study conducted on 98,995 women found that women who regularly consumed a healthy plant-based diet were less likely to develop breast cancer (18). A similar study related to nutritional choices during breast cancer treatment, namely increasing the consumption of fruits and vegetables, and reducing the consumption of sugar, red meat, and fat can significantly increase the health of breast cancer patients. (18). Hence, it can be concluded that a vegetarian diet helps in the treatment of breast cancer.

➤ *The desire to recover is the reason for changing the diet*

Breast cancer patients tend to choose a healthy diet such as avoiding foods that contain high fat, and high sugar, and reducing the intake of alcohol and animal protein; these aspects were found to be associated with a lower risk of death, and also eating healthy foods helps restore energy and rebuild the body tissue (19). In this study, all participants revealed that they had changed their diet after being diagnosed with breast cancer and they mentioned that "...after knowing I had breast cancer, I tried to eat healthy foods". This is supported by research related to breast cancer patients changing their diet by reducing their intake of red meat, seafood, noodles, and poultry, and also increase intake of fruits and vegetables after being diagnosed with breast cancer; this information was received from different sources such as doctors, social media, and family members (20). Breast cancer patients also tend to take action concerning health information and decided to change their diet by increasing their fruit and vegetable intake, and reducing meat, fat, and food high in sugar (21). Therefore, the participants in this study prefer to change their diet so that it can help in the healing process of breast cancer.

Further, changes in diet also occurred in breast cancer patients undergoing surgery, where reducing consumption of red meat and animal products can help during the wound healing process after the surgery (22). In addition, changes in diet by increasing the consumption of fruits and adopting healthier dietary patterns during chemotherapy can help maintain the ideal body weight (5). A cross-sectional study using ECHO (Eating Habits Changes in Oncologic Patients) of 684 breast cancer patients found that the majority of breast cancer patients changed their diets by reducing consumption of red meat and animal products, increasing consumption of fruits and vegetables after being diagnosed with breast cancer which aims to counteract the effects of breast cancer therapy (6). Therefore, it is concluded that changes in the diet of the participants of this study happened to improve health during the duration of breast cancer treatment.

➤ *Prayer can increase a sense of optimism in life*

The diagnosis and treatment of cancer can cause significant psychological problems and in turn, reduce the hope for recovery in breast cancer patients (23). In this study, all participants revealed that prayer was a way to be more accepting of their situation, especially when diagnosed with breast cancer. One of the most common expressions

found among the participants was: "...surrender everything to God and pray more frequently...". This view is supported by a cross-sectional study on 88 cancer patients in which there was an association between spiritual well-being and a sense of optimism with the results of the study showing that breast cancer patients who pray frequently were more optimistic and have a better spiritual life (24).

Qualitative research related to spirituality and breast cancer showed that religious support can improve psychosocial adjustment towards breast cancer which also gave a sense of purpose and meaning in life that has been shown to increase positive attitude and reduce (25). Several factors increase the sense of optimism in breast cancer patients such as family support, self-happiness, seeing children grow well, getting closer to God, and also surrendering everything to God (26). Further, another qualitative research was done on 18 breast cancer patients in which it delves into the spirituality of breast cancer patients and there were four themes discovered such as connection, peace, meaning and purpose, and transcendence; and also spiritual needs are closely related to all aspects of life among the breast cancer patients (27). Research on 21 breast cancer patients related to coping after being diagnosed with breast cancer found that breast cancer patients who are active in religious activities have a positive coping mechanism in integrating their cancer experience into everyday life, one of these religious activities was prayer (28). Thus, it can be concluded that the feeling of optimism in living a life as a breast cancer patient is related to the prayers and religious activities carried out by the participants in this study.

IV. CONCLUSION

In this study, there were three themes found, namely: (1) vegetarianism is the main diet choice; (2) The desire to recover is the reason for changing diet; (3) and (3) Prayer can increase a sense of optimism in life. The new insight different from other research on the same topic is that a vegetarian diet became the main choice of diet among breast cancer patients. Even though there are many types of vegetarian diets but the main emphasis is to reduce animal-based food and increase more intake of plant-based food, especially fruits, and vegetables.

Furthermore, it is recommended to explore deeper the role of diet in the quality of life and health before and after being diagnosed with breast cancer. One of the limitations of this study is that there were only two meetings held with participants, nevertheless, researchers have increased the credibility of this study by showing the transcripts and recordings of the interviews with the participants.

The researchers would like to acknowledge the research participants who have been willing to share their experiences and other parties who have helped during the research process.

