

Self-Care among Breast Cancer Survivors: A Concept Analysis

Lina Anisa Nasution¹, Yati Afiyanti^{2*}

¹Program Study of Nursing, Faculty of Sport and Health Education, Universitas Pendidikan Indonesia, Bandung, Indonesia

²Faculty of Nursing, Universitas Indonesia, Depok, Indonesia

Abstract

Background: Breast cancer survivors have an excellent prognosis and a high survival rate, thus each survivor requires self-care abilities throughout their complex therapy. The concept of self-care is not a new concept in the nursing field, but it is necessary to analyze it as there are still inconsistencies in its use and unclear definitions, especially in the context of breast cancer survivors.

Purpose: The purpose of this study was to describe the concept of self-care among breast cancer survivors by employing the Walker and Avant's analysis method.

Methods: The Walker and Avant's concept analysis method comprises of eight systematic steps. The literature search was conducted through electronic databases, such as ScienceDirect, MEDLINE, EBSCO, ProQuest and SAGE, with the search constraints ranging from 2003 to 2023.

Results: The literature search identified 115 articles in the fields of medicine, nursing, sociology, psychology, economics, anthropology, pharmacy, computer science and midwifery. Following the analysis, 30 articles were selected for this study. The concept of self-care was defined as: 1) survivor activity; 2) survivor awareness; 3) self-management; 4) prevention of morbidity and recurrence; 5) improved health. Meanwhile, the concept's antecedents included self-efficacy, self-care agency and social support, and the consequences included symptom control, improved coping, improved well-being, and improved quality of life.

Conclusion: Understanding the attributes of self-care among breast cancer survivors along with their antecedents and consequences could facilitate its development in nursing practices. The self-care concept is utilized for self-care assessment and implementation of appropriate interventions in the context of breast cancer survivors who have completed the therapy.

Keywords: breast cancer; concept analysis; self-care; survivors

Introduction

Breast cancer is a non-communicable disease which has the highest mortality rate among women (Siegel et al., 2023; Sung et al., 2021), its global prevalence having progressively increased during the last 20 years (Sung et al., 2021). In Indonesia, the prevalence of breast cancer cases reaches 42.1 per 100,000 population, the highest incidence at 16.7% and an average mortality rate of 17 per 100,000 population (Ministry of Health, 2019; WHO, 2020). Technological developments in early detection and multimodality therapy innovations have helped to increase the number of survivors of early stage of breast cancer, which has the highest survival rate among other types of cancer, reaching 90% (Kapoor et al., 2020; Nuraini et al., 2024; Soldato et al., 2023).

From diagnosis to completion of therapy, breast cancer survivors face a range of physical issues related to the disease and therapy, and psychological distress – including the risk of recurrence and the presence of new cancers, all of which have an impact on their quality of life. Thus, the survivors need to receive optimal survivorship care (American Cancer Society, 2020). Currently, the guidelines for survivorship care focus on the management of long-term side effects of therapy, identification of recurrence

OPEN ACCESS

Jurnal Keperawatan Padjadjaran (JKP)

Volume 12(2), In Press
© The Author(s) 2024
<http://dx.doi.org/10.24198/jkp.v12i2.2504>

Article Info

Received : February 17, 2024
Revised : June 04, 2024
Accepted : June 07, 2024
Published : In Press

*Corresponding author

Yati Afiyanti*

Department of Maternity Nursing at Faculty of Nursing, Universitas Indonesia, Depok, West Java, Indonesia; Jl. Prof. DR. Sudjono D. Puspongoro, Pondok Cina, Kecamatan Beji, Kota Depok, Jawa Barat 16424; Phone: +6281315943320, E-mail: yatikris@ui.ac.id

Citation

Nasution, L. A., & Afiyanti, Y. (2024). Self-care among breast cancer survivors: A concept analysis. *Jurnal Keperawatan Padjadjaran*, In Press. <http://dx.doi.org/10.24198/jkp.v12i2.2504>

Website

<http://jkp.fkep.unpad.ac.id/index.php/jkp>

This is an **Open Access** article distributed under the terms of the [Creative Commons Attribution-Non-Commercial 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/).

E-ISSN: 2442-7276

P-ISSN: 2338-5324

and promotion of a healthy lifestyle (Rodriguez & Foxhall, 2019). This category involves a number of survivors' self-care activities to ensure that the survivors take the responsibility for their care and therapy. These self-care activities are essential in the care of breast cancer survivors as they help reduce concerns about the therapy side effects and improve the quality of life (Okten & Ozer, 2022; Tulu et al., 2021).

In addition, self-care is a key concept and a universal term in the healthcare system, with definitions expanding across disciplines, especially in the nursing field. Although it is not new, there is no precise definition in the literature, particularly in relation to breast cancer survivors' self-care. There are several terms describing self-care in the literature, such as self-treatment, self-monitoring, self-health and self-management. Thus, the concept of self-care demands further investigations, because understanding the concept of self-care among the breast cancer survivors could help to clarify its definitions' constraints. Analyzing the concept of self-care is necessary so as to clarify and define its meaning, so that, when it is utilized, it can be clearly described, explained and/or predicted (Tulu et al., 2021; Walker & Avant, 2014).

This present study employed a concept analysis to clarify the concept of self-care among breast cancer survivors and develop an operational definition. A clear definition of self-care can help healthcare professionals and survivors set goals of care together. It is also required in the development of science, especially in the therapy of breast cancer survivors (Alqahtani & Alqahtani, 2022; Martínez et al., 2021; Tulu et al., 2021).

Methods

This study employed the Walker and Avant's concept analysis method, which consists of eight systematic steps, namely: 1) selecting a concept; 2) determining the purpose of concept analysis; 3) identifying the use of concepts found in various literature; 4) determining the attributes of definitions; 5) determining case models; 6) determining borderline cases and contrary cases; 7) identifying antecedents and consequences; and 8) determining empirical referents (Walker & Avant, 2014). The literature was retrieved from several electronic databases, including ScienceDirect, MEDLINE/PubMed, EBSCO, ProQuest and SAGE, from January 2003 to December 2023. Keywords used in the search were determined based on Medical Subject Headings (MeSH), namely "self-care," "breast cancer survivor," and "definition." In addition, the literature search employed several criteria, whereby the articles must be (1) written in English; 2) available in open access publishing; 3) published in 2003-2023; and 4) a full text. The authors excluded several studies since they did not address the antecedents, attributes, and consequences or suitable definition of this concept.

