

The Delay Factors of Early Breast Cancer Detection Patients in Indonesia

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Abstract. Breast cancer is the number one death caused to women. The higher mortality rate is because the patients are diagnosed at the advanced stage. The cancer patients do not know the signs and symptoms of breast cancer and cannot do a breast self-examination (SADARI) because the cancer education in the community is insufficient. Delaying in detecting breast cancer will delay the treatment. This research aims to explore the delay factors of early breast cancer detection. It used a literature review approach with 4 electronic databases, including Google Scholar, Pubmed, Garuda, and Perpustakaan, with published years of 2015-2020. The keywords are delay factors, detection, medical checkup, treatment, and breast cancer. Of 892 identified articles, only 9 articles fulfilled the inclusion criteria. The reviewed articles are the researcher and supervisor's discussion and validation using the Prisma Guideline. The 9 articles show delay factors of detecting breast cancer, including education, knowledge, income, information/mass media, husband/family support, health service center distance, health facilities, treatment cost, alternative treatment, age, pain, and fear. The research concluded that the 12 factors causing the breast cancer patients late in receiving treatment and already in advance stage cancer because they did not do breast cancer detection.

Keywords: Breast cancer; delay factors; detection; medical checkup; treatment

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1. Introduction

Breast cancer or *carcinoma mammae* is the cell's inability to do the usual process or development, and it grows out of control in breast tissue (Depkes, 2015). World Health Organization (WHO) stated that breast cancer occurs only to women. It is estimated that 2.1 million women have breast cancer every year, and this disease causes the highest mortality rate to women (WHO, 2018). GLOBOCAN's (2018) data mentioned that the prevalence of breast cancer cases worldwide is 2,088,849, with 6.6% ending up dead (GLOBOCAN, 2018). The National Cancer Institute's Surveillance, Epidemiology and End Result Program (NCI) mentioned that in 2018 the prediction cases of breast cancer in the US is 15.3% of all various cancer cases. In comparison, Indonesia's cancer cases are 136.2 cases per 100,000 people and placed 8th in Southeast Asia and 23rd in Asia. Breast cancer cases are 42.1 cases per 100,000 people, and the death rate is 17 cases per 100,000 people. Cervical cancer has 23.4 cases per 100,000 people, and the death rate is 13.9 cases per 100,000 people (WHO, 2017).

The mortality and morbidity of breast cancer increase worldwide and in Indonesia every year. It should have particular attention because it affects women's health. Not knowing the signs and symptoms of breast cancer will cause late receiving proper handling or treatment (Rahmawaty et al., 2019). The reason is that most women patients in developing countries are not aware of the signs and symptoms of cancer. They also do not know how to detect cancer because cancer education is insufficient in the community (Nasution et al., 2018).

As part of developing countries, Indonesia experiences breast cancer diagnosis and introduction delays due to some factors. They are patient delay, referral delay, and treatment delay. The patient delay means that the first consultation to another consultation is more than 3 months. The cause is a lack of self-awareness to detect cancer early. Culture and often fear of cancer diagnosis cause the patients to fear consulting even though they have had the symptoms (Stapleton et al., 2011). Delay in examining breast cancer will cause the patients to delay examining their condition. The cancer cannot be differentiated anymore to proceed with the treatment process (Setiawan, 2012).

The research of Djatmiko et al. (2013) and Dyanti and Suariyani (2016) mentioned that there is a correlation in the delay factors of breast cancer treatment on medical personnel. The factors include age, education, knowledge, treatment cost, exposure to information or mass media, husband and family support, and early cancer detection (Djatmiko et al., 2013; Dyanti & Suariyani, 2016).

The researcher analyzed that there is not much research exploring the factors influencing the delay of early breast cancer detection, especially using the review literature approach in Indonesia. Thus, the researcher is interested in exploring those delay factors.