REFERENCES

- [1]. WHO. Breast Cancer [Internet]. WHO. 2021. Available from: <https://www.who.int/news-room/fact-sheets/detail/breast-cancer>
- [2]. IARC. Cancer Today [Internet]. World Health Organization. 2022. Available from: https://gco.iarc.fr/today/online-analysis-pie?v=2020&mode=population&mode_population=continents&population=900&populations=900&key=total&sex=0&cancer=39&type=0&statistic=5&prevalence=0&population_group=0&ages_group%5B%5D=0&ages_group%5B%5D=17&nb_items=7&g
- [3]. Pusdatin. Pusat Data dan Teknologi Informasi [Internet]. Kementerian Kesehatan RI. 2020. Available from: <https://pusdatin.kemkes.go.id/index.php?category=chart&csid=CS15010001>
- [4]. Lunar KG, Kozjek NR, Kovač MB. Changes in eating habits in breast cancer patients. *Zdravstveno Varstvo*. 2021;60(1):65–71.
- [5]. Pedersini R, di Mauro P, Bosio S, Zanini B, Zanini A, Amoroso V, et al. Changes in eating habits and food preferences in breast cancer patients undergoing adjuvant chemotherapy. *Scientific Reports*. 2021;11(1):1–10.
- [6]. Caprara G, Tieri M, Fabi A, Guarneri V, Falci C, Dieci MV, et al. Results of the ECHO (Eating habits CHanges in Oncologic Patients) Survey: An Italian Cross-Sectional Multicentric Study to Explore Dietary Changes and Dietary Supplement Use, in Breast Cancer Survivors. *Frontiers in Oncology*. 2021;11(November):1–11.
- [7]. Sinaga YL. Pengaruh Terapi Diet Pada Pasien Kanker Payudara: Scoping Review. *Moluccas Health Journal*. 2021;3(3):23–38.
- [8]. Cicco P De, Catani MV, Gasperi V, Sibilano M, Quaglietta M, Savini I. Nutrition and Breast Cancer : A Literature Review on Prevention , Treatment and Recurrence. *Nutrients*. 2019;1–28.
- [9]. M Deshpande T, Pandey A, Shyama S. Dietary habits and other habits and breast cancer risk. *Medical and Clinical Archives*. 2018;2(2):1–7.
- [10]. Ubago-Guisado E, Rodríguez-Barranco M, Ching-López A, Petrova D, Molina-Montes E, Amiano P, et al. Evidence update on the relationship between diet and the most common cancers from the european prospective investigation into cancer and nutrition (Epic) study: A systematic review. *Nutrients*. 2021;13(10).
- [11]. Xie M, Liu J, Tsao R, Wang Z, Sun B, Wang J. Whole grain consumption for the prevention and treatment of breast cancer. *Nutrients*. 2019;11(8):1–21.
- [12]. Socha M, Sobiech KA. Eating Habits, Risk of Breast Cancer, and Diet-Dependent Quality of Life in Postmenopausal Women after Mastectomy. *Journal of Clinical Medicine*. 2022;11(15).
- [13]. Hunter DJ, McCallum J, Howes D. Defining Exploratory-Descriptive Qualitative (EDQ) research and considering its application to healthcare. *Journal of Nursing and Health Care (JNHC)*. 2019;4(1):1–7.
- [14]. Korstjens I, Moser A. Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. *European Journal of General Practice*. 2018;24(1):120–4.
- [15]. Maldonado E, Gallego-Narbon A, Vaquero MP. Are vegetarian diets nutritionally adequate? A revision of the scientific evidence. *Nutricion Hospitalaria*. 2019;36(4):950–61.
- [16]. Hargreaves SM, Raposo A, Saraiva A, Zandonadi RP. Vegetarian diet: An overview through the perspective of quality of life domains. *International Journal of Environmental Research and Public Health*. 2021;18(8).
- [17]. Watling CZ, Schmidt JA, Dunneram Y, Tong TYN, Kelly RK, Knuppel A, et al. Risk of cancer in regular and low meat-eaters, fish-eaters, and vegetarians: a prospective analysis of UK Biobank participants. *BMC Medicine*. 2022;20(1):1–13.
- [18]. Guildford A. Breast cancer and plant-based diets: Unhealthy foods linked to 20% higher risk [Internet]. *Medical News Today*. 2022. Available from: <https://www.medicalnewstoday.com/articles/breast-cancer-and-plant-based-diets-unhealthy-foods-linked-to-20-higher-risk>
- [19]. World Cancer Research Fund International AI for CR. Diet, nutrition, physical activity and breast cancer. *American Institute for Cancer Research*. 2018;140.
- [20]. Shaharudin SH, Sulaiman S, Shahril MR, Emran NA, Akmal SN. Dietary changes among breast cancer patients in Malaysia. *Cancer Nursing*. 2013;36(2):131–8.
- [21]. Ghelfi F, Tieri M, Gori S, Nicolis F, Petrella MC, Filiberti A, et al. Do cancer patients change their diet in the e-health information era? A review of the literature and a survey as a proposal for the Italian population. *Food Research International*. 2018;104(October):59–68.
- [22]. Brunvoll SH, Thune I, Bertheussen GF, Fjeldheim F, Flote VG, Frydenberg H, et al. Dietary changes in early-stage breast cancer patients from pre-surgery and over the 12 months post-surgery. *British Journal of Nutrition*. 2021;125(2):172–82.
- [23]. Azizi M, Elyasi F, Naghizadeh S, Mohammadi A, Kamali M, Shirzad M. Effect of psycho-socio-spiritual strategies on hope level of patients with cancer: A narrative review. *Iranian Journal of Psychiatry and Behavioral Sciences*. 2021;15(2):14–9.
- [24]. Werdani YDW. Spiritual Well-Being and Optimism as Contributing Factors that Influence the Subjective Well-Being of Cancer Patients. *Indonesian Journal of Cancer*. 2022;16(1):16.
- [25]. Toledo G, Ochoa C, Farias A. Religion and Spirituality: Their Role in the Psychosocial adjustment to Breast Cancer and Subsequent Symptom Management of Adjuvant Endocrine Therapy. *Support Care Cancer*. 2021;29(6):3017–24.
- [26]. Asrie M. Optimisme Pada Penderita Kanker Payudara di Surakarta. Vol. 2, *Photosynthetica*. 2018.

- [27]. Hatamipour K, Rassouli M, Yaghmaie F, Zendedel K, Majd H. Spiritual Needs of Cancer Patients: A Qualitative Study. *Indian Journal of Palliative Care*. 2015;21(1):61–7.
- [28]. Gonzalez P, Nunez A, Wang-Letzkus M, Lim JW, Flores K, Napoles AM. Coping with Breast Cancer: Reflections from Chinese-, Korean-, and Mexican-American Women. *Health Psychol*. 2016;35(1):19–28.