Results

Identifying the Use of the Concept

The concept of self-care was identified through a literature review on the concept application in various disciplines from several electronic databases. This present study limited the literature search to English language articles and not only to one discipline, as it might influence bias in understanding the concept (Walker & Avant, 2014). Based on the literature review, this study obtained several definitions of self-care among breast cancer survivors from various disciplines, including nursing, medicine, anthropology, midwifery, health economics, social/sociology, pharmacy, biology, computer science and information systems, and psychology (Table 1).

Attributes of Definitions

The attributes of definitions were determined by identifying attribute clusters that appeared most frequently in various definitions and were related to all analyzed concepts (Rodgers et al., 2018; Walker & Avant, 2014). Based on the previous literature search (Table 1) and identification of keywords on each concept attribute (Table 2), there were five attributes of definitions of self-care among breast cancer survivors, including: 1) survivor activity; 2) survivor awareness; 3) self-management; 4) prevention of morbidity and recurrence; 5) improved health (Table 3). Furthermore, based on these five attributes, an operational definition that could be concluded was that self-care among the breast cancer survivors referred to activities practiced in relation to self-management, prevention of recurrence, and improved health.

Case Model

In this concept analysis step, this study developed a sample case model illustrating all attributes of definitions (Walker & Avant, 2014). An example of a case model is as follows:

Mrs. A was 42 years old and a breast cancer survivor. She had completed operative therapy, chemotherapy and radiotherapy, and had finally returned home. She realized that the completion of therapy at the hospital was not the end of the treatment process. She continued her therapy at home in a proper manner (self-awareness). She studied the information guide regarding proper diet, recommended physical activity, recurrence symptoms, long-term therapy side effects, and recommended revisit schedule (survivor activity). She began exercising in the morning, consuming healthy food, engaging in appropriate activities, taking rest, and ensuring to take the medication prescribed (self-management). Every day, she recorded her symptoms / concerns (self-management), and exercised her right arm to prevent lymphedema (prevention of morbidity and recurrence). Furthermore, she also drank fruit juices as recommended, and got enough rest during the day and night to maintain and improve her health

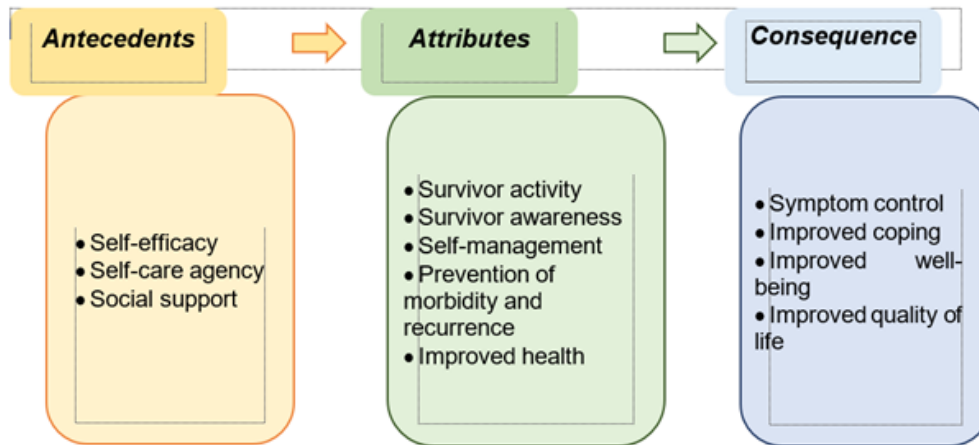


Figure 1. Antecedents, Attributes and Consequences of Self-Care

(improved health).

Borderline Case and Contrary Case

The borderline case only partially describes the attributes of definitions of self-care, while the contrary case is the opposite case of the attributes of definitions of the concept analyzed (Walker & Avant, 2014). The following are borderline and contrary cases of the concept of self-care:

Borderline Case

Mrs. C was 37 years old and a breast cancer survivor. She had completed the therapy and received information on the necessary self-care from Nurse B. She was aware of the importance of rest and physical activity, but, because she did not have relatives to accompany her at home, she felt burdened in performing chores alone (self-awareness). Furthermore, she always took the recommended medication during outpatient care, specifically painkillers and vitamins (self-management), but she never exercised every day or even every week, and she continued to consume fast food and soft drinks while sleeping late. Outpatient and scheduled laboratory tests showed poor results and required further investigation due to the possibility of recurrence. She understood the importance of self-care at home, which she had previously overlooked.

Contrary Case

Mrs. B was 51 years old and a breast cancer survivor. She also had completed the therapy. She had been informed about the home care, including the side effects after therapy, symptom management, activity and rest, nutritional intake and re-visit schedules, but she ignored them because she believed she had recovered and did not understand the importance of self-care after completing the therapy. In the following days, she stopped taking the prescribed vitamins, slept poorly, and even ignored healthy food recommendations as she returned to consuming fast food. She also failed to attend scheduled outpatient visits and always avoided Nurse A's

calls to remind her of her outpatient schedule and laboratory tests.

Antecedents and Consequences

Antecedents refers to events or incidents that must occur before the concept's occurrence or manifestation (Walker & Avant, 2014). Based on the results of the literature review, several antecedents in the self-care included the self-efficacy, self-care agency and social support (Chin et al., 2021; Hunt, 2016; Wright, 2020; Yahaya et al., 2022). Self-efficacy was one of the antecedents derived from individual patients/survivors, namely their confidence in their ability to carry out self-care in accordance with specific goals influenced by individual knowledge, motivation, skills and values (El-Osta et al., 2019; Richard & Shea, 2011). Self-efficacy among the cancer survivors is the result of a long journey of disease and therapy and which serves as a self-regulation mechanism (Semiz & Aksut, 2022; Seo & Lim, 2016). It is important since it can have an impact on achieving the treatment goals. Individuals with high self-efficacy will have the confidence to engage in various activities, including the self-care activities, to achieve their health care goals (Chirico et al., 2017; Melin et al., 2023).

Further, the self-care agency is also related to the individuals' ability to perform the self-care activities and physical condition, and demonstrate a level of independence, based on the availability of assistance (Narasimhan et al., 2019; Sist et al., 2022). The self-care agency, in the context of breast cancer survivors, is related to estimative self-care activities, including the process of seeking knowledge about necessary self-care activities and a description of their ability to do it. These lead to adequate self-care agency and improved self-care skills (Loh, 2018; Martínez et al., 2021).

