Research Paper

Knowledge and Behavior of Breast Self-Examination among Women of Childbearing Age: A Cross-Sectional Study

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ABSTRACT: *Breast cancer can occur at any age, but women of reproductive age between the ages of 15 and 49 are at higher risk of developing breast cancer. Breast self-examination (BSE) is one of several early detection efforts that can be carried out independently to detect any breast changes or abnormalities. The purpose of this study was to determine the relationship between knowledge about cancer and BSE behaviour in women of childbearing age. The study used an analytical design with a cross sectional study approach. The population consists of 258 respondents. Sampling using a proportionate stratified random sampling technique from a sample of 72 respondents. The data collection technique used to distribute questionnaires. The results of statistical tests using the Chi-square test showed p-value = 0.000 < (0.05), meaning that there was a significant relationship between cancer and BSE behavior in women of childbearing age. It is possible to rely on the fact that knowledge about cancer does not necessarily have an impact on BSE in suburban women. It is recommended for females in peripheral age (15-49 years) to increase knowledge about breast cancer. It is necessary for early breast cancer screening so that it can be detected at an early stage.*
KEYWORDS: *Cancer, BSE Behavior, Women of Childbearing Age*

I. INTRODUCTION

Cancer is a non-communicable disease that is one of the leading causes of death worldwide. There are 36 types of cancer detected in 2020. Breast cancer ranks first with the highest number of cases compared to other types of cancer such as lung cancer, prostate, skin, colon and others [1]. Breast cancer is a malignant tumor formed from breast cells that grow and develop uncontrollably so that it can spread between tissues or organs near the breast or to other body parts [2]. Based on data from the Global Burden of Cancer (GLOBOCAN) in 2021, the number of new cases of breast cancer reached 2,261 million cases, an increase of 11.7%. And the number of deaths from breast cancer reached 684 million people. The highest prevalence of breast cancer is in Australia with 95.5 patients per 100,000 population every year. Western Europe with 90.7 sufferers per 100,000 population and North America with 89.4 sufferers per 100,000 population. Meanwhile, the lowest prevalence was in Central Asia with 26.2 sufferers per 100,000 population.

The incidence of cancer in Indonesia reaches 136.2 per 100,000 population every year. The incidence of cancer in Indonesia is dominated by breast cancer, which is 42.1 per 100,000 population every year with an average death rate of 17 per 100,000 population. The highest prevalence of breast cancer is in the province of DI Yogyakarta with the number of sufferers reaching 4.86 per 1000 population each year and the lowest prevalence is in the province of West Nusa Tenggara with 0.8 sufferers per 1000 population. While the province of Aceh occupies the 11th position with the number of breast cancer patients as much as 1.4 per 1000 population [3].

American Cancer Society stated that breast cancer is more common in women than men with a ratio of 100:1. Breast cancer can also attack all ages, but women of childbearing age with productive age 15-49 years are more at risk of breast cancer caused by various factors. These factors included menarche at the age of less than 12 years, married but had no children, gave birth to their first child at the age of more than 30 years and did not breastfeed, used hormonal contraceptives or received hormonal therapy for a long time, had have a benign

tumor in the breast, have a family history of breast cancer, consume excessive fat, alcohol and are active smokers[2].

The success of breast cancer treatment depends on the stage at which cancer was first diagnosed. Stage in cancer is a description of the condition of the cancer in order to determine the right way of treatment. In breast cancer, there are known early stages that start before the occurrence of cancer until stage II, as well as advanced stages consisting of stage III and stage IV [4]. Breast cancer patients more often come to health services with advanced stage conditions. This is because there are few women who do early detection to find breast cancer at an early stage so that optimal treatment can be carried out. Breast cancer that is treated at an early stage has a chance of cure approaching 95% [2]. The Decree of the Minister of Health No. 756 of 2010 concerning technical guidelines for controlling breast cancer and cervical cancer, it is stated that early diagnosis of breast cancer is not caused by mere coincidence. Women should know the normal condition of the breasts so that they can be aware of any changes. Therefore, efforts to prevent breast cancer are very necessary. The main prevention effort is to prevent and avoid breast cancer risk factors, followed by early detection of breast cancer. Early detection efforts that can be done is by examining the breast.

American Cancer Society stipulates three methods of early breast cancer screening, namely Breast self-exam or breast self-examination (BSE) which is carried out every month after menstruation by women over 20 years of age, and clinical breast examination (SADARI) carried out by women over 40 years of age. By conducting regular check-ups with surgeons, general practitioners, or trained nurses, and imaging examinations in the form of mammography and ultrasonography[5].

