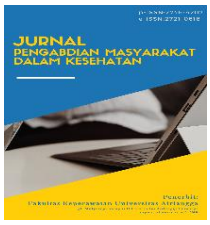

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IMPROVING KNOWLEDGE ABOUT EARLY DETECTION AND SCREENING OF BREAST CANCER AMONG FEMALE RESIDENTS IN GANDUL VILLAGE, PILANGKENCENG DISTRICT, MADIUN REGENCY

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ABSTRACT

Introduction: Breast cancer is still a burden by being the most frequent malignancy and the highest cause of cancer death in women. The death rate from breast cancer can be reduced by early case finding and appropriate immediate treatment. Early case finding can be started with a simple periodic examination that can be carried out by each individual independently, namely by breast self-examination. This study aims to determine the effect of education on early detection and screening of breast cancer on the level of knowledge among women in Gandul village, Madiun district.

Methods: This study involved 101 participants aged from 25 to 87 years old, including female residents of Gandul village and cadres of public health center. We conduct health education about breast cancer and early detection of breast cancer, especially regarding breast self-examination. Pre-test and post-test were also conducted to assess the the knowledge of the participants before and after the seminar held.

Results: The pre-test score of participants with low scores (<75) was 78.21% (79 people) and decreased in the post-test to 43.56% (44 people), while participants with high scores (>75) were only 21.78% (22 people) in the pre-test and increased to 56.44% (57 people) in the post-test.

Conclusion: There is a knowledge improvement about the early detection of breast cancer among participants after the intervention. The knowledge improvement can be seen through the increased score from pre-test to post-test.

KEYWORDS

breast self-examination; breast cancer; health promotion

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1. INTRODUCTION

Breast cancer is the most common malignancy and the leading cause of cancer death in women, accounting for more than 1,000,000 cases every year worldwide. In the United States, every year about 100,000 new cases are diagnosed and about 30,000 of them die from this disease (Goldblum et al., 2017). In Indonesia, breast cancer ranks first of all malignancies in women (The Global Cancer Observatory, 2020). Based on the data from the recapitulation of the histopathological examination from the Department of Anatomical Pathology/SMF, RSUD Dr. Soetomo, obtained as many as 1405 breast carcinoma examination results for the period January

2010-December 2013. The number of histopathological examinations of breast carcinoma continued to increase from 2010 to 2012 and then decreased in 2013 (Baswedan et al., 2016).

The incidence of breast cancer in women seems to increase along with the age. The highest incidence is in the menopause phase, and the incidence appears to be slightly reduced in the later phases (Goldblum et al., 2017). Data at Dr Soetomo Hospital showed that from the 1405 results of breast carcinoma examinations in 2010-2013, the 41-50 age group was the largest group suffering from breast cancer, followed by the 51-60 year age group in second place. The youngest age is 20 years and the oldest is 87 years (Baswedan et al., 2016).

The recommended screening methods for breast cancer are breast self-examination, clinical breast examination and mammography. The most cost-effective method is breast self –examination (Ali et al., 2019). Early detection of breast carcinoma in developed countries is increasing with the widespread use of mammography examination, so that most tumors have been found when the tumor size does not exceed 2 cm or most are found in situ. In North America, Western Europe and Australia, the mortality rate from this disease is starting to decrease, this is due to early detection and good treatment efforts (Goldblum et al., 2017). If the tumor is found at a curable stage, and the best treatment is carried out, more satisfactory results will be obtained (Lester, 2010). However, in Indonesia, early detection of breast carcinoma has not been carried out widely, so it is still necessary to increase women's understanding of risk factors, early signs and early detection of breast carcinoma in order to reduce mortality and incidence of breast carcinoma. Knowledge about the disease is important to increase awareness that brings changes in behavior so that people are encouraged to carry out early detection on a regular basis (Heena et al., 2019). The purpose of this activity is to increase knowledge about early detection of breast cancer and screening for breast examination among female residents in Gandul Village, Pilangkenceng District, Madiun Regency, East Java.

2. MATERIAL AND METHODS

This community service was held by the Community Service team from the Department of Anatomy, Faculty of Medicine, Airlangga University in collaboration with health workers from the Pilangkenceng Community Health Center. The targets of these activities are women consisting of PKK members, young women and cadres who live in Gandul Village, Pilangkenceng District, Madiun Regency, East Java. There are several series of activities including preparation, implementation, and evaluation.

Preparation

The preparatory activities were carried out by holding a series of meetings with the committee, collaborating and providing guidance to the health workers of the Pilangkenceng Health Center. The comitee also prepared various needs needed for the continuity of the event such as educational media posters, videos, leaflets, and google forms for pre-test and post-test. The target of this activity was obtained through an invitation from the Pilangkenceng Community Health Center for women who live in Gandul Village, Pilangkenceng District, Madiun.