Meanwhile, the social support is also related to cultural context, earned support and actual social support (Smirnov, 2018). The social support reflects the antecedents that promote the self-care activities, especially in the case of post-therapy breast cancer survivors whose complexity increases the need

Table 1. Definitions of self-care in various disciplines

Authors	Disciplines	Definitions
(El-Osta et al., 2019)	Medicine	Activities that include an individual's capacity and ability to increase health-related knowledge and literacy, perform physical activities, consume healthy food, prevent risks, maintain personal hygiene and other self-care activities, and achieve self-care behaviors in various contexts (including daily lifestyle, acute conditions, chronic conditions and during trauma).
(Weltermann et al., 2015)	Medicine	Individuals, families and communities' abilities to engage in health-promoting activities, prevent illness, maintain good health and cope with illness and disability. This broad concept includes nutrition, lifestyle and medication management/ therapeutic self-management.
(Bayliss et al., 2003)	Medicine	Individuals' abilities and awareness to self-manage their own health and illness.
(Dehkordi et al., 2016)	Medicine	Individuals' needs and abilities to maintain and improve their health, accelerate their recovery, prevent complications, and plan their therapy.
(Dehkordi, 2016)	Medicine	Patients' engagement and ability to self-observe, recognize symptoms, understand their health condition, and take care to maintain / improve their health.
(Armer et al., 2008)	Nursing	Individual breast cancer survivor activities which include symptom reporting and management, and general self-care in relation to the disease and its therapies.
(Brown et al., 2015)	Medicine	The breast cancer survivors engage in healthcare activities to manage the long-term and late effects of therapy, such as lymphedema.
(Hunt, 2016)	Nursing	Individuals' ability to maintain their health and well-being in daily life, including promoting health, consuming proper nutrition, and conducting physical activities as well as practicing self-care activities.
(Wilkinson & Whitehead, 2009)	Nursing	Individuals' ability to act and make decisions that are influenced by their knowledge, skills, values, motivation, self-efficacy and control.
(Richard & Shea, 2011)	Medicine	Individuals' ability to practice the self-care activities in order to achieve, maintain or improve their health and quality of life, including decision-making skills as influenced by efficacy, self-control and lifestyle.
(McCormack, 2003)	Nursing	Individuals' ability (autonomy) and awareness to maintain their health, achieve well-being, prevent illness and promote health, including the decision-making skills as influenced by their knowledge, skills, locus of control, and efficacy.
(Fu et al., 2016)	Nursing	Individual activities to prevent and reduce the recurrence and other symptoms in order to maintain a high quality of life.
(Sist et al., 2022)	Nursing	Individual actions to improve and maintain their health through symptom monitoring (self-care maintenance), with information support from the health professionals in improving psychomotor self-care abilities (self-care support), or their ability to manage symptoms (self-management), and side effects of certain treatments.
(The Institute for Research and Innovation in Social Services, 2020)	Social science/sociology	Daily mental, physical and emotional care activities that benefit individuals in order to achieve overall well-being.
(Narasimhan et al., 2019)	Psychology	A set of activities and individuals' ability to practice the self-management and self-assessment based on self-awareness.

Authors	Disciplines	Definitions
(Riegel et al., 2021)	Nursing	Individuals' process of maintaining their own health by engaging in a range of disease management and health promotion activities that may be unique to their illness in order to achieve physical and emotional stability.
(Omisakin & Ncama, 2011)	Nursing	Individual responsibility and activity for healthy behavior / lifestyle based on self-initiation, including their ability to access sources of assistance / support to maintain and improve their health, coping, and quality of life.
(The Australian Psychological Society, 2017)	Psychology	Individuals' activities based on their specific self-values to achieve well-being, including professional, psychological, spiritual, and lifestyle.
(Eijck et al., 2020)	Health economics	Individuals' activities to maintain their health and take responsibility for themselves to support the healthcare system resilience.
(Smirnov, 2018)	Anthropology	Individuals' skills and abilities to develop and manage themselves and their life.
(International Pharmaceutical Federation, 2022)	Pharmacy	Individuals' activities in maintaining their health and improving their wellbeing, which include seven pillars: health knowledge and literacy, mental awareness and well-being, physical activity, healthy eating, risk prevention, personal hygiene and wise use of services/products.
(World Health Organization, 2022)	Medicine	Individuals, families and communities' ability to promote health, prevent illness, maintain health and deal with illness and disability, with or without the support from the health professional services, including the self-management, self-awareness and self-assessment.
(Mills et al., 2018)	Nursing	Individuals' conscious activity or behavior to engage in the self-care practice to maintain and improve their health and well-being.
(Bo et al., 2023)	Neurology and rehabilitation medicine	Long-term, self-empowering, self-management activities and recurrence prevention behaviors to maintain or improve the health.
(Ludman et al., 2013)	Medicine	Individuals' ability to practice disease self-management activities independently or with the assistance of healthcare professionals in order to achieve the well-being.
(Wright, 2020)	Midwifery	Individuals' ability to promote health, prevent illness, maintain health and cope with illness and disability independently, with or without the assistance of healthcare professionals.
(Ridner et al., 2016)	Nursing	Breast cancer survivor activities in the management of side effects, such as lymphedema and various physical and psychological symptoms.
(Kapoor et al., 2020)	Computer science and information systems	Individual care activities in the disease management involving the use of various information resources and technology (literacy).
(Chin et al., 2021)	Nursing	Individual activities in the self-management of therapy side effects, and symptom monitoring in order to maintain and/or improve the health and quality of life.
(Yahaya et al., 2022)	Nursing	Individuals' conscious decisions to engage in the self-care practice to improve their health, well-being and quality of life.

for social support in the form of emotional and informational support, thereby influencing the self-care abilities (Nasution et al., 2023; Rauh, 2021).

Furthermore, the consequences reflect the purpose of the concept in relation to physical and psychological aspects (Walker & Avant, 2014).