2. Research Methods

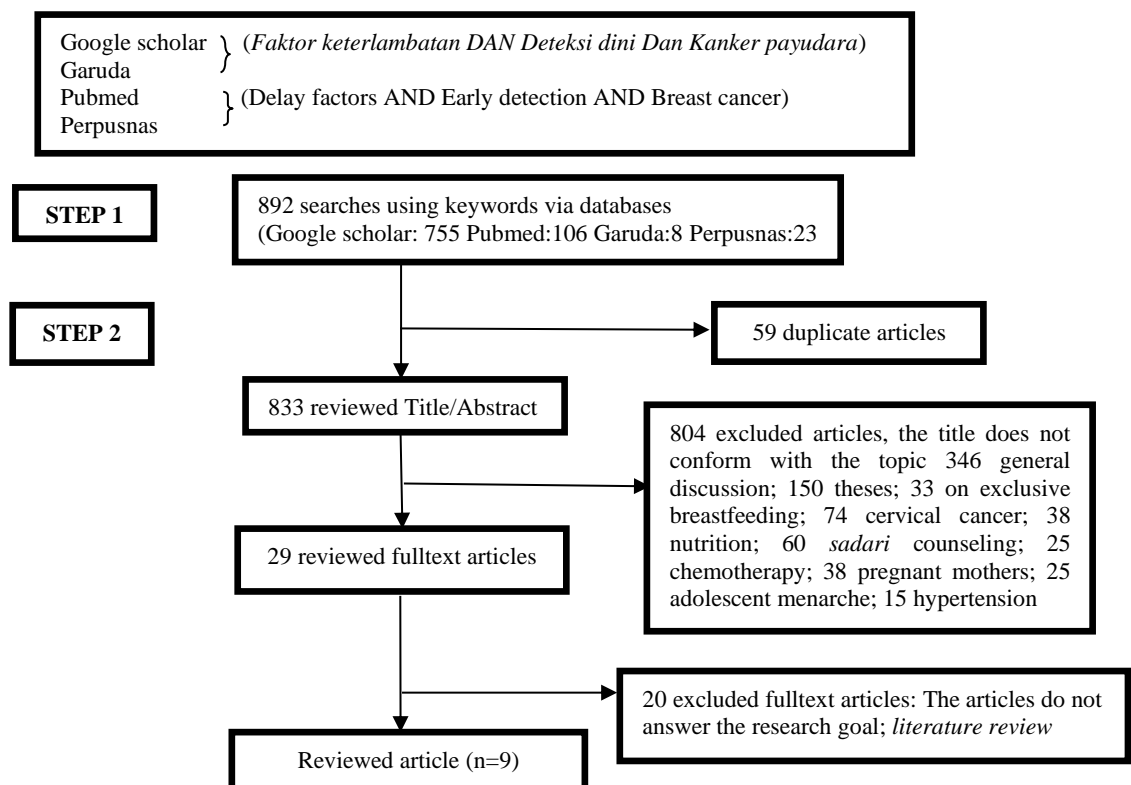
Strategy for searching study

This study used PRISMA Guideline to find the relevant articles suitable with the inclusion criteria. In searching for the articles, the researcher used 4 electronic databases, such as Google Scholar, Pubmed, Garuda, Perpusnas, with the search year of 2015-2020. The keywords split into three concepts, namely: delay factors or inactive factors or regression factors or lag factors or retaining factors or underdeveloped factors, and early detection or early detection or initial identification or initial checkup or early treatment or screening, and breast cancer or breast carcinoma or breast neoplasm.

Study selection

The article selection process is to identify the articles in the four electronic databases using specific keywords which have been adjusted to MeSH. The researchers obtained 829 articles. After conducting a duplication check, 59 articles were excluded, leaving the researcher with 833 articles. The remaining articles were screened by reading the article's title or abstract in detail according to the specific criteria. Eight hundred four articles were excluded because they did not fulfill the inclusion criteria. Those articles include General discussion (346), Thesis (150), Exclusive breastfeeding (33), Cervical cancer (74), Breast self-examination (*sadari*) counseling (60), Chemotherapy (25), Pregnant mothers (38), Adolescent menarche (25), Hypertension (15). After the researcher checked and discussed with the supervisor, it was decided that 9 articles would be reviewed.