Breast self-examination (BSE) is one of the government programs for early detection of breast cancer which is recommended to be carried out routinely by women over the age of 20 years because it is easy to do, does not require a fee and can be done at home without having to go to Hospital [6].

Breast self-examination (BSE) is an examination technique in which a woman examines her own breasts by looking and feeling with her fingers to detect whether or not there are lumps in her breasts. This examination is carried out routinely at least once a month between 7-10 days after the first day of menstruation or after menstruation has been completed. Breast self-examination needs to be done to ensure that a person's breasts are still normal. If there are abnormalities such as infection, tumors or cancer can be found early. By doing regular checkups, lumps or other problems will be detected early, even though they are still small so that they are more effective to treat [2].

Although BSE can be done independently and does not cost money, the results of research on Non-Communicable Diseases (NCD) show that people's behavior is still low in carrying out early detection of breast cancer. In 2016 there were 53.7% of people who did not do BSE, and 46.3% did BSE. In 2017 only 3 million women of childbearing age or 2.98% did early detection of breast cancer using the BSE method [7].

The lack of public awareness in carrying out early detection of breast cancer is one of the reasons for the low knowledge and understanding of the community about breast cancer and about the procedure for implementing breast self-examination (BSE) [8]. Knowledge or cognitive is a very important domain for the formation of one's behavior, because behavior based on knowledge will be durable than behavior that is not based on knowledge. Knowledge can be interpreted as information that can be followed up or information that can be used as a basis for action to make decisions and take new directions or strategies. person's behavior is strongly influenced by knowledge. A person's knowledge of something becomes a predisposing factor in the behavior to be carried out. Plack of knowledge about breast cancer is a factor that causes women not to do the breast self-examination (BSE) method, causing breast cancer to be detected at an advanced stage [9].

Study regarding the relationship between the level of knowledge about breast cancer and the behavior of breast self-examination (BSE) in women aged 20-45 years involving 100 respondents, using an analytical survey research method and using a cross sectional research design. The results showed that there were 53 respondents with a high level of knowledge (53.0%), and 47 people with a low level of knowledge (47.0%). Respondents with good BSE behavior were 59 people (59.0%), good behavior was 39 people (39.0%) and 2 people had bad behavior (2.0%)[10]. Based on the foregoing, the researcher is interested in conducting a research regarding knowledge and behavior of breast self-examination among women of childbearing age.

II. METHOD

This study uses an analytical research design with a cross sectional study approach. Women of childbearing age represented 258 persons in total. Sampling using proportionate stratified random sampling with a total sample of 72 respondents. Collect data in this study through guided interviews using a questionnaire as a guide. Data processing with a computerized statistical analysis program. Analyze research data through univariate and bivariate analyses.

III.   FINDINGS

Based on table 1 showed that the highest frequency distribution of age is at 26-35 years, namely 40 respondents (55.6%) education, namely Senior High School as many as 38 respondents (52.8%), the majority of respondents are Housewives, namely as many as 25 respondents (34.7%) and as many as 48 respondents (66.7%) with married.

Table 1. Frequency Distribution of Respondents Demographic Data

Demographic Data	f	%
Age		
17-25 years old	15	20.8
26-35 years old	40	55.6
36-45 years old	15	20.8
46-55 years old	2	2.8
Education		
Elementary school	7	9.7
Junior High School	38	52.8
Senior High School	27	37.5
Diploma/Bachelor	72	100
Profession		
student	6	8.3
Housewife	25	34.7
Farmer	13	18.1
civil servant	13	18.1
Self-employed	9	12.5
Etc	6	8.3
Marital Status		
Not married yet	22	30.6
Marry	48	66.6
Widow	2	2.8

Table 2 showed that the majority of respondents have good knowledge about cancer as many as 41 respondents (56.9%).

Table 2. Frequency Distribution of Respondents Based on Knowledge About Cancer

Knowledge	f	%
Well	41	56.9
Enough	15	20.8
Not enough	16	22.2

Based on table 3 showed that the majority of respondents with BSE behavior were not carried out, namely 43 respondents (59.7%).

Table 3: Frequency Distribution of Respondents Based on BSE Behavior

BSE Behavior	f	%
Done	29	40.3
Are not done	43	59.7

Table 4 : Knowledge About Cancer

Knowledge About Cancer	BSE Behavior				TTL		P-value
	Done		Are not done				
	f	%	f	%	f	%	
Well	26	63.4	15	36.6	41	100	0.000
Enough	2	13.3	13	86.7	15	100	
Not enough	1	6.3	15	93.8	24	100	

Based on Table 4 showed that respondents who have good knowledge about cancer then BSE behavior is carried out as many as 26 respondents (63.4%). The results of statistical tests using the Chi-square test showed p-value = 0.000 < (0.05), meaning that there was a significant relationship between the level of knowledge about cancer and BSE behavior in women of childbearing age.

IV. DISCUSSION

Respondents Characteristics

The result showed that women of child bearing age who became the most respondents were aged 26-35 years, as many as 40 respondents (55,6%). The study regarding the relationship between the level of breast cancer knowledge and the behavior of early detection of breast cancer with the conscious method in women of childbearing age in Batu city, showing that the majority of respondents are aged 26-35 years, as many as 29 respondents (30.2%) [11]. The results of this study are also supported by Setianingrum and Rachmasari which shows that the majority of respondents are 26-30 years old (41.25%) [12].

The risk of breast cancer increases with age and is also in accordance with the theory put forward by Nisman (2015) which states that every woman over the age of 20 years is recommended to do the breast self-examination (AWARE) [13].

The older a person is, the more their grasping power and mindset will develop so that the knowledge gained is getting better, but towards old age a person's ability to remember will decrease. This shows that most women aged between 26-30 years show a mature thinking attitude and have the mentality needed to learn and adapt to new situations, for example remembering things that have been studied, analogical reasoning and thinking. creative. So that women began to care about breast self-examination and this is an effort for early detection of breast cancer [9]. According to the researcher's assumptions, young adults aged 26-35 years are more likely to maintain their physical appearance so that they seek more information and have better knowledge and are supported by very rapid technological developments so that they can more easily obtain information, such as through the internet. television, radio and magazines. In addition, at this time direct counseling by health workers has begun to be held regarding breast cancer and BSE behavior. Besides that, in the younger age group their curiosity is greater so they are more trying to find information, so it can be concluded that respondents in the 26 - 35 year age group have better knowledge about cancer and BSE behavior.

The highest education level for women of childbearing age is Senior High School with 38 respondents (52.8%). The majority of women of childbearing age with a high school/vocational education level are 57 respondents (59.4%)[11]. The results of this study are also in line with Hanifah's research (2015) conducted in the working area of the Puskemas Nusukan Surakarta, female respondents of childbearing age who had the highest education level of Senior High School amounted to 67 respondents (45.6%). The results of this study are also in line with research by Setianingrum and Rachmasari which shows that the majority of respondents with a high school education level (58.75%) [12].

The higher a person's level of education, the wider the knowledge that person has. However, not always those with low education have low knowledge, because knowledge is not only obtained from formal education but non-formal education is also a way to acquire knowledge [14]. This is in line with Notoatmodjo's theory, namely that the level of education also affects a person in increasing his ability to prevent disease and maintain his health. Someone who has a higher level of education, the insight they have will be better. Education is one of the factors that influence a person's perception, so that it can make a person to be more receptive to new ideas and technologies [9].

According to the researcher's assumptions, someone with higher education will have broader knowledge than those with a lower level of education. The level of education will affect a person in receiving information so that knowledge about breast cancer becomes better and makes the person understand the importance of BSE behavior. So it can be concluded that the higher a person's level of knowledge, the easier it will be to receive information so that the more experience they have, in this case especially regarding breast self-examination (BSE). The majority of women of childbearing age work as housewives with 25 respondents (34.7%). The results of this study are in line with Purlistyarini's which shows that most of the respondents' jobs are housewives, as many as 56 respondents (58.3 %) [11].

The results of this study are also in line with research conducted by Wirawan which concluded that the most occupations were domestic workers, amounting to 141 respondents (48.0%). This is also in line with research by Setianingrum and Rachmasari which shows that the majority of respondents work as domestic workers (45%) [12].

An activity carried out primarily to support life and the life of his family. Work is generally a time-consuming activity. Working for mothers will affect family life [14]. Pangesti explain that one's job will affect one's knowledge and experience. The explanation for why work affects a person is when the job uses the brain more than the muscles. The performance and ability of a person's brain to store (memory) increases or increases when it is used frequently, this is directly proportional when a person's work uses the brain more than muscles.

Housewives and not working have low or no income. Low income is a problem in managing daily needs including health problems that are being experienced because they require money, so health problems are often neglected in this case, namely doing BSE [15].