Several consequences of the concept of self-care include symptom control, improved coping, improved well-being and improved quality of life (Ludman et al., 2013; Mills et al., 2018; World Health Organization, 2022). The goal is that the survivors' self-care would progress to the point that they could

Table 2. Keywords clusters of self care attributes

Keywords cluster	Sources	Attributes
Individual activity Individual abilities Activities of breast cancer survivors Activity/behaviour Individual skills Individual capacity	(Armer et al., 2008; Bayliss et al., 2003; Bo et al., 2023; Brown et al., 2015; Chin et al., 2021; Dehkordi, 2016; Dehkordi et al., 2016; Eijck et al., 2020; El-Osta et al., 2019; Fu et al., 2016; Hunt, 2016; International Pharmaceutical Federation, 2022; Kapoor et al., 2020; Ludman et al., 2013; McCormack, 2003; Mills et al., 2018; Narasimhan et al., 2019; Omisakin & Ncama, 2011; Richard & Shea, 2011; Ridner et al., 2016; Riegel et al., 2018; Sist et al., 2022; Smirnov, 2018; The Australian Psychological Society, 2017; The Institute for Research and Innovation in Social Services, 2020; Weltermann et al., 2015; Wilkinson & Whitehead, 2009; World Health Organization, 2022; Wright, 2020; Yahaya et al., 2022)	Survivor activity
Individual awareness Awareness/recognition of symptoms Self-awareness Self-initiation	(Bayliss et al., 2003; Dehkordi, 2016; McCormack, 2003; Narasimhan et al., 2019; Omisakin & Ncama, 2011; World Health Organization, 2022; Yahaya et al., 2022)	Survivor awareness
Self-care behaviour Medication/care management Planning health care/therapeutic efforts Managing long term and late effects Nutritional consumption Physical activity Symptom management Psychological care Self/disease management Maintaining health	(Armer et al., 2008; Bayliss et al., 2003; Chin et al., 2021; Dehkordi et al., 2016; El-Osta et al., 2019; Hunt, 2016; Kapoor et al., 2020; Ludman et al., 2013; Narasimhan et al., 2019; Omisakin & Ncama, 2011; Richard & Shea, 2011; Ridner et al., 2016; Riegel et al., 2021; Sist et al., 2022; The Institute for Research and Innovation in Social Services, 2020; Weltermann et al., 2015; Yahaya et al., 2022)	Self-management
Prevent morbidity Prevent the risk of recurrence Prevent complications Prevent and reduce recurrence Preventing the risk of morbidity	(Bo et al., 2023; Dehkordi et al., 2016; El-Osta et al., 2019; McCormack, 2003; Weltermann et al., 2015; World Health Organization, 2022; Wright, 2020)	Prevention of morbidity and recurrence
Improving health Increase health knowledge and literacy Beneficial to the whole self	(Chin et al., 2021; Dehkordi, 2016; Dehkordi et al., 2016; El-Osta et al., 2019; McCormack, 2003; Mills et al., 2018; Omisakin & Ncama, 2011; Richard & Shea, 2011; Sist et al., 2022; The Institute for Research and Innovation in Social Services, 2020; Weltermann et al., 2015; Wright, 2020)	Improved health

manage the disease-related symptoms as well as the therapy side effects (Rakhshani et al., 2022; World Health Organization, 2022). Furthermore, the survivors' ability to cope would also increase as they dealt with the disease, and faced the risks of recurrence, thereby affecting their well-being and quality of life (Ludman et al., 2013; Wright, 2020). Figure 1 presents the attributes, antecedents and consequences of the concept of self-care.

Empirical Referents

Empirical references can be defined as categories of actual phenomena whose existence might indicate the appearance of the concept by measuring the attributes. The empirical references help to clarify

the concept and its measurements (Walker & Avant, 2014). The self-care The Self Care Inventory instrument (Luciani et al., 2022) and Self-Care for Chronic Disease Inventory (Arapi et al., 2023; De Maria et al., 2021) documented the use of individual activity attributes in the self-care concept. These instruments comprised of activities for the other attributes of preventing morbidity, and maintaining and promoting health (Arapi et al., 2023; De Maria et al., 2021).

Furthermore, the use of the self-management attribute could be found in the Self-efficacy in Managing Symptoms Scale for Patients with Advanced Cancer instrument (Chan et al., 2017) and the self-awareness attribute could be found in the

Table 3. Attributes of Definitions

Attribute Concept	Definition
Survivor activity	Actions carried out by the breast cancer survivors independently or with the help of caregivers (Bo et al., 2023; Fleischer & Howell, 2017).
Survivor awareness	The recognition of breast cancer survivors in learning about the risk, its importance and intention to act (Veluswamy et al., 2014; Singer et al., 2023).
Self-management	The process of breast cancer survivors in actively participating in their basic health maintenance activities and cancer-related care (Jia & Hu, 2022; Otter et al., 2022).
Prevention of morbidity and recurrence	The breast cancer survivors' actions to prevent adverse effects on their health physically and psychologically, such as discomfort, pain, and the prevention of metastasis or new cancer occurrence (Foster & Niedzwiedz, 2021; Singer et al., 2023; Veluswamy et al., 2014; Courtney et al., 2022; Fillon, 2022).
Improved health	The breast cancer survivors' increased overall cancer-related quality of life as a result of their efforts to embrace a healthy lifestyle and others (Koshy et al., 2023; Lamore et al., 2019; Yang et al., 2022)

Self Awareness Questionnaire instrument (Keeran, 2019). There were no all-encompassing attributes in one single instrument designed specifically for cancer survivors who had completed therapy. Thus, modifying current instruments with contextual alterations was strongly advised. Other concepts with similar attributes to the concept of self-care did not specifically describe the relevant attributes. For example, the concept of self-resilience in the Brief Resilient Coping Scale (BRCS) instrument did not include the self-care activities but focused on coping with the disease experienced (Mihic-Gongora et al., 2022; Rivers & Sanford, 2021). On the other hand, although the concept of self-management had comparable attributes, in the analysis, it had been included in the attributes, so that it could not then be considered as an empirical reference. For these reasons, it was recommended to modify the existing instruments or develop new instruments that incorporated all attributes of the concept of self-care in the context of breast cancer survivors who had completed the therapy.

Discussion

This study finds that the first attribute was the survivor activity. This attribute explained self-care was defined an activity or a set of activities carried out by the survivors, which could basically help them in maintaining their control and stability, enhancing self-development and increasing self-worth (Fleischer & Howell, 2017). Breast cancer survivors certainly experienced changes in quality levels that were mainly influenced by the physical side effects of therapy, psychological conditions, social support, spirituality and financial stress (Bo et al., 2023; Fleischer & Howell, 2017). In addition, this study finds that the second attribute of self-care was survivor awareness. It was included in the contemplation stage of the transtheoretical

model in the formation of behavior in individuals. The contemplation stage was characterized by a knowledge of risks, an understanding of the importance of healthy living and self-care, and an intention to act (Veluswamy et al., 2014). According to Singer et al. (2023), most breast cancer survivors were aware of how to maintain their health.