Figure 1 Literature review selection process



3. Research Result

Table 1 Result for literature review search

No	Name/ Year	Title	Goal	Method	Sample	Instrument	Result	Database
1	Author: Gusti Ayu Resa Dyanti, Ni Luh Putu Suariyani Year: 2016 (Dyanti & Suariyani, 2016)	The Delay Factors of Breast Cancer Patients in Performing Early Detection to Health Service Center	To know the delay factors of breast cancer patients in performing early detection to health service.	Case control study	108 people	Two data types are required. Primary data is obtained by interviewing the respondents structurally using questionnaires. Secondary data is the list of patient addresses living in Denpasar and Badung Regency obtained by accessing the Medical Record Department of RSUP Sanglah Denpasar	The correlation variables on delayed early detection of breast cancer include education, knowledge, cost affordability, exposure to information/mas s media, husband/family support, and early cancer detection.	Garuda
2	Author: Titiana Yuswar, Nurlisis Year: 2018 (Yuswar & Nurlisis, 2018)	Late Breast Cancer Detection in Arifin Achmad General Regency Hospital in Riau Province, 2016	This research aims to find out factors related to late breast cancer detection such as knowledge, education, pain, fear, family support, breast self-examination (<i>sadari</i>), health service center distance, source of information, family's history of breast cancer.	Cross sectional	203 people	The data was collected as primary data: interviewing the respondents and using a questionnaire with a dependent variable of late breast cancer detection. The independent variable is...	Factors causing late breast cancer detection are low-level knowledge, insufficient income, the distance of health service center is distant, and the patients who do not feel pain at all are two times riskier to have breast cancer	Garuda
3	Author: Soep Year: 2016 (Soep, 2016)	The Determinant s of Late Health Service Finding for Patients with Advanced Stage Breast Cancer in RB24 Room	To know the determinants related to the late health service finding for breast cancer patients	Cross sectional	30 people	This research used the total sampling technique to obtain the samples. Univariate analysis was used to describe the characteristics of measured variables. Bivariate analysis was used to...	The result shows that factors causing late detection for breast cancer patients are treatment facilities, expensive costs, and distant health service centers	Google scholar

No	Name/ Year	Title	Goal	Method	Sample	Instrument	Result	Database
		at Adam Malik Government Hospital, 2014						
4	Author: Mambodiya nto, Prima Maharani Year: 2016 (Mambodiyanto & Maharani, 2016)	The Effect of Alternative Treatment as the Causing Factor of Late Medical Handling to Breast Cancer Patients in Lumbir Health Community Center, Banyumas Regency	To know whether the alternative treatment usage is the causing factor of late medical handling to breast cancer patients in Banyumas	case control study	One hundred samples were split into two groups. Forty-seven cancer patients were categorized as a case group due to receiving late medical handling. Fifty-three cancer patients were categorized as a controlled group due to proper medical handling	The data were obtained by interview process and medical records	The research shows that factors causing late in receiving medical treatment for breast cancer patients are alternative treatment, low-level knowledge, income, education, fear of receiving treatment, and distant health community centers	Google scholar
5	Author : Safira Dhia Rahmawaty, Zainal Abidin, Swandari Paramita Year: 2019 (Rahmawaty et al., 2019)	The Correlation of Delay Factors with Advanced Stage Breast Cancer Cases in Abdul Wahab Sjahranie General Hospital Samarinda, 2019	To know the correlation of advanced-stage breast cancer with factors such as fear of being diagnosed with cancer and receiving treatment, fear of treatment side effects, and using of nonmedical treatment such as alternative treatment	Cross sectional	97 people	Medical records and interviews are used as instruments to find out the causes of late treatment for advanced-stage breast cancer patients in Abdul Wahab Syahrani General Hospital Samarinda	The research shows that alternative treatment correlates with factors of late treatment for breast cancer patients	Google scholar
6	Author: Widia Rahmadhani , Rahmat Bakhtiar, Eko Nugroho, Hadi Irawiraman,	Analysis of Checkup Time for Breast Cancer Patients in Samarinda Health Services	Identifying the correlation of related factors with checkup span of breast cancer in Samarinda health services	Cross sectional	46 people	The data were obtained directly from the respondents by interviewing the breast cancer patients who were undergoing chemotherapy in	The result shows that there is a correlation between age and time of late breast cancer	Google scholar

No	Name/ Year	Title	Goal	Method	Sample	Instrument	Result	Database
	Krisinus Duma Year: 2019 (Rahmadhani et al., 2020)					Abdul Wahab Sjahranie General Hospital, Samarinda	detection of the patients	
7	Author : Ni Putu Prema Rossalia, Ida Bagus Tjakra Wibawa M Year: 2016 (Rossalia& Manuaba, 2016)	Factors Related to Late Treatment of Breast Cancer Patients in Sanglah Center Hospital, Denpasar	To know the factors related to the late treatment of women breast cancer patients	<i>Longitudinal descriptive</i>	77 people	Data were obtained by interviewing the respondents based on questionnaires in six months. From March to September 2015	Factors causing the late treatment of breast cancer patients are education, knowledge, income, alternative treatment, fear.	Garuda
8	Author : Kartini, Namora Lamongga Lubis, Tengku Moriza Year: 2019 (Kartini et al., 2019)	The Analysis of Factors Causing the Late Treatment for Breast Cancer Women Patients in Simeulue General Hospital, 2018	To know the factors causing the late treatment for breast cancer women patients in Simeulue General Hospital, 2018	<i>Qualitative descriptive</i>	This research was conducted in Simeulue General Hospital from January to April 2018. Respondents are split into two categories. First is the main informant (breast cancer patients who receive treatment at Simeulue hospitals). The second is triangulation informant	A semi-structured interview method was used to obtain the data. This type of interview categorizes as an in-depth interview, recorded using a mobile phone. The implementation of this interview is more freely compared to a structured interview		Garuda
9	Author : Yenni Bahar,	The Frequency of Herbal Medicine	To show whether the frequency of herbal medicine usage is the factor	<i>Analytical observation al study</i>	All women diagnosed with breast cancer listed	Data obtained by interviewing the research subjects using the guideline	Factors causing the late treatment for breast cancer	<i>Google scholar</i>