According to the assumptions of the researchers in this study, most of the women of childbearing age who did not work had good knowledge. This can be caused by respondents with status as housewives and not working have time to get information about breast cancer and BSE through print media, electronic media and health workers who provide counseling. So it can be concluded that the work environment can make a person gain experience and knowledge either directly or indirectly.

The majority of women of childbearing age are married, as many as 48 respondents (66.6%). The results of this study are in line with research conducted by Sihite, Nurchayati and Hasneli, which showed that 94 respondents (94%). This is in line with Donnelly's study stated that the majority of respondents are married (78.9%) and have children (84.8%), where married women are more likely to participate in BSE than unmarried respondents [16].

Deska (2019) stated that women who have been pregnant (nullipara) have a lower risk of breast cancer. when a person is pregnant will experience cell maturity in the breast and reduce the risk of breast cancer. Similar to breastfeeding, respondents who have breastfed before have breast cells become more mature (mature). With breastfeeding, menstruation will be delayed. This will reduce the body's exposure to the hormone estrogen, thereby reducing the risk of breast cancer [17].

According to the assumption of researchers of reproductive age women with married status in this study, it does not guarantee someone has good, sufficient or low knowledge. This shows that marital status does not affect knowledge about breast cancer and BSE. So it can be concluded that marital status does not guarantee someone is well informed, but depends on someone's interest in information, in this case regarding cancer and BSE behavior.

Knowledge about Cancer

Based on the results of the study with the number of respondents as many as 72 people, it shows that the majority of respondents with a good level of knowledge about cancer are 41 respondents (56.9%). The results of this study are in line with research conducted by Purlistyarini (2020) which showed that the majority of respondents with a good level of breast cancer knowledge were 51 respondents (53.1%). This is also in line with the research by Sandepa and Langelo which shows that most respondents have a good level of knowledge about breast cancer, namely 51 respondents (7.3%) [18].

The results of this study are also supported by the research by Deska, Ningsih and Luviana (2019) which shows that the majority of respondents have a good knowledge of breast cancer, namely 43.8%. Wawan and Dewi stated that the factors that influence knowledge include internal factors, namely education, occupation, age, and external factors, including environmental and socio-cultural factors. In addition, advances in technology and information are not limited and can be accessed by everyone so that it is not uncommon for younger people to tend to be smarter and have more contact with and access information technology such as the internet so that they tend to have a better level of knowledge [14].

Education affects knowledge in obtaining information. The higher a person's education, the more and easier it is to receive information. In this case, information about cancer and BSE behavior has contributed to the results of this study, where someone who has never received any information of course has little or no knowledge about cancer and BSE behavior because they have not been exposed to information about it[9].

Research conducted by Budiman and Riyanto concluded that experience is one of the sources for obtaining the truth of knowledge because it is done by repeating the knowledge gained in solving problems faced in the past. In this case the respondent has been exposed to information about breast cancer and tries to repeat what has been obtained about breast cancer by correctly filling out questionnaires or experiences obtained from other people. This is because the respondents never received information about breast cancer. Currently, information can be obtained easily, namely through television, radio, magazines and the internet, and experience factors also affect one's knowledge [19]. Apart from information and experience, there are other factors that can influence knowledge such as age, education and occupation, which ultimately affect a person's knowledge increase in this case knowledge about breast cancer [14].

The researcher assumes that the respondents in this study have good knowledge about cancer due to age, educational background and occupation of the respondents, most of whom are young adults, high school graduates, and IRT status, where respondents have obtained quite good knowledge about cancer and breast self-examination (BSE). obtained from various sources of information such as mass media, books, internet, health services such as counseling related to cancer. So it can be concluded that good knowledge about cancer can be influenced by the age, education level and occupation of the respondent

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BSE Behavior

Based on the results of the study showed that the majority of respondents with BSE behavior was not carried out, namely as many as 43 respondents (59.7%). The results of this study are in line with Purlistyarini's which shows that the majority of respondents with poor early breast detection behavior using the BSE method are 7 respondents (7.3%) [11]. Deska, Ningsih and Luviana mentioned that the majority of respondents with Sadari's behavior are in the poor category (73.7%) [17].

Lack of understanding about breast cancer, lack of attention to breasts, fear of surgery, believing in traditional healers or medicine and feeling lazy and embarrassed to show breasts causes a person not to do early detection of the occurrence of breast cancer. cancer such as BSE and SADANIS. Notoatmodjo states that a person's behavior is influenced by supporting factors such as facilities and infrastructure, expertise and skills as well as driving factors such as family, peers, health workers. In this case, the respondent may not have the expertise or skills to carry out early detection of the BSE method, it could also be due to the absence of a driving factor for the behavior change, such as the absence of health workers who set the right example [9].