Furthermore, this study finds that the third attribute was self-management, which included meeting the fundamental needs, such as nutritious consumption, physical activity, health maintenance activities and cancer-related care. The cancer-related care included symptom monitoring, management of side effects and late effects, advanced care plans and psychological care. Self-management was a subset of self-care attributes that focused on the consequences of health conditions, including the functional, physical, emotional and psychosocial issues (Jia & Hu, 2022; Otter et al., 2022). The breast cancer survivors played the most significant role by actively participating, although in practice it was supported by the health professionals through education or coaching and empowerment (Cravo et al., 2022; Otter et al., 2022). Those breast cancer survivors practicing a good self-management experienced a decrease in the incidence of lymphedema, cancer-related fatigue, cardiotoxicity, peripheral neurotoxicity and psychological distress (Bo et al., 2023).

Additionally, this study finds the fourth attribute of self-care among the breast cancer survivors was the prevention of morbidity and recurrence. Physical morbidity was a side effect of cancer therapy and shared etiological factors with the cancer and comorbid conditions, such as hypertension, painful conditions (particularly in the shoulder), asthma, dyspepsia, fatigue, osteoporosis, diabetes, migraine, eczema and irritable bowel syndrome (Basu et al., 2020; Foster & Niedzwiedz, 2021). Multimorbidity conditions among breast cancer survivors did

Afiyanti, Y., et al. (2024)

not only affect their physical conditions, but also psychological conditions, including depression and distress (Foster & Niedzwiedz, 2021; Singer et al., 2023; Veluswamy et al., 2014). The distress was associated with perceived loss of femininity, fear of rejection and separation from husband, and fear of recurrence (Saxena et al., 2018). There were approximately 5-10% of breast cancer survivors who were at risk of metastasis and more than 20% experienced the recurrence over a 10-32-year time span and were affected by lymph node involvement (Courtney et al., 2022; Fillon, 2022; Kumilau et al., 2022).

Meanwhile, this study finds that the fifth attribute of self-care was improved health. Those breast cancer survivors with self-care skills were able to improve their quality of life through their knowledge and ability to prioritize and improve their health (Koshy et al., 2023). This might include decreased frequency of re-hospitalization, improved lifestyle, diet (phytoestrogen reduction), more activities, and improved well-being – both physically and psychologically (Moore, 2020). Several studies confirmed that improved health as an attribute could improve the quality of life of breast cancer survivors, represented by them returning to work and improving social roles (Lamore et al., 2019; Yang et al., 2022).

Conclusions

There were five attributes comprising the concept analysis of self-care among breast cancer survivors, namely survivor activity, survivor awareness, self-management, prevention of pain and recurrence, and improved health. The operational definition of self-care among breast cancer survivors refers to an activity in which the survivors demonstrate self-health management, prevention of recurrence, and health improvement. The antecedents of this concept analysis included self-efficacy, self-care agency and social support. Furthermore, the consequences consisted of symptom control, improved coping, improved well-being and improved quality of life. The results of this study have theoretical and practical implications for the nursing literature and clinical practice in that, after completing the therapy, breast cancer survivors have specific needs that the nurses can address in their nursing care toward the end of the therapy and after the therapy itself. Furthermore, the results of this study also recommend modifying the existing instruments or developing new instruments that incorporate all attributes comprehensively.

Declaration of conflict of interest

The authors did not have any conflict of interest

Acknowledgment

None.

Funding

Indonesia Endowment Funds for Education (LPDP) Center for Higher Education Funding (BPPT), Ministry of Education, Culture, Research and Technology of the Republic of Indonesia (Number: 00845/J5.2.3./BPI.06/9/2022. Recipient: Lina Anisa Nasution).

Data Availability

None.

References

- Alqahtani, J., & Alqahtani, I. (2022). Self-care in the older adult population with chronic disease: Concept analysis. *Heliyon*, 8(7). <https://doi.org/10.1016/j.heliyon.2022.e09991>
- American Cancer Society. (2020). Breast cancer survivorship care guideline. www.asco.org/guidelines/breastsurvivorship
- Arapı, A., Vellone, E., Ivziku, D., Duka, B., Taci, D., Notarnicola, I., Stievano, A., Prendi, E., Rocco, G., & De Maria, M. (2023). Psychometric characteristics of the self-care of chronic illness inventory in older adults living in a middle-income country. *International Journal of Environmental Research and Public Health*, 20(6), 4714. <https://doi.org/10.3390/ijerph20064714>
- Armer, J. M., Henggeler, M. H., Brooks, C. W., Zagar, E. A., Homan, S., Health Epidemiologist, P., & Stewart, B. R. (2008). The health deviation of post-breast cancer lymphedema: Symptom assessment and impact on self-care agency. *Self Care Depend Care Nurs*, 16(1), 14–21. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3405977/>
- Basu, A., Mondal, J., Swetha, B., Chakrabarty, S., Ghosh, D., Gangopadhyay, S., & Mandal, B. (2020). Patient-reported shoulder morbidity and fatigue among breast cancer survivors: An insight from a tertiary care cancer hospital. *Indian Journal of Medical and Paediatric Oncology*, 41(6), 825–831. https://doi.org/10.4103/ijmpo.ijmpo_257_20
- Bayliss, E. A., Steiner, J. F., Fernald, D. H., Crane, L. A., & Main, D. S. (2003). Descriptions of barriers to self-care by persons with comorbid chronic diseases. *Annals of Family Medicine*, 1(1), 15–21. <https://doi.org/10.1370/afm.4>
- Bo, M. C., Merlo, A., Ligabue, M. B., Bassi, M. C., Lusuardi, M., & Campanini, I. (2023). Self-managed physical activity in breast cancer survivors: A scoping review. *PLoS ONE*, 18(4 APRIL). <https://doi.org/10.1371/journal.pone.0284807>
- Brown, J. C., Kumar, A., Cheville, A. L., Tchou, J. C., Troxel, A. B., Harris, S. R., & Schmitz, K. H. (2015). Association between lymphedema self-care adherence and lymphedema outcomes among women with breast cancer-