No	Name/ Year	Title	Goal	Method	Sample	Instrument	Result	Database
	Islimsyaf Anwar Year: 2015 (Bahar & Anwar, 2015)	Usage as Factor Causing Late Medical Treatment on Breast Cancer Patients	causing late medical treatment on breast cancer patients in Banyumas Health Community Center, Banyumas Regency		in Banyumas health community center	from the questionnaire, medical records are used to group the cancer stadium, and grade, breast cancer patients at Banyumas health community center also are grouped based on their history of herbal medicine usage	patients are knowledge, alternative treatment, and fear	

After reviewing the nine articles, 2 used the case-control study method, 4 used the cross-sectional method, and the other 3 used the longitudinal descriptive method, qualitative descriptive method, and analytical observational study method. All articles were researched in Indonesia. There are 12 delay factors of early breast cancer detection from the nine articles.

4. Discussion

a. Education

The reviewed articles (1, 7, 8) show that the respondents' low-level education affects the late detection of breast cancer. Respondents with low-level education (Not attending school/Elementary school/Junior high school) have a risk of 5.67. Notoatmodjo (2012) mentioned that the higher one's education is, they are easier to obtain information, causing an abundance of knowledge. An individual with lots of knowledge tends to behave by his knowledge—Vice versa. The lower one's education is they cannot obtain information causing lack of knowledge. An individual who lacks knowledge tends to behave as not expected. As a result, one will not have enough motivation to perform early breast cancer detection (Notoatmodjo, 2012).

b. Knowledge

The reviewed articles (1, 2, 4, 7, 8, 9) show that the respondent's low-level education affects the late detection of breast cancer. Most low-level educated women are late in performing breast cancer detection due to having a lack of knowledge. According to Notoatmodjo (2012), knowledge is acquired after one senses a certain object. Sensing happens through the human five senses: sight, hearing, smell, taste, and touch. Mostly, humans obtain knowledge through eyes and ears. Also, knowledge or cognition is crucial in shaping one's behavior (overt behavior) (Notoatmodjo, 2012). Ministry of Health (*Depkes*) (2016) stated that people still lack knowledge on breast cancer. Thus, it is crucial to be aware of early breast cancer detection to control breast cancer cases (Depkes, 2015). If breast cancer can be early detected and diagnosed and receive proper treatment, there is still a chance to survive cancer. The statement aligns with Antriana's (2014) research stating that knowledge affects a person as motivation to behave (Antriana, 2014).

c. Income

The reviewed articles (1, 2, 7) show that income affects late breast cancer detection. Low-income women are three times riskier to have a late breast cancer detection than better-income women. According to Bastable (2016), social and economic status significantly affect health status and health behavior. The higher the income aligns with, the higher usage of health services. Lower-income people are less likely to use health services and maintain their health due to their inability to buy medicines and the high transportation cost to health service centers (Bastable, 2016). This statement aligns with Sobani et al.'s (2012) research stating that family income is related to the awareness of performing breast cancer screening (Sobani et al., 2012).

d. Information/mass media

The reviewed article (1) shows that information/mass media affect late breast cancer detection. According to Notoatmodjo (2012), the source of information is the perceived information by reading books and other people's research along with one experiencing directly (Notoatmodjo, 2012). One can obtain information from various sources such as media that will affect their knowledge level. This statement aligns with Ompusunggu (2012) research stating that lack of knowledge is why people do not conduct medical checkups (Ompusunggu, 2012). A good delivered and perceived information will contribute directly to improving one's knowledge of breast cancer. They will conduct early breast detection in health services by explaining the symptoms they have in their breasts.