Implementation

Seminar and screening examination are carried out in August and September 2021. These activities comprised online and offline activities. Online activities are held using the Zoom Meeting application and filling out questionnaires using Google Forms. First activity in the form of a pre-test on early detection of breast cancer and filling out questionnaires about breast cancer risk factors for participants through a questionnaire on google form to determine the level of understanding of participants. The pretest was held on August 25,

2021. Second activity was held on August 28, 2021, which is seminar that deliver the material and a question and answer session with participants through the zoom meeting application. The education given was mainly about risk factor of breast cancer and how to do breast self-examination (BSE) as the screening tool. After that, participants were asked to answer post-test questions at the end of the seminar activity.

Offline activities are carried out at the Public Health Center a week to a month after the counseling activity, in the form of clinical breast examination screening activities by breast palpation in female residents of the Pilangkenceng Public Health Center area. The organizers of the activities are health workers at the Public Health Center and the community service activity team from the Department of Anatomical Pathology, Faculty of Medicine, Airlangga University. Participants who are detected as having a lump in the breast will receive further treatment by being referred to a hospital or to a more complete health facility.

The media used during the activities were photos, educational videos of breast self-examination (BSE), posters, and feedback sheets. In addition, it is also in the form of leaflets that can be placed in the information corner of the puskesmas so that it can be accessed when residents visit the puskesmas. All these media are given to participants both online and offline.

To increase the enthusiasm of participants in outreach activities, a tiktok competition for making educational videos for puskesmas cadres was held with the theme of malignant breast tumors. A collection of educational tiktok videos for malignant breast tumors that can be viewed through the TikTok application with a uniform hashtag.

Evaluation

The evaluation of these activities was carried out by giving a pretest and posttest to each participant. The pre-test and post-test contain a breast cancer risk questionnaire and knowledge about breast cancer and its early detection. The pre-test and post-test scores are divided into two categories, namely high with a value of more than 75 (>75) and low with a value of less than equal to 75 (≤75), then the results were compared to see the improvement of knowledge about malignant breast cancer. In the long term, this activity is expected to contribute to the prevention and early detection of malignant breast tumors and reduce morbidity and mortality due to delayed diagnosis of breast cancer.

3. RESULTS

The seminar was held on August 28, 2021 and was attended by 101 participants, consisting of cadres and Public Health Center health workers, followed by a clinical breast examination by medical officers. The breast cancer screening examination was attended by 212 people. The event was carried out well and smoothly thanks to the good cooperation between the Community Service Team and the Public Health Center Committee, as well as the enthusiasm of the cadres and health workers of the Public Health Center to listen and ask questions.

The counseling program started at 09.00 WIB, opened with remarks from the Secretary of the Department of Anatomic Pathology, Faculty of Medicine, Airlangga University, and remarks from the Head of the Pilangkenceng Public Health Center. Then the event continued with seminar on Increasing Understanding of Breast Cancer Early Detection and BSE, question and answer session, and post-test. Distribution data of participant attending online

Figure 1. Participants Join the Seminar Online

Table 1. Data Distribution of Participants Attending Online Seminars

Risk Factor	Frequency	Percentage
Parity status		
Have Children	100	99.01
Have no Children	1	0.99
Breastfeeding status		
Breastfeeding less than 6 months	24	23.76
Breastfeeding more than 6 months	77	76.24
Exposed to X-rays status		
Exposed to X-rays less than once a year	3	2.97
Exposed to X-rays more than once a year	98	97.3
Age		
Early Adulthood	52	51.5
Late Adulthood	49	48.5
History of Breast tumor (lump)		
Yes	4	3.96
No	97	96.04
Family history of Cancer		
Yes	5	4.95
No	96	95.05
Marital status		
Married	100	99.01
Not married	1	0.99
Regular breast self-examination (BSE)		
Practice regularly	4	3.96
Don't practice regularly	97	96.04

Table 2. Pre test and Post test Questionnaire Result Table

Variable	Pre Test		Post Test	
	High Score	Low Score	High Score	Low Score
Knowledge about breast cancer and its early detection	21.78% (22 people)	78.21% (79 people)	56.44% (57 people)	43.56% (44 people)

seminars are shown in Table 1 and the results of the pre-test and post-test are shown in Table 2.

The data from the questionnaire on breast cancer risk factors are shown in table 1. The data shows that the parity status of having children is 99.01%, breastfeeding for less than 6 months is 23.76%, exposed to X-ray radiation more than once a year is 2.97%, aged over 25 years, that is 100%, history of having had a tumor or lump in the breast as much as 3.96%, family history of having cancer 4.95%, marital status that is married 99.01%, not doing regular breast examinations 96.04%.

After the online seminar was carried out, a breast examination screening was carried out by means of breast palpation, by health center personnel (doctors and midwives), as well as direct education about how to do breast self-examination independently (BSE) to female residents in the Pilangkenceng Public Health Center area for one month. One of the lecturer staff of the Anatomical Pathology Department of FK Unair and 2 Anatomical Pathology Specialists, alumni of the Anatomical Pathology Sp1 study program, Faculty of Medicine, Airlangga University, assisted in the implementation in the first week, as well as direct training to the Public Health Center health workers on how to do proper breast palpation.

During a period of 1 month, 212 female residents came to the Public Health Center for breast screening. Most (34%) of the female residents who came for a check-up were aged 31-40 years, with an average age of 29 years, the youngest age being 13 years old, and the oldest being 64 years old (Table 3).

Prior to breast examination, data were collected on risk factors for breast cancer, which consisted of age, family history of cancer, history of benign breast tumor, history of hormonal contraception, and menopausal status. Of the 212 women who came for a check-up, there were 7 (3.3%) participants who had a family history of cancer, 9 (4.2%) participants had a

Table 3. Data Distribution of Participants Underwent Breast Examination in Pilangkenceng Public Healt Center During 1 Month

Risk Factor	Frequency	Percentage
Age		
10-20 years old	11	5
21-30 years old	34	16
31-40 years old	72	34
41-50 years old	61	29
51-60 years old	28	13
> 60 years old	2	1
No data (the participant didn't input)	4	2
History of Breast tumor (lump)		
Yes	9	4.2
No	203	95.8
Family history of Cancer		
Yes	7	3.3
No	205	96.7
Menopause		
Yes	15	7
No	197	93
History of contraceptive method		
Implant	1	0.5
IUD	1	0.5
Sterilization	3	2
Pil	12	6
Injectable	85	40
No Contraception	102	48
No explanation	8	3

Table 4. Data of Four Patients with Breast Lump Found in Breast Examination

Risk Factors for Patients with Breast Lumps	Patient number 01	Patient number 89	Patient number 194	Patient number 195
Have no children	Yes	Yes	No	Yes
Breastfeeding less than 6 months	Yes	Yes	No	Yes
Over 25 years old	Yes	Yes	No	Yes
History of breast tumor (lump)	No	No	No	No
Family History with cancer	No	No	No	No
Menarche less than 12 years	No	No	Yes	No
Smoking	No	No	No	No
Exposure to cigarette smoke for more than 1 hour a day	Yes	Yes	No	No
Infrequent consumption of fruit and vegetables	Yes	Yes	No	No
Frequent consumption of fatty foods	No	No	No	No
Frequent consumption of preservatives	No	No	No	No
Lack of physical activity	Yes	Yes	No	No
Obesity	-	No	No	No
Total of Risk Factor	6	6	1	3

history of benign breast tumor, and 15 (7.08%) participants had been menopause (Table 3).

The patient's contraception history data is shown in Figure 3. Of the 212 women who came for a check-up, 1 patient used an implant, 1 patient used an IUD, 3 patients had underwent tubectomy, 12 patients used pills, 85 patients used injectable contraception, 102 patients did not follow the family planning program and 8 patients did not fill in the family planning history data (Table 3).

The results of breast palpation showed that there were 4 (2%) women with breast lumps, aged 18-60 years. The characteristics of the lumps found also vary. The size of the lump were 2-3 cm. Two women aged 51 and 60 years had hard solid lumps and limited mobility, while 2 women aged 18 and 27 years with solid lumps were firm and mobile. These patients were patients 01, 89, 194, and 195. The risk factors for the four patients are shown in Table 4.

Abnormality in patient 01 were found to be a lump on the skin of the breast (papilloma) measuring 2 cm.

Figure 2. Direct Education About How To Do Breast Self-Examination Independently (BSE) to Female Residents in the Pilangkenceng Public Health Center area, followed by breast examination screening which performed by health center personnel. The Community Service Team and the Public Health Center Committee.

Abnormalities in patient 89 was found in left medial superior, 3x1 cm in size, which was suspected of being malignant, hard, immobile, and there was skin retraction. Abnormality in patient no. 194 was found in left medial inferior, 1x2 cm in size, suspected benign breast lesion, and patient 195, found in dextra lateral, 2x3 cm in size, suspected of malignant breast lesion. The four patients were then given a referral for further treatment at a hospital with more complete equipment.

4. DISCUSSION

The knowledge of the residents of Gandul Village, Pilangkenceng District, Madiun Regency about early signs and early detection of breast cancer is still very low. However, after seminar activities were given, there is an increase in understanding. This is known from the results of pre and post tests about breast cancer. The results of measuring participants' understanding by pre-test and post-test showed that the respondents with low score were 78.21% (79 people) for the pre-test, and the post-test as much as 43.56% (44 people), while the high score were 21.78% (22 people) for the pre-test and 56.44% (57 people) for the post-test. The data shows that there is a decrease of 34.65% for respondents with low scores and an increase of 56.43% for participants with high score. Based on these data, it can be assumed that there is an increase in respondents' knowledge about signs, detection early childhood, and breast cancer prevention. Increased knowledge was also found in another study conducted by Nisha and Ramachandran in Tamil Nadu (Nisha & Murali 2020),and a study conducted by Asuquo and Olajide (Asuquo & Olajide, 2015).

The incidence and outcome of disease can be influenced by public knowledge of breast cancer (Noreeen et al., 2015). Knowledge about breast cancer that is important to know is about risk factors, symptoms, signs, and how to do BSE (Doshi et al., 2012; Yurdakos et al., 2013; Akpanekpo, 2017). People who have sufficient knowledge about risk factors for breast cancer will try to prevent the disease which in turn will reduce the incidence of the disease (Rahman et al., 2019). Then people who have knowledge about early detection of breast cancer can lead to changes in behavior such as carrying out routine breast self-examinations (Udoh et al., 2020). There is evidence that knowledge about BSE is positively correlated with early detection of breast cancer (Yakubu et al., 2014). BSE also aims to make patients know the structure and condition of their breasts (Koc et al., 2019; Black & Richmond, 2019; Nemenqani et al., 2014). there is evidence that patients can detect breast lumps and other abnormalities in their own breasts if they routinely perform BSE (Nde et al., 2015; Agbonifoh, 2016). Then patients who find abnormalities in the breast will immediately come to the health facility because

they know the impact of delaying breast cancer treatment (Sarfo et al., 2013; Obaji et al., 2013; Idris et al., 2013). This series of actions can affect breast cancer outcomes because massive early detection can reduce breast cancer morbidity and mortality (Pengpid & Peltzer, 2014).

The risk factors for breast cancer analyzed in this activity were parity status, breastfeeding, exposure to X-ray radiation, age of participants, history of breast lumps, family history of cancer, marital status, and routine breast examination status. Based on parity status, most of the counseling participants had children (99.1%). One of the factors that increase the risk of breast cancer is never being pregnant and giving birth so that almost all participants have a low risk. Based on breastfeeding status, the majority of participants in breastfeeding counseling for more than 6 months (76.24%) which is a protective factor against breast cancer and who are at risk for breast cancer are patients who breastfeed for less than 6 months, namely 23.76% of patients. Based on a history of exposure to X-ray radiation, most of the counseling participants had no exposure to X-ray radiation (97.03%). Based on age characteristics, all counseling participants were over 25 years old (100%). The higher the age, the risk of developing breast cancer increases. Based on previous history of cancer, most of the counseling participants never had a breast tumor/lump (96.04%). Based on a family history of cancer, most of the counseling participants did not have a family tree with cancer (95.05%). Based on the habit of conscious examination, most of the counseling participants did not carry out the examination regularly (96.04%).

The results of breast examination by medical personnel at Public Health Center Pilangkenceng showed that there were 4 (1.19%) patients who had lumps in the breasts. The search for risk factor data for the four patients showed that 3 patients had no children, had never breastfed, and were more than 25 years old, 1 patient had menstruation less than 12 years old, 2 patients were exposed to cigarette smoke for more than 1 hour per day, 2 patients who rarely consume fruits and vegetables, and 2 patients who lack physical activity. There are 2 patients who have 6 risk factors, 1 patient who has 3 risk factors and 1 patient with one risk factor.

Female breast malignancy is a health problem in Indonesia, including in East Java. Patients often come at an advanced stage so that the therapy given is less than optimal. If the tumor is found at a curable stage, and the best treatment is carried out, more satisfactory results will be obtained (World Health Organization, 2021).The discovery of tumors at an early stage can be done through BSE which can be done independently by all members of the community.

5. CONCLUSION

The conclusion of this activity is that there is an increase in understanding of knowledge about signs and early detection of breast cancer by 56.43% after attending seminar. Most people have low risk factors for breast cancer. This activity found 1.19% of the community members who had a lump in the breast which was suspected to develop into a malignancy in the breast. This data is expected to be useful for developing strategies for handling and early detection of breast cancer in Indonesian society.

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