- related lymphedema. *American Journal of Physical Medicine and Rehabilitation*, 94(4), 288–296. <https://doi.org/10.1097/PHM.000000000000178>
- Chan, R. J., Yates, P., & McCarthy, A. L. (2017). The development and preliminary testing of an instrument for assessing fatigue self-management outcomes in patients with advanced cancer. *Cancer Nursing*, 40(1), 48–57. <https://doi.org/10.1097/NCC.0000000000000347>
- Chin, C. H., Tseng, L. M., Chao, T. C., Wang, T. J., Wu, S. F., & Liang, S. Y. (2021). Self-care as a mediator between symptom management self-efficacy and quality of life in women with breast cancer. *PLoS ONE*, 16. <https://doi.org/10.1371/journal.pone.0246430>
- Chirico, A., Lucidi, F., Merluzzi, T., Alivernini, F., De Laurentiis, M., Botti, G., & Giordano, A. (2017). A meta-analytic review of the relationship of cancer coping self-efficacy with distress and quality of life. *Oncotarget*, 8(22), 36800–36811. www.impactjournals.com/oncotarget/
- Courtney, D., Davey, M. G., Moloney, B. M., Barry, M. K., Sweeney, K., McLaughlin, R. P., Malone, C. M., Lowery, A. J., & Kerin, M. J. (2022). Breast cancer recurrence: Factors impacting occurrence and survival. *Irish Journal of Medical Science*, 191(6), 2501–2510. <https://doi.org/10.1007/s11845-022-02926-x>
- Cravo, A., Attar, D., Freeman, D., Holmes, S., Ip, L., & Singh, S. J. (2022). The importance of self-management in the context of personalized care in COPD. *International Journal of COPD*, 17, 231–243. <https://doi.org/10.2147/COPD.S343108>
- De Maria, M., Matarese, M., Strömberg, A., Ausili, D., Vellone, E., Jaarsma, T., Osokpo, O. H., Daus, M. M., Riegel, B., & Barbaranelli, C. (2021). Cross-cultural assessment of the self-care of chronic illness inventory: A psychometric evaluation. *International Journal of Nursing Studies*, 116. <https://doi.org/10.1016/j.ijnurstu.2019.103422>
- Dehkordi, A. H. (2016). Self-care concept analysis in cancer patients: An evolutionary concept analysis. *Indian Journal of Palliative Care*, 22(4), 388–394. <https://doi.org/10.4103/0973-1075.191753>
- Dehkordi, A. H., Mohammadi, N., & Nikbakht-Nasrabadi, A. (2016). Re-designing Orem's self-care theory for patients with chronic hepatitis. *Indian Journal of Palliative Care*, 22(4), 395–401. <https://doi.org/10.4103/0973-1075.191754>
- Eijck, L. van, Restrepo, L., & Amesz, B. (2020). The health-economic benefits of self-care in Europe. Vintura. <https://www.selfcarefederation.org/resources/health-economic-benefits-self-care-europe>
- El-Osta, A., Webber, D., Gnani, S., Banarsee, R., Mummery, D., Majeed, A., & Smith, P. (2019). The self-care matrix: A unifying framework for self-care. *Self Care*, 10(3), 38–56. <https://selfcarejournal.com/article/the-self-care-matrix-a-unifying-framework-for-self-care/>
- Fillon, M. (2022). Breast cancer recurrence risk can remain for 10 to 32 years. *CA: A Cancer Journal for Clinicians*, 72(3), 197–199. <https://doi.org/10.3322/caac.21724>
- Fleischer, A., & Howell, D. (2017). The experience of breast cancer survivors' participation in important activities during and after treatments. *British Journal of Occupational Therapy*, 80(8), 470–478. <https://doi.org/10.1177/0308022617700652>
- Foster, M., & Niedzwiedz, C. L. (2021). Associations between multimorbidity and depression among breast cancer survivors within the UK Biobank cohort: A cross-sectional study. *BMC Cancer*, 21(1). <https://doi.org/10.1186/s12885-021-08409-z>
- Fu, M. R., Axelrod, D., Guth, A. A., Wang, Y., Scagliola, J., Hiotis, K., Rampertaap, K., & El-Shammaa, N. (2016). Usability and feasibility of health IT interventions to enhance self-care for lymphedema symptom management in breast cancer survivors. *Internet Interventions*, 5, 56–64. <https://doi.org/10.1016/j.invent.2016.08.001>
- Hunt, S. D. (2016). Self-care and postoperative dressing management. *British Journal of Nursing*, 25(15), S34–S41. <https://doi.org/10.12968/bjon.2016.25.15.S34>
- International Pharmaceutical Federation. (2022). Empowering self-care: A handbook for pharmacists (G. S. Pinto & M. Hung, Eds.). International Pharmaceutical Federation. www.fip.org
- Jia, L., & Hu, Y. (2022). Self-management about adjuvant therapy in breast cancer survivors: A qualitative study. *Patient Preference and Adherence*, 16, 2663–2681. <https://doi.org/10.2147/PPA.S379435>
- Kapoor, A., Nambisan, P., & Baker, E. (2020). Mobile applications for breast cancer survivorship and self-management: A systematic review. *Health Informatics Journal*, 26(4), 2892–2905. <https://doi.org/10.1177/1460458220950853>
- Keeran, D. (2019). The self-awareness questionnaire. *College of Mental Health Counselling*. <https://doi.org/10.13140/RG.2.2.31247.02728>
- Koshy, B., Avudaiappan, S. L., & Anand, A. S. (2023). Self-care behaviour of patients with breast cancer in the management of side effects of chemotherapy. *Cureus*, 15(9), 1-11. <https://doi.org/10.7759/cureus.44586>
- Kumilau, R., Hayati, F., Liew, J. E., Sharif, S. Z., & Sahid Nik Lah, N. A. (2022). Short term recurrence and survival rate of breast cancer patients post surgical treatment: North borneo experience. *Annals of Medicine and Surgery*, 81. <https://doi.org/10.1016/j.amsu.2022.104560>

Afiyanti, Y., et al. (2024)