The researcher assumes that in this study, the behavior of not doing BSE is due to the respondent's lack of knowledge about BSE. This can be caused by other factors such as knowledge, experience, skills or expertise or encouragement from others. It can be concluded that good knowledge about breast cancer does not necessarily have an impact on BSE behavior.

Relationship between Knowledge Level about Cancer and BSE Behavior

Based on the results of the study, it is known that respondents who have good knowledge about cancer tend to do BSE (63.4%), while respondents who have sufficient knowledge and knowledge more or less tend not to do BSE, namely 86.7% and 93.8%, respectively.

Based on the results of statistical tests using the Chi-square test showed p-value = 0.000 < (0.05), meaning that there is a significant relationship between the level of knowledge about cancer and BSE behavior in women of childbearing age. The relationship between the level of knowledge about breast cancer and the behavior of breast self-examination (BSE) in women aged 20-45 years, showing that there is a significant relationship between the level of knowledge about cancer. breast self-examination behavior (BSE) in women aged 20-45 with a p-value of 0.000 (p-value < 0.05) [10].

Study by Yuzar's about the relationship between the level of knowledge of health cadres about breast cancer and BSE behavior in the Medan Tembung sub-district using the Spearman Rank test with a correlation test value of breast cancer knowledge and BSE behavior, namely p<0.006, which indicates that there is a significant relationship with a moderate correlation strength (r = 0.533) [20].

This is also in line with the research by Sandepa and Langelo (2018) regarding the relationship between mother's level of knowledge on early detection of breast cancer and BSE behavior in Tumpaan Baru village, South Minahasa with Chi-square test, it was found that knowledge level had a significant relationship with breast self-examination behavior. because the p value is smaller than the alpha value, namely the p value (0.047) < (0.05) [18].

A significant relationship between the level of knowledge of breast cancer and BSE behavior is in accordance with the theory put forward by Notoatmodjo, namely behavior based on knowledge will last longer than behavior that is not based on knowledge [9]. There are several sequential processes before adopting a new behavior, namely: awareness (awareness), interest (feeling interested), evaluation (assessing), trial (trying), and adaptation (adjusting). Without a person's interest in something, the knowledge will not be well received by the person, which then will not be able to proceed to the next process. At this stage, research respondents are in the trial stage, which means that an individual begins to try a new behavior [14].

Immawati's stated that high knowledge about breast cancer does not necessarily have an impact on BSE behavior. This is in line with Yuzar's research (2017) which states that respondents who carry out BSE behavior are accompanied by good knowledge about breast cancer. This shows that good BSE behavior is still difficult to obtain only with a good level of knowledge, because there are other factors such as beliefs, attitudes, habits of respondents towards BSE behavior [21].

In accordance with what was stated by Sianu, that sufficient or high knowledge without sufficient or high motivation will not form a supportive or positive attitude which will then manifest in behavior[22]. This is in line with Green's theory in Notoatmodjo which states that there are other factors that can influence a person's behavior besides knowledge, namely facilitating factors such as attitudes, beliefs and skills, supporting factors, namely facilities and infrastructure, and driving factors, namely family support, friends. peers and health workers[9].

According to the researcher's assumptions, the majority of respondents did not perform BSE behavior which could be caused by several possible factors, including lack of knowledge, lack of belief and lack of habits. The respondent's lack of knowledge about breast examination causes the respondent to be unable to

specifically apply the steps for a complete breast examination, as well as the lack of family support in disseminating BSE behavior, so that respondents do not take the initiative to perform BSE behavior.

Furthermore, the respondent's lack of confidence in being able to perform BSE so that the respondent lacks confidence in carrying out the steps for a complete breast examination during direct practice. The third factor is the lack of habit of doing breast examinations, because respondents are lazy to do BSE every month. So that BSE behavior over time disappears and the respondent will not do BSE behavior again every month.

It can be concluded that someone with good knowledge about breast cancer cannot be a guarantee that they will perform BSE behavior. This is due to a lack of information from health facilities regarding BSE and how to do it. So that health workers play an important role in this, such as conducting counseling about breast cancer and how to prevent it.

V. CONCLUSION

There is a significant relationship between the level of knowledge about cancer with BSE behavior in women of childbearing age with p-value = 0.000 < (0.05).

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