e. Husband/family support

The reviewed article (1) shows that husband/family support affects late breast cancer detection. According to Friedman (2012), family support is family acts and behavior as responses in information, appraisal, instrumental, and emotional supports. Family support is an act of caring from one family member to another in the form of verbal information, advice, direct help, attitude, and emotional support to uplift other family members' morale. It affects the quality of life of breast cancer patients. The more support family provides the better the patient's life quality. The less support family provides, the patient's life quality will decrease (Friedman & Marylin, 2012). This statement aligns with Husni's (2015) research stating that family support has a significant role in improving patients' health and self-esteem. The more family supports the patient, the patient's anxiety will decrease. This happens because family support is an important factor in providing positive motivation and minimizing patients' anxiety (Husni et al., 2015).

f. Health service center distance

The reviewed articles (2, 3) show that if the distance of health service centers with patient's house is too far, the patients will be 2.5 times riskier to be late in detecting breast cancer. According to Notoatmodjo (2012), the long time it takes to reach the health service center affects an individual to utilize the health services to cure his/her disease (Notoatmodjo, 2012). This aligns with Chisbuldin's (2013) research stating that there is a significant correlation between the distance of health service centers with the late treatment of breast cancer patients. He argued that if the distance of health service is too far, it will affect the patients late receiving examination in the health service center (Chisbuldin, 2013).

g. Pain

One reviewed article (2) explained the pain. The article stated that pain affects late breast cancer detection. Women who do not feel breast cancer pain will be two times riskier to have late breast cancer detection than those who feel pain. According to Notoatmodjo (2012), pain severity and the threat of disease that people have will drive them to check up or treat their diseases

(Notoatmodjo, 2012). This aligns with Mardiana's (2015) research. For a long time, breast cancer patients will know they have cancer once their breast is painful, along with a lump growing bigger in their breast tissue (Mardiana et al., 2015).

h. Health facility

The two reviewed articles (3, 8) show that health facilities affect late breast cancer detection. The insufficient health facility urged the informant to receive treatment in another hospital with sufficient health facilities outside her living area. According to the Government of the Republic of Indonesia (2016), Health Service Facility is equipment or places used for carrying out health service means such as promotion, prevention, curation, and rehabilitation performed by the Government, Regional Government, and community (Depkes, 2015). This statement aligns with Pratama's (2016) research stating that one of the factors causing late breast cancer management is the insufficient treatment facility in hospitals. Thus, it becomes the obstruction factor causing cancer patients to receive hospital treatment (Pratama, 2016).

i. Treatment cost

The reviewed article (3) shows that treatment cost has a significant role in the late finding of health services for breast cancer patients. According to Notoatmodjo (2010), expensive treatment cost causes the patient to postpone finding health services, especially poor people who cannot afford them. The patients assume that their symptoms are not that severe, making it to cover the expensive treatment cost (Notoatmodjo, 2010). This aligns with Elvira's (2010) research stating that patients took a long time to receive therapy because they did not want to undergo a mastectomy and assumed that the treatment was expensive (Elvira, 2010).

j. Alternative treatment

The five reviewed articles (4, 5, 7, 8, 9) show that patients who underwent alternative treatment are 4.081 times riskier to late breast cancer detection. According to Notoatmodjo (2010), faith in the success of treatment selection (specifically traditional treatment) affects one late in looking for a health facility center (Notoatmodjo, 2010). This aligns with Hikmanti & Adriani's (2016) research that breast cancer patients did not want to receive treatment because they fear cancer therapies, including operation procedures, chemotherapy, and radiation treatment (Hikmanti & Adriani, 2016).

k. Age

The reviewed article (6) shows that old women patients tend to have late breast cancer detection. According to Notoatmodjo (2010), the older the people, they are more mature and have more power to think and work. Also, age is related to one's mind maturity in accepting, relishing, and overcoming a problem (Notoatmodjo, 2010). This aligns with Saika and Sobue (2009) research that age is a significant factor in breast cancer cases because breast cancer will multiply in productive age and grow slower as one gets older (SAIKA & SOBUE, 2009).

1. Fear

The three reviewed articles (4, 7, 9) show that fear affects late breast cancer detection patients. The patients fear receiving medical treatment. According to Kurniati et al. (2010), fear is a natural psychological response towards certain stimuli. It is a reaction towards a real threat that potentially harms an individual (Kurniati et al., 2010). This aligns with Frida's (2012) research stating that the postponing of detecting breast cancer for the patients is due to their anxiety and fear of undergoing a mastectomy procedure (a procedure to remove a breast) even though the patients can early detect the symptoms of breast cancer (Setiawan, 2012).

5. Conclusion and Suggestion

Based on the 9 analyzed articles, it can be concluded that the delay factors of breast cancer detection are education, knowledge, income, information/mass media, husband/family support, health service center distance, health facilities, treatment cost, alternative treatment, age, pain, and fear.

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