- Lamore, K., Dubois, T., Rothe, U., Leonardi, M., Girard, I., Manuwald, U., Nazarov, S., Silvaggi, F., Guastafierro, E., Scaratti, C., Breton, T., & Foucaud, J. (2019). Return to work interventions for cancer survivors: A systematic review and a methodological critique. *International Journal of Environmental Research and Public Health*, 16(8). <https://doi.org/10.3390/ijerph16081343>
- Loh, S. Y. (2018). Self-care or self-management in palliative survivorship care in Asia: A call for more research. *Nursing and Palliative Care*, 3(4). <https://doi.org/10.15761/npc.1000195>
- Luciani, M., De Maria, M., Page, S. D., Barbaranelli, C., Ausili, D., & Riegel, B. (2022). Measuring self-care in the general adult population: Development and psychometric testing of the Self-Care Inventory. *BMC Public Health*, 22(1). <https://doi.org/10.1186/s12889-022-12913-7>
- Ludman, E. J., Peterson, D., Katon, W. J., Lin, E. H. B., Von Korff, M., Ciechanowski, P., Young, B., & Gensichen, J. (2013). Improving confidence for self care in patients with depression and chronic illnesses. *Behavioral Medicine*, 39(1), 1–6. <https://doi.org/10.1080/08964289.2012.708682>
- Martínez, N., Connelly, C. D., Pérez, A., & Calero, P. (2021). Self-care: A concept analysis. *International Journal of Nursing Sciences*, 8(4), 418–425. <https://doi.org/10.1016/j.ijnss.2021.08.007>
- Mccormack, D. (2003). An examination of the self-care concept uncovers a new direction for healthcare reform. *Ideas in Leadership*, 16(4), 48–65.
- Melin, J., Fors, A., Jakobsson, S., Krabbe, D., & Björkman, I. (2023). Self-Efficacy to Manage Chronic Disease (SEMCD) scale: Translation and evaluation of measurement properties for a swedish version. *Archives of Public Health*, 81(1). <https://doi.org/10.1186/s13690-022-01022-x>
- Mihic-Gongora, L., Jiménez-Fonseca, P., Hernandez, R., Gil-Raga, M., Pacheco-Barcia, V., Manzano-Fernández, A., Hernando-Polo, S., Antoñanzas-Basa, M., Corral, M. J., Valero-Arbizu, M., & Calderon, C. (2022). Psychological distress and resilience in patients with advanced cancer during the COVID-19 pandemic: The mediating role of spirituality. *BMC Palliative Care*, 21(1). <https://doi.org/10.1186/s12904-022-01034-y>
- Mills, J., Wand, T., & Fraser, J. A. (2018). Exploring the meaning and practice of self-care among palliative care nurses and doctors: A qualitative study. *BMC Palliative Care*, 17(1). <https://doi.org/10.1186/s12904-018-0318-0>
- Ministry of Health. (2019, February 4). Cancer in Indonesia ranks 8th in Southeast Asia and 23rd in Asia. Directorate General of Disease Prevention and Control, Ministry of Health. <https://p2p.kemkes.go.id>
- Moore, H. C. F. (2020). Breast cancer survivorship. *Seminars in Oncology*, 47(4), 222–228. <https://doi.org/10.1053/j.seminoncol.2020.05.004>
- Narasimhan, M., Allotey, P., & Hardon, A. (2019). Self care interventions to advance health and wellbeing: A conceptual framework to inform normative guidance. *The BMJ*, 365. <https://doi.org/10.1136/bmj.l688>
- Nasution, L. A., Afiyanti, Y., & Ma'rifah, A. R. (2023). The most unmet needs on gynecological and breast cancer survivors: A systematic review. *Enfermeria Global*, 22(2), 497–521. <https://doi.org/10.6018/eglobal.530511>
- Nuraini, T., Rofiaty Yusuf, Y., Farida Rachmi, S., Gayatri, D., & Keperawatan Padjadjaran, J. (2024). The comfort level in breast cancer patients' based on patients' characteristics during the COVID-19 pandemic. *Jurnal Keperawatan Padjadjaran*, 12(1), 23–33. <https://doi.org/10.24198/jkp>
- Okten, C., & Ozer, Z. (2022). Orem's theory with educational telephone follow-ups: A randomized controlled trial. *Nursing Science Quarterly*, 35(4), 444–454. <https://doi.org/10.1177/08943184221115126>
- Omisakin, F. D., & Ncama, B. P. (2011). Self, self-care and self-management concepts: Implications for self-management education. *Educational Research*, 2(12), 1733–1737. <https://www.researchgate.net/publication/303516969>
- Otter, C. E. M., Keers, J. C., Reker, C., Smit, J., Schoonhoven, L., & de Man-van Ginkel, J. M. (2022). How nurses support self-management of hospitalized patients through verbal communication: A qualitative study. *BMC Nursing*, 21(1). <https://doi.org/10.1186/s12912-022-01099-3>
- Rakhshani, T., Najafi, S., Javady, F., Taghian dasht bozorg, A., Mohammadkhah, F., & Khani Jaihooni, A. (2022). The effect of Orem-based self-care education on improving self-care ability of patients undergoing chemotherapy: a randomized clinical trial. *BMC Cancer*, 22(1). <https://doi.org/10.1186/s12885-022-09881-x>
- Rauh, S. (2021). Survivorship care for cancer patients: A clinician's handbook. In *Survivorship Care for Cancer Patients: A Clinician's Handbook*. Springer International Publishing. <https://doi.org/10.1007/978-3-030-78648-9>
- Richard, A. A., & Shea, K. (2011). Delineation of self-care and associated concepts. *Journal of Nursing Scholarship*, 43(3), 255–264. <https://doi.org/10.1111/j.1547-5069.2011.01404.x>
- Ridner, S. H., Rhoten, B. A., Radina, M. E., Adair, M., Bush-Foster, S., & Sinclair, V. (2016). Breast cancer survivors' perspectives of critical lymphedema self-care support needs. *Supportive Care in Cancer*, 24(6), 2743–2750. <https://doi.org/10.1007/s00520-016-3089-2>
- Riegel, B., Barbaranelli, C., Sethares, K. A., Daus, M., Moser, D. K., Miller, J. L., Haedtke, C. A., Feinberg, J. L., Lee, S., Stromberg, A., & Jaarsma, T. (2018). Development and initial

- testing of the self-care of chronic illness inventory. *Journal of Advanced Nursing*, 74(10), 2465–2476. <https://doi.org/10.1111/jan.13775>
- Riegel, B., Westland, H., Iovino, P., Barelds, I., Bruins Slot, J., Stawnychy, M. A., Osokpo, O., Tarbi, E., Trappenburg, J. C. A., Vellone, E., Strömberg, A., & Jaarsma, T. (2021). Characteristics of self-care interventions for patients with a chronic condition: A scoping review. *International Journal of Nursing Studies*, 116. <https://doi.org/10.1016/j.ijnurstu.2020.103713>
- Rivers, A. S., & Sanford, K. (2021). Interpersonal resilience inventory: Assessing positive and negative interactions during hardships and COVID-19. *Personal Relationships*, 28(2), 316–336. <https://doi.org/10.1111/per.12362>
- Rodgers, B. L., Jacelon, C. S., & Knafl, K. A. (2018). Concept analysis and the advance of nursing knowledge: State of the science. *Journal of Nursing Scholarship*, 50(4), 451–459. <https://doi.org/10.1111/jnu.12386>
- Rodriguez, M., & Foxhall, L. E. (2019). Handbook of cancer survivorship care. Demos Medical Publishing. <https://www.springerpub.com/handbook-of-cancer-survivorship-care-9780826138194.html>
- Saxena, D., Trivedi, P., & Singha, D. (2018). Post-surgical mental morbidity of breast cancer survivors in India: Reflection from urban Gujarat. *Women's Health*, 7(6). <https://doi.org/10.15406/mojwh.2018.07.00196>
- Semiz, D., & Aksut, R. S. (2022). Validity and reliability of the symptom management self-efficacy scale for breast cancer. *Bezmialem Science*, 10(6), 805–813. <https://doi.org/10.14235/bas.galenos.2022.74946>
- Seo, M. H., & Lim, K. H. (2016). The effects of fatigue and distress on self-efficacy among breast cancer survivors. *Korean Journal of Adult Nursing*, 28(4), 378–387. <https://doi.org/10.7475/kjan.2016.28.4.378>
- Siegel, R. L., Miller, K. D., Wagle, N. S., & Jemal, A. (2023). Cancer statistics, 2023. *CA: A Cancer Journal for Clinicians*, 73(1), 17–48. <https://doi.org/10.3322/caac.21763>
- Singer, S., Janni, W., Kühn, T., Flock, F., Felberbaum, R., Schwentner, L., Leinert, E., Wöckel, A., & Schlaß, T. (2023). Awareness, offer, and use of psychosocial services by breast cancer survivors in Germany: A prospective multi-centre study. *Archives of Gynecology and Obstetrics*, 307(3), 945–956. <https://doi.org/10.1007/s00404-022-06665-3>
- Sist, L., Savadori, S., Grandi, A., Martoni, M., Baiocchi, E., Lombardo, C., & Colombo, L. (2022). Self-care for nurses and midwives: Findings from a scoping review. *Healthcare*, 10(12). <https://doi.org/10.3390/healthcare10122473>
- Smirnov, S. A. (2018). Anthropological practices of self-care: Eventfulness of the concept. *Journal of Siberian Federal University - Humanities and Social Sciences*, 11(2), 306–324. <https://doi.org/10.17516/1997-1370-0182>
- Soldato, D., Arecco, L., Agostinetti, E., Franzoi, M. A., Mariamidze, E., Begijanashvili, S., Brunetti, N., Spinaci, S., Solinas, C., Vaz-Luis, I., Di Meglio, A., & Lambertini, M. (2023). The future of breast cancer research in the survivorship field. *Oncology Therapy*, 11(2), 199–229. <https://doi.org/10.1007/s40487-023-00225-8>
- Sung, H., Ferlay, J., Siegel, R. L., Laversanne, M., Soerjomataram, I., Jemal, A., & Bray, F. (2021). Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA: A Cancer Journal for Clinicians*, 71(3), 209–249. <https://doi.org/10.3322/caac.21660>
- The Australian Psychological Society. (2017). Self-care for psychologists. APS Institute. <https://psychology.org.au/>
- The Institute for Research and Innovation in Social Services. (2020). Self-care in health and social care. https://www.iriss.org.uk/sites/default/files/2020-04/iriss_on.self-care_in_health_and_social_care.pdf
- Tulu, S. N., Cook, P., Oman, K. S., Meek, P., & Kebede Gudina, E. (2021). Chronic disease self-care: A concept analysis. *Nursing Forum*, 56(3), 734–741. <https://doi.org/10.1111/nuf.12577>
- Veluswamy, S. K., Maiya, A. G., Nair, S., Guddattu, V., Nair, N. S., & Vidyasagar, S. (2014). Awareness of chronic disease related health benefits of physical activity among residents of a rural South Indian region: A cross-sectional study. *International Journal of Behavioral Nutrition and Physical Activity*, 11(1). <https://doi.org/10.1186/1479-5868-11-27>
- Walker, L. O., & Avant, K. C. (2014). Strategies for theory construction in nursing (5th ed.). Pearson Custom Library. www.pearsoned.co.uk
- Weltermann, B. M., Gerasimovska-Kitanovska, B., Thielmann, A., Chambe, J., Lingner, H., Pirrotta, E., Buczkowski, K., Tekiner, S., Czachowski, S., Edirne, T., Zielinski, A., Yikilkan, H., Koskela, T., Petrazzuoli, F., Hoffman, R. D., Petek Šter, M., Guede Fernández, C., Uludağ, A., Hoffmann, K., ... Kreitmayer Pestic, S. (2015). Self-care practices for common colds by primary care patients: Study protocol of a european multicenter survey. *Evidence-Based Complementary and Alternative Medicine*, 2, 1–6. <https://doi.org/10.1155/2015/272189>
- WHO. (2020). Indonesia: Cancer country profile 2020. <https://www.who.int/publications/m/item/cancer-idn-2020>
- Wilkinson, A., & Whitehead, L. (2009). Evolution of the concept of self-care and implications for nurses: A literature review. *International Journal of Nursing Studies*, 46(8), 1143–1147. <https://doi.org/10.1016/j.ijnurstu.2008.12.011>

Afiyanti, Y., et al. (2024)

- World Health Organization. (2022). WHO guideline on self care interventions for health and well being (Vol. 1). World Health Organization. <https://iris.who.int/>
- Wright, E. M. (2020). The ethical imperative of self-care: A call to action. *Journal of Midwifery and Women's Health*, 65(6), 733–736. <https://doi.org/10.1111/jmwh.13150>
- Yahaya, N. A., Abdullah, K. L., Ramoo, V., Zainal, N. Z., Wong, L. P., & Danaee, M. (2022). Effects of Self-Care Education Intervention Program (SCEIP) on activation level, psychological distress, and treatment-Related Information. *Healthcare*, 10(8). <https://doi.org/10.3390/healthcare10081572>
- Yang, Z. Y., Chen, W. L., Wu, W. Te, Lai, C. H., Ho, C. L., & Wang, C. C. (2022). Return to work and mortality in breast cancer survivors: A 11-year longitudinal study. *International Journal of Environmental Research and Public Health*, 19(21). <https://doi.org/10.3390/ijerph192114418>