Bioedupat 2022, 2(2): 32 - 36

BIOEDUPAT:
Pattimura Journal of Biology and Learning
http://ojs3.unpatti.ac.id/index.php/bioedupat
e-ISSN 2775-4472

Research Article

Prevention of breast cancer with the breast self-examination method (BSE) in the village of Negeri Lima Leihitu District, Maluku Province

Theopilus Wilhelmus Watuguly[1], Fredy Leiwakabessy[1], Johanis Fritzgal Rehena[1], Windi Mose[2], Syahran Wael[3*]

[1] *Department of Biology Education, Pattimura University, Street. Ir. M. Putuhena, Ambon 97233, Indonesia*
[2]*Department of Biotechnology, Pattimura University, Street. Ir. M. Putuhena, Ambon 97233, Indonesia*
[3]*Laboratory of Biology, Pattimura University, Street. Ir. M. Putuhena, Ambon 97233, Indonesia*
** corresponding author: syahran.waelfkip@unpatti.ac.id*

Received: July 02, 2022 Revised: September 05, 2022 Accepted: October 13, 2022

ABSTRACT

The number of incidences and deaths from cancer is increasing every year around the world. However, currently available cancer treatment methods still have weaknesses, the discovery of cancer drugs is still very important. The purpose of this study was to determine the effect of the level of public knowledge about breast cancer with BSE behavior on housewives in Negeri Lima Village, Maluku Province. The design of this research is descriptive analytic with a cross-sectional approach. The study was conducted in May 2022. The population in this study were residents of the village of Negeri Lima. Sampling using the method with 50 respondents. The tool used in this research is a questionnaire. The analysis technique used is Chi Square analysis. The results showed that the influence of the level of knowledge about breast cancer on housewives was mostly in the good category of 60.5%. BSE behavior in housewives is mostly in the category of not doing BSE by 40%. The results of the Chi Square analysis obtained the calculated X^2 value of 55.40 with a p value of 0.000 ($p < 0.05$). The close relationship between the level of knowledge of breast cancer with conscious behavior has a strong category indicated by a coefficient of 0.50. The conclusion of this study is that there is a relationship between the level of knowledge of mothers about breast cancer and the BSE behavior.

Keywords: knowledge, breast cancer, self-examination

To cite this article:
Watuguly, T.W., Leiwakabessy, F., Rehena, J.F., Mose, W., Wael, S. (2022). Prevention of breast cancer with the breast self-examination method (BSE) in the village of Negeri Lima Leihitu District, Maluku Province. *Bioedupat: Pattimura Journal of Biology and Learning,* Vol 2(2), 32-36. *DOI:* https://org/10.30598/bioedupat.v2.i1.pp32-36

INTRODUCTION

Cancer is still a global health problem that cannot be cured. Cancer is a disease caused by the uncontrolled growth of abnormal cells in the body (Safarzadeh, et al. 2014). This abnormal cell growth can damage normal cells around it and in other parts of the body. To date, there is no effective and efficient cancer

treatment. The number of deaths from cancer continues to increase from year to year throughout the world. Cancer is the first cause of death for women in Indonesia (Hasanah, S.N et al. 2016). WHO estimates that more than 6 million new cancer cases occur every year. One of the leading causes of cancer death is breast cancer. This cancer causes cells and breast tissue to change shape to become abnormal and multiply uncontrollably. This causes great concern for researchers to look for new cancer drugs (Mulyasari, et al. 2017). The National Cancer Institute (NCI) has studied about 500 plants each year, and found most of the plants obtained from tropical rain forests (Hermanto, 2011).

Breast cancer is found in an early stage, namely stage I or II, the life expectancy is high, ranging from 85 to 95%, but it can also be said that 70-90% of patients come to the hospital after a severe illness, which is in an advanced stage. Another factor is the patient's delay. Patients do not realize and do not know about the disease. All types of breast cancer can be prevented, another third can be cured if found at an early stage or an early stage. Therefore, efforts to prevent and find breast cancer at an early stage are important efforts. Every woman aged 20 years and over, the government recommends doing BSE regularly at least once a month. BSE is done one week after the end of menstruation. BSE on a regular basis is expected for women to be well acquainted with normal breast conditions, thus being able to find out as early as possible if abnormalities occur. The lack of awareness of women to immediately check themselves due to several factors including ignorance, anxiety and fear if they find abnormalities (Mulyasari, et al. 2017).

The most common cancer-causing factors are heredity or genetics, excessive alcohol consumption, obesity, and hormones. The discovery of cancer drugs is by exploring medicinal plants or herbs that have been traditionally used by the community or ethnopharmacology which is suspected to have anticancer compounds. Herbal plants are plants that have value that are usually used in medicine. Some of the plants that are often used by the community in the treatment of cancer are vinca rosea, taxus sp, zingiber zerumbet, boesenbergia pandurata, annona muricata, eleutrine americana, rat taro, propolis from honey bees, cloves, and other types of comedity Kurnia et al (2019).

Most herbal plant ingredients in cancer treatment consist of eugenol, simple phenols, phenolic acids, phenyl acetic acid, cinnamic acid, coumarins, lignans, flavonoids, lignins, tannins, benzophenones, stilbenes, quinones and betacyanins. These compounds can be used in first-line therapy for the majority of breast cancer patients. Most of these compounds contain antiestrogen tamoxifen which is a selective estrogen receptor modulator (Mohtar et al. 2021). Eugenol exposure can contribute to amino acid deficiency so that it is promising as an anticancer therapeutic drug (Tulungen, F.R. 2019). Research on potential anticancer compounds has been carried out by Mohtar, K et al (2021) suggesting that clove eugenol compounds have the potential as anticancer against ER-α, ER-β and HER-2 receptors in breast cancer. Another study by Kurnia, H et al (2019), suggested that clove oil had a pro-apoptotic effect related to p53 protein levels in cervical cancer cells in vitro. In the discovery of new drugs, it is necessary to isolate and identify medicinal plants that are herbal. Identification is very important to know the potential compounds contained in herbal plants that are treating breast cancer.

METHODS

This type of research is descriptive analytic. Analytics is research that tries to explore how and why health phenomena occur. This research is an observational research method using a cross sectional approach, which is a method of data collection that is carried out at a moment's time or one measurement. This method aims to obtain complete data in a relatively fast time. The study was conducted in Negeri Lima Village, Leihitu District, Maluku Province, from April - May, 2022.

The population in this study were housewives in Negeri Lima Village. Sampling was selected by means of quota sampling, namely sampling based on a specified number of 50 respondents. The instrument used in this study was a questionnaire. Data analysis using correlation was carried out to state the strength of the relationship between the two variables, namely the independent and dependent variables. The statistical test carried out was the Chi Square test with a 95% confidence level.

RESULTS AND DISCUSSION

Breast cancer is a malignant tumor that grows in the breast tissue. Cancer can grow in the mammary glands, milk ducts, fat tissue, and connective tissue in the breast (Sjamsuhidajat, R. and De Jong, W. 2004). Tumor or neoplasm is a group of cells that change with the characteristics of excessive and useless cell proliferation that does not follow Variations in breast size depending on variations in the amount of fat and

connective tissue and not on the actual glandular amount Breast cancer is a malignant tumor that grows in the breast tissue. Cancer can grow in the mammary glands, milk ducts, fat tissue, and connective tissue in the breast.

The results showed that as many as 50 respondents who had good knowledge of 60.5% and did not perform BSE behavior as much as 40%. The results of the Chi-square Test analysis obtained the X^2 value of 55.40 with a p value of 0.000. This means that there is a relationship between the knowledge of mothers in the village of Negeri Lima about breast cancer with conscious behavior. The result of the analysis of the contingency coefficient of 0.50 which has an understanding of the relationship between knowledge and conscious behavior is strong. The results of the analysis showed that the level of knowledge of mothers about breast cancer in Negeri Lima Village was in the good category. The level of knowledge in the category of good enough can be interpreted that they already have a fairly good understanding of breast cancer.

Breast glands are owned by both women and men. These glands become functional at puberty to respond to estrogen in girls and are usually underdeveloped in boys. During pregnancy, the mammary glands reach their peak development and function for milk production (lactation) after giving birth to a baby. Each breast is an elevation of skin-covered glandular and adipose tissue on the anterior chest wall. The breast is located above the pectoralis major muscle and is attached to the muscle through a layer of connective tissue. Variations in breast size depend on variations in the amount of fat and connective tissue and not on the actual number of glands. Anatomical images of the breast can be seen in Figure 1.

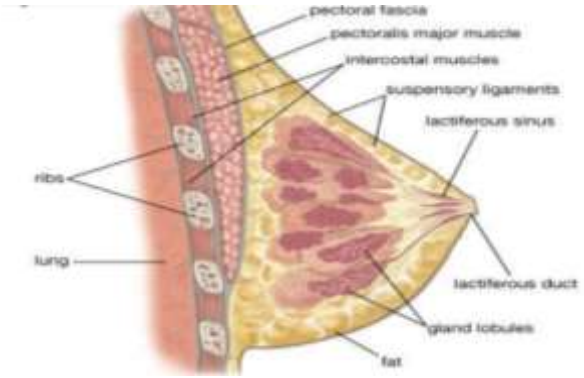


Figure 1. Breast Anatomy

BSE can be done in an upright position by standing facing a mirror or lying down with one hand placed under the head, then observations and palpation of the breast are carried out systematically, so that if a lump is found in the breast (Galih. 2020).

a. Time to do BSE
   BSE is carried out regularly, ie once a month, 7-10 days after menstruation, which is calculated from the first day of menstruation. It is hoped that at the time of the examination the breasts are not swollen or painful when pressed.
b. How to do BSE
   The following are the steps to do BSE according to the Ministry of Health recommended in the context of Breast AwarenessMont:
   1). Stand up and face the mirror, then examine both breasts whether normal or not. Pay attention if there are changes such as fluid coming out of the nipples, wrinkles, peeling skin.
   2). Raise both hands above your head. Pay attention to any changes in the contours of the breasts, whether there are abnormalities in both breasts or nipples.
   3) Place both hands towards the waist and slightly bend towards the mirror while pulling the shoulders back and elbows forward. Pay attention to any changes in the contours of both breasts and nipples. This breast examination can be done when bathing with a shower, if the skin is soapy and splashed with water, massaged with fingers can feel any changes in the breasts.
   4) Raise the left hand with the hand bent behind the head, then use 3 or 4 fingers on the right hand to feel the left breast gently, firmly, carefully and evenly. Starting from the outer edge, press the flat part of the fingers in small circles, moving slowly around the breast gradually toward the nipple. Pay special attention

to the area between the breast and under the arm and feel for any unusual lumps or masses under the skin.

5) Massage the nipples slowly and pay attention to whether there is any discharge or discharge. Repeat the examination, if you find things that are not normal such as discharge from the breast milk within 1 month and occur when you are or are not doing BSE, immediately see a doctor for further examination.
6) Repeat the fourth and fifth steps but in a lying position. Lie flat, with your left arm placed under your head and a pillow or folded towel on your left shoulder. Use the same circular motion as described above, and repeat on the right breast. Step of BSE can be seen in Figure 2.

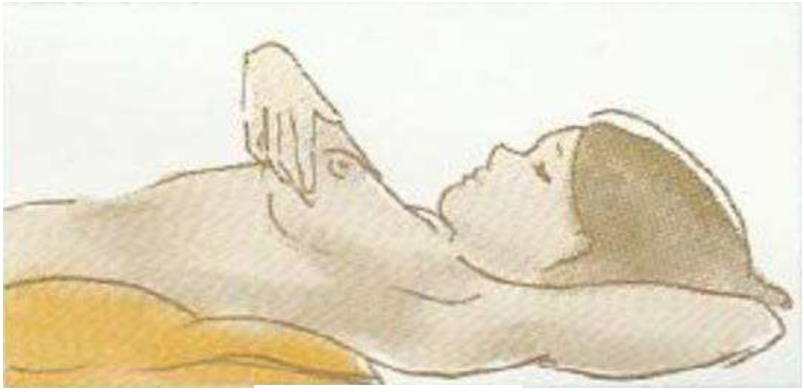
the first step BSE

the second step BSE

the third step BSE

the fourth step BSE

the fifth step BSE



the sixth step BSE

Figure 2. step-by-step procedure BSE

CONCLUSION

Most of the mothers in the village of Negeri Lima have knowledge about breast cancer in the pretty good category of 60.5%, while 40% do not do BSE. There is a relationship between the level of knowledge of mothers in the village of Negeri Lima about breast cancer with BSE behavior. This is indicated by the results of Chi Square analysis obtained by the calculated X^2 value of 55.40 with a p value of 0.000. The close relationship between the influence of the level of knowledge about breast cancer with conscious behavior in the strong category, indicated by the coefficient value of 0.50.

REFERENCES

Cairns, J. 1975. Mutation selection and the natural history of cancer. Nature. 255 (15): 197-200.

Choi, S.W., Jeon, S.H., Kwon, E.B., Zhu, G.Q., Lee, K.W., Choi, J.B., Jeong, H.C., Kim, K.S., Bae, S.R., Bae, W.J., Kim, S.J., Cho, H.J., Ha, U-S., Hong, S.H., Hwang, S.Y., Kim, S.W. 2019. Effect of Korean herbal formula (modified ojayeonjonghwan) on androgen receptor expression in an aging rat model of late onset hypogonadism. *The World Journal of Men's Health.* 37 (1): 105-109

Dewi, G.A., Hendrati, L.Y. 2015. Analysis of breast cancer risk based on history of hormonal contraceptive use and age of menarche. Jurnal Berkala Epidemiologi 3(1): 12-23.

Galih. 2020. The relationship between the level of knowledge of breast cancer with the behavior of early detection of breast cancer BSE method in women of childbearing age in Batu City. Maulana Malik Ibrahim State Islamic University.

Harahap, W.A. 2014. DNA methylation and its role in sporadic breast cancer. MKA (37 (2): 23-29.

Hasanah, S.N., Widowati, L. 2016. Herbal medicine in tumor/cancer patients as complementary therapy. Kefarmasian Indonesia 6 (1): 49-59.

Hermanto, S. 2011. Identification of in vitro anti-breast cancer compounds in three varieties of red fruit (Pandanus conoideus Lamk). Quantum, Jurnal Inovasi Pendidikan Sains. 2 (1): 39-46.

Mulyasari, A.D., Hartati, B., Cece, S. 2017. Analysis of breast cancer risk factors at BahteraMas General Hospital, Kendari City, Southeast Sulawesi Province. Jurnal Ilmiah Mahasiswa Kesehatan Masyarakat 2 (6):123-130

Mohtar, K., Fatimawali., Erladys, M., Rumondor., Olvie, S., Datu, E., Tellei. 2021. In silico study of clove eugenol compounds (Syzygium aromaticum L.) on ER-α ER-β and HER-2 receptors in breast cancer. Pharmacon. 10 (3): 1001-1008.

Kurnia, H., Ihda Dian, K., Elly, M. 2019. Clove (Syzygium aromaticum) oil induces an apoptotic effect in HeLa cervical increasing p53 protein level. Jurnal kedokteran Brawijaya 30 (3): 185-190.

Kartawiguna, E. 2021. Factors influencing carcinogenesis. Journal Kedokteran Trisakti 20 (1) 16-26.

Safarzadeh, E., Shotorbani, S.S., Baradaran, B. 2014. Herbal medicine as inducers apoptosis in cancer treatment. Advanced Pharmaceutical Bulletin. 4 (1): 421-427.

Sjamsuhidajat, R., De Jong, W. 2004. Relationship of Knowledge Level with Breast Self-Examination Behavior (Aware) in Women of Childbearing Age. Journal Kebidanan dan Keperawatan. 7 (2): 239-249.

Sartono, S., Terati, T., Nazarena, Y. (2014). Analysis of nutrient (Energy, Protein), antioxidant (Vitamins A and C) with nutritional status of cervical cancer patients undergoing chemotherapy in RSUP Dr. Mohammad Hosein Palembang. Jurnal Kesehatan Poltekkes Palembang. 1 (13): 132-135.

Stratton, M.R., Campbell, P.J., Futreal A. 2009. The cancer genome. Nature 458 (9): 719-724.

Sumardika I.W.A., Sudarsa, I.W. Management of breast cancer with BRCA gene mutations. Kedokteran Universitas Udayana.

Wuyung, P.E. 2016. Induction of DMBA in breast gland carcinogenesis. Pratista Patologi 5 (1): 44-51.