

Conference Paper

Association between Knowledge and Practice of Breast Self-examination (BSE) for Raising Awareness in Women about Breast Cancer: A Literature Review

Deka Miftalia Anugrah Putri

Faculty of Sport Science, Universitas Negeri Malang, Malang, East Java, Indonesia

ORCID:Deka Miftalia Anugrah Putri: <https://orcid.org/0000-0003-4814-7645>**Abstract**

Breast cancer (BC) is the most common type of cancers in women in many countries, ranking fifth in terms of cancer mortality among women. The problem is getting bigger because >70% of the patients of BC present at an advanced stage. There are many ways to prevent BC. Early examination or early detection is one of them, which helps in reducing the severity of BC. Several studies have shown that Breast Self-examination (BSE) is a simple, feasible way for the early detection of BC in low- and middle-income countries. There is evidence that women who correctly practice BSE on a monthly basis are more likely to detect a lump in the early stage of its development, and early diagnosis has been reported to influence early treatment. This review used a non-systematic method, sources were gathered using *Google Scholar*, *Medline*, *Science Direct*, and relevant articles published in *English* and *Indonesian* were accessed in full-text pdf format. Articles were analysed, extracted, synthesized and then the evidence was determined. All selected articles used a cross-sectional method with questionnaires as the instrument of data collection. The majority of study sample had unsatisfactory knowledge about BSE, and did not practice BSE frequently. The factors contributing to their unsatisfactory knowledge were: occupation, education, exposure to media information, access to medical personnel, and history of breast-related disease.

Keywords: knowledge, practice, Breast Self-examination, Breast cancer

Corresponding Author:

Deka Miftalia Anugrah Putri
dekamiftalia@gmail.com

Published: 25 March 2021

Publishing services provided by
Knowledge E

© Deka Miftalia Anugrah

Putri. This article is distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use and redistribution provided that the original author and source are credited.

Selection and Peer-review under the responsibility of the ISMoPHS 2020 Conference Committee.

1. Introduction

Cancer is a non-contagious disease which is characterized by uncontrollable and continuous cell growth which can damage the surrounding tissue and can spread to places far from its origin which called metastasis. Malignant cells cancer can originate or grow from every type of cell in the human body [8]. The initial phase of breast cancer is asymptomatic (without any symptoms and signs). A lump or thickening on the breast are

OPEN ACCESS

the most common sign and symptoms, while the signs and symptoms in advanced stage is the sunken skin, retraction, or nipple deviation and pain, tenderness or discharge in particular bleeding from the nipple. Thick skin with pores similar to an orange peel with / without ulceration of the breast signs. Sometimes there is enlargement of axillary lymph nodes or supraclavicular lymph nodes in neck area. Extensive metastases include symptoms and signs such as anorexia or severe decrease weight, pain in the shoulders, waist, lower back or pelvis, indigestion, headache, and sometimes blurred vision [9].

Breast cancer (BC) is the most common cancer in women in many countries in the world, ranking second among cancer diseases and the fifth in terms of cancer mortality among women [6]. According to WHO, 8-9 % of women will have breast cancer. This make breast cancer as a type of cancer which most commonly found in women [13, 21]. In Indonesia, the prevalence of breast cancer incidences amounted to 26 per 10,000 women. For East Java, the number of women who suffered from breast cancer in 2013 where 9688 sufferers [18]. Based on the profile cancer mortality, the mortality rate caused by breast cancer in women amounted to 21,4% [21].

The incidence of breast cancer is increasing in accordance with age, because of the decline in organ function and immune deficiencies [17]. However, young age is also not a guarantee of safe from breast cancer [13, 20].

In Indonesia, the problem of breast cancer getting bigger because of more than 70% of sufferers come to the doctor at an advanced stage. There are many ways you can done to prevent breast cancer. Early examination or early detection is very important to reduce severity of breast cancer [16]. Several studies showed that breast self-examination (BSE) is a simple, feasible way for BC early detection in low–middle income countries [20].

There is evidence that women who correctly practice BSE monthly are more likely to detect a lump in the early stage of its development, and early diagnosis has been reported to influence early treatment and to yield a better survival rate [20]. Early detection of delay is likely due to a lack of knowledge of women about early detection of breast cancer [22]. There are a number of factors that may influence the knowledge and practice of BSE in women, such as literacy, occupation, family history of BC, marital status, and access to BSE information [16, 20]. In addition, performing BSE on a regular basis makes women accustomed to the normal appearance and feel of their breasts and they are able to notice any changes in their breast as soon as they present. About one in every eight women in North America and Western European countries is subject to breast cancer, and one in every 30 women loses her life to this merciless illness. Early detection of breast cancer increased the 5-year survival rate to 85%, while detecting

it further on in the course brought the survival rate down to 56%. Therefore, the WHO proposes BSE as a method of immense value for decreasing the mortality rate by early detection of breast cancer [21], especially in regions where mammography and regular clinical examinations are not feasible. However, despite its numerous advantages, BSE is still practiced on a very low scale, the frequency of which differs among different countries [1]. The technique of BSE is briefly described below:

1.1. Look

Stand in front of a mirror and look at each breast separately. Note the size, shape, colour, contour and direction of your breasts and nipples. Raise your arms over your head and look at your breasts, as you turn slowly from side to side. Press your hands on your hips and push your shoulders forward. Look at each breast separately [11].

1.2. Feel

Stand in front of a mirror and start BSE just below the collar bone. Use the left hand for the right breast. Moisten the pads of your three middle fingertips with body lotion. Apply firm pressure and make small circles as you go back or forth (up or down, circular or spoke style) in a pattern covering all the breast area including the nipple. Extend the examination to the breast tissue in the underarm, change your hand and repeat BSE on the opposite breast. Lie down and raise one arm above your head. Examine your breasts as before, omitting the underarm. Change your arm and repeat BSE on the opposite breast [11].

1.3. Note

Record your observations and mark your calendar for BSE next month [11].

2. Material and Method

This review used non-systematic method, with keywords combining “breast self-examination”, “knowledge”, and “practice”. Sources were gathered using *Google Scholar*, *Medline*, *Science direct*, the article found in *English* and *Indonesia* were read carefully to see whether the articles match to the topics or not. Limited searching process from 2010-2020 accessed in full text in pdf format. Articles were analysed,

extracted, and synthesized and then the evidence was determined. From the extraction and analysis result, it is hoped that a conclusion will be found.

3. Results

Based on the search results using the specified keywords, the authors get the following data results:

TABLE 1: Result of article extraction.

No.	Author/Year	Title	Country	Methods/ materials	Result
1	Juwita, Linda et all / 2018	<i>Pengetahuan Pemeriksaan Payudara Sendiri (SADARI) terhadap Sikap dan Perilaku pada Remaja Putri</i>	Indonesia	Cross sectional / Questionnaires	There is relation between knowledge and attitudes breast self-examination (BSE) in young female [10]
2	Ahmed,Ayesha et all / 2018	Breast self-examination awareness and practices in young women in developing countries: A survey of female students in Karachi, Pakistan	Pakistan	Cross sectional / Questionnaires	Despite a positive attitude found among the population toward BSE, its knowledge and practice were inadequate. [1]
3	Sari, Reni Puspita / 2017	<i>Hubungan Pengetahuan dengan Perilaku SADARI sebagai Deteksi Dini Kanker Payudara</i>	Indonesia	Cross sectional / Questionnaires	There is a positive and significant relationship between knowledge with behaviour realize as early detection of breast cancer [19]
4	Birhane, Kalayu / 2017	Practices of Breast Self-Examination and Associated Factors among Female Debre Berhan University Students	Ethiopia	Cross sectional / Questionnaires	This study revealed that most of the participants had low knowledge and practice of BSE [4].

No.	Author/Year	Title	Country	Methods/ materials	Result
5	Brilliana, Alvita et al/ 2017	<i>Faktor yang Berhubungan dengan Perilaku Ibu Rumah Tangga Melakukan Pemeriksaan Payudara Sendiri (SADARI).</i>	Indonesia	Cross sectional / Questionaries	Factor related to women's behaviour toward BSE such as attitude, accessibility of information, and health care provider support [5].
6	Tuyen, Do Quang / 2019	Breast Self-Examination: Knowledge and Practice Among Female Textile Workers in Vietnam	Vietnam	Cross sectional / Questionaries	There was a low prevalence of sufficient BSE knowledge (22.7%) and practice (15.8%) among Vietnamese female textile workers. [20].
7	Alwan, Nada.AS. et all / 2012	Knowledge, attitude & practice towards breast cancer & breast self-examination in Kirkuk University, Iraq	Iraq	Cross sectional / Questionaries	although the knowledge about breast cancer and practice of BSE was relatively weak in Kirkuk, yet the positive attitude towards learning the screening techniques and the intention to teach others were fairly encouraging [3].
8	Nde, Fon Peter / 2015	Knowledge, attitude and practice of breast self-examination among female undergraduate students in the University of Buea	Cameroon	Cross sectional / Questionaries	These findings highlight the current knowledge gap that exists in the practice of BSE in the prevention of breast cancer in the study population. [14]

No.	Author/Year	Title	Country	Methods/ materials	Result
9	Dagne, Asrat Hailu et al / 2019	Assessment of breast self-examination practice and associated factors among female workers in Debre Tabor Town public health facilities, North West Ethiopia, 2018: Cross-sectional study.	Ethiopia	Cross sectional / Questionnaires	The study showed that the prevalence of breast self-examination was low. Family history of breast cancer, knowledge about breast self-examination and self- efficacy in practicing breast self-examination did have statistically significant association with breast self-examination practice [7].
10	Akhtari, Zavere et all / 2011	Knowledge on breast cancer and practice of breast self-examination among selected female university students in Malaysia	Malaysia	Cross sectional / Questionnaires	The results indicate that the awareness of breast cancer and the practice of BSE are inadequate among the respondents. Thus, it is important to develop breast cancer and breast health awareness campaign among young women [2].

Source: author's own work.

From table above, we obtained 10 types of articles from the search results. The entire article is the result of research using cross sectional method with questionnaires instrument. 10 The research articles came from both Indonesia and outside Indonesia. Overall, these 10 articles are research on the relationship between knowledge and practice of Breast Self-Examination in order to increase awareness of Breast Cancer in women. From these 10 articles, overall, the results showed that there was a significant relationship between knowledge and the Breast Self-Examination practice.

4. Discussion

Breast Self-Examination (BSE) is an important, cheap and easy method for early diagnosis of breast cancer. Carcinoma of the breast is an important public health problem with

its associated high morbidity and mortality [11, 21]. Current reports indicate that cancer of the breast is the commonest malignancy in females affecting more than a million females with an increasing incidence as the women presumably adopt a western lifestyle. They present with a bigger mass and late for treatment. The lifetime risk of breast cancer is about 10% for white women and 7.3% for black women. It reduces life expectancy of the population at risk especially those between thirty to fifty years. It has been predicted that some 3.5% of these women will die from breast cancer [11].

Early diagnosis of has a positive effect on the prognosis as well as limits the development of complications and disability. Furthermore, it increases life quality and survival. In some studies, it has been reported that women who carefully examined their breasts could find small masses of breast cancer and their prognosis became better [11].

From the researches which held in Indonesia, author can say there was a significant relationship between knowledge and the Breast Self-examination practice. That researches concludes respondents who are more frequently exposed to the information at media will get more information compared to people who are never been exposed to media information about BSE. Knowledge can be obtained from TV, radio, magazines and sources of information other [10].

Even though there were studies showed that the majority of the participants preferred to carry out BSE themselves, since not everyone is skilled to properly perform BSE, it is strongly suggested that at least once, BSE should be done by a medical professional so that potential cases can be picked up at their earliest stage. This would also be beneficial for the general population as medical personnel would be able to teach them the correct method, which in turn would reduce their need to frequently visit the hospital for a check-up and prevent them from missing abnormalities due to incorrect methods [1].

Breast Self-examination practice was containing activity, time, and technique [19]. Someone will behave new when it has gone through the processes occur sequentially, namely awareness, interest, evaluation, trial, and adaptation [15]. There was a study showed that accessibility to information was also contribute to knowledge among women. In the present study, the main sources of information about BSE were mass media (39.8%) followed by health professionals (22.3%). Similarly, studies from Ethiopia [7], Malaysia [2], Cameroon [14], and Iraq [3] identified media as a leading source of information about BSE.

The result of the present study is an expected finding because, nowadays, most of young university students in our country are using Internet, television, and other mass media as a source of information. Therefore, use of these mass media would

help increase awareness about BSE and breast cancer in general. Additionally, health professionals should also create awareness about BSE and breast cancer through health information dissemination and health education programs [4].

Study in Vietnam showed insufficient knowledge of BSE was also significantly associated with insufficient performance of BSE [20]. Occupation is an important factor that affects the income and awareness of each person as well as families. In addition, that study found that women without a history of breast-related diseases had the higher prevalence of insufficient BSE practiced, compared to those who did not. Obviously, when a woman herself does not have breast tumours, such as fibroids, cysts and so on, would be less likely to pay attention to BSE [20].

The general attitude of the respondents in Cameroon towards BSE was moderate, implying that just a little motivation may easily sway their attitude towards highly in favour of practicing BSE. Motivation to practice BSE could be through the organization of health campaigns and publicity as was observed in this study [14]. Fear of detecting breast cancer was one of the factors cited by the respondents for not practicing BSE. Educating these young women could also help instil some courage in them. Further studies will be required to throw more light on the role of health personnel and the media on the uptake and practice of BSE in women in the study area [14].

Study that done by Akhtari in Malaysia showed there were significant differences between knowledge of breast cancer and knowledge of BSE between those who practice BSE and those who did not practice BSE [2]. The mean knowledge score for those who did not practice BSE is higher than those practices BSE. This may be explained by the fact the awareness of breast cancer among the respondents could be attributed to the level of education of the respondents [3]. The most common reason that women cited for not performing BSE is that they “forgot”, and did not know the optimal time for doing a BSE [2].

5. Conclusion

BSE or Breast Self-examination is a method which recommended by WHO as a method of immense value for decreasing the mortality rate by early detection of breast cancer, especially in regions where mammography and regular clinical examinations are not feasible. Breast Self-examination could raise awareness about Breast cancer in women. The majority of study sample has unsatisfactory knowledge related to Breast Cancer & Breast Self-examination (BSE), had also not practicing BSE frequently. There were

factors which may contribute to make unsatisfactory knowledge related to Breast Self-examination such as: occupation, education, exposure to media information, access to medical personnel, and also history of breast related disease.

There is some recommendation from the author such as: BSE training program should be done by Public Health System and promoted by government, Campaign in mass media, electronic media, and Internets about the importance of BSE, and Continuously researches about Breast Self-examination which held by Research Centre which inform to public the morbidity and mortality of Breast Cancer.

Acknowledgement

Author would like to say thank you to Universitas Negeri Malang, Faculty of Sport Science because of opportunity that given to author so we could participate in writing a paper and publishing it.

Conflict of Interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

References

- [1] Ahmed A, Zahid I, Ladiwala ZFR, Sheikh R, Memon AS. (2018). Breast self-examination awareness and practices in young women in developing countries: A survey of female students in Karachi, Pakistan. *Journal of Education and Health Promotion*, vol 7, issue 6, p 90. Retrieved from <https://www.jehp.net/article.asp?issn=2277-9531;year=2018;volume=7;issue=1;spage=90;epage=90;aulast=Ahmed>
- [2] Akhtari-Zavare, M., et al. (2011). Knowledge on Breast Cancer and Practice of Breast Self-Examination among Selected Female University Students in Malaysia. *Medical and Health Science Journal*, vol.7, issue 3, pp. 49-56. Retrieved https://www.researchgate.net/publication/229144738_Knowledge_on_breast_cancer_and_practice_of_breast_self_examination_among_selected_female_university_students_in_Malaysia
- [3] Alwan, Nada A. S. (2012). Knowledge, Attitude & Practice towards Breast Cancer & Breast Self-Examination in Kirkuk University, Iraq. *Asian Pacific Journal Reproduction*,

- vol. 1, issue 4 pp 308-311. Retrieved from <https://www.sciencedirect.com/science/article/pii/S2305050013600986>
- [4] Birhane, K., Alemayehu, M., Anawte, B., Gebremariyam, G., Daniel, R., Addis, S., Worke, T., Mohammed, A., & Negash, W. (2017). Practices of Breast Self-Examination and Associated Factors among Female Debre Berhan University Students. *International journal of breast cancer*, vol 2017, 8026297. Retrieved from <https://doi.org/10.1155/2017/8026297>
- [5] Brilliana, A., et al. (2017). Faktor yang Berhubungan dengan Perilaku Ibu Rumah Tangga Melakukan Pemeriksaan Payudara Sendiri (SADARI). *The Indonesian Journal of Public Health*, vol. 12, issue 2, pp.143–153. Retrieved from <https://e-journal.unair.ac.id/IJPH/article/view/7589>
- [6] Bray, F., et al. (2018). GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. *CA Cancer J Clin.*, vol. 68, issue 6, pp. 394-424. Retrieved from <https://doi.org/10.3322/caac.21492>
- [7] Cooper G. M. (2000). *The Cell: A Molecular Approach. 2nd edition. The Development and Causes of Cancer*. Sunderland (MA): Sinauer Associates. ISBN-10: 0-87893-106-6. Retrieved from <https://www.ncbi.nlm.nih.gov/books/NBK9963/>
- [8] Dagne, A. H., Ayele, A. D. and Assefa, E. M. (2019). Assessment of Breast Self-Examination Practice and Associated Factors among Female Workers in Debre Tabor Town Public Health Facilities, North West Ethiopia, 2018: Cross-sectional Study. *PLoS ONE*, vol. 14, issue 8, p.e0221356. Retrieved from <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0221356>
- [9] Gale, S. and Charette, D. (1999). *Rencana Asuhan Keperawatan Onkologi*. Jakarta: EGC.
- [10] Juwita, L. (2018). Pengetahuan Pemeriksaan Payudara Sendiri (SADARI) terhadap Sikap dan Perilaku Pada Remaja Putri. *Adi Husada Nursing Journal*, vol. 4, issue 2, pp 11-7.
- [11] Gwarzo, U. M. D. (2009). Knowledge and Practice of Breast Self-examination Among Female Undergraduate Students of Ahmadu Bello University Zaria, North western Nigeria. *Annals of African Medicine*, vol. 8, issue 1, pp. 55 – 58. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/19763009/>
- [12] Kemenkes RI. (2015). *Infodatin: Stop Kanker*. Jakarta: Pusat Data dan Informasi Kementerian Kesehatan RI. Retrieved from <https://www.kemkes.go.id/resources/download/pusdatin/infodatin/infodatin-kanker.pdf>
- [13] National Cancer Institute. (2013). *Estimated New Cases and Deaths from Breast Cancer in the United States*. Retrieved from <http://www.cancer.gov/cancertopics/>

types/breast.

- [14] Nde, F. P. et al. (2015). Knowledge, Attitude and Practice of Breast Self-Examination among Female Undergraduate Students in the University of Buea. *BMC Res Notes*, issue 8, p. 43. Retrieved from <https://bmresnotes.biomedcentral.com/articles/10.1186/s13104-015-1004-4#citeas>
- [15] Notoatmodjo, S. (2007). *Promosi Kesehatan Dan Ilmu Perilaku*. Jakarta: Rineka Cipta.
- [16] Putra, S. R. (2015). *Buku Lengkap Kanker Payudara*. Yogyakarta: Laksana.
- [17] Rianti, E., Tirtawati, G. A. and Novita, H. (2012). Faktor- Faktor yang Berhubungan dengan Resiko Kanker Payudara Wanita. *Jurnal Health Quality*, vol. 3, issue 1, pp. 10- 23. Retrieved from <https://journal.unnes.ac.id/nju/index.php/kemas/article/view/2635>
- [18] Riset Kesehatan Dasar (Riskesdas). (2013). *Badan Penelitian dan Pengembangan Kesehatan Kementerian RI tahun 2013*. Retrieved from [http://www.depkes.go.id/resources/download/general/Hasil\[%\]20Riskesdas\[%\]202013.pdf](http://www.depkes.go.id/resources/download/general/Hasil[%]20Riskesdas[%]202013.pdf).
- [19] Sari, R. P. (2017). Hubungan Pengetahuan dengan Perilaku SADARI sebagai Deteksi Dini Kanker Payudara. *Jurnal Ilmiah Kebidanan*, vol. 8, issue 2, pp. 57-66. Retrieved from <https://ojs.akbidylpp.ac.id/index.php/Prada/article/download/307/219>
- [20] Tuyen. D. Q. et al, (2019). Breast Self-Examination: Knowledge and Practice among Female Textile Workers in Vietnam. *SAGE Publishing Journals Cancer-Control*, vol. 26, issue 1, pp. 1-7. Retrieved from <https://journals.sagepub.com/doi/10.1177/1073274819862788>
- [21] World Health Organization (WHO). (2014). *World Health Organization Cancer Country Profile*. Retrieved from https://www.who.int/cancer/country-profiles/idn_en.pdf
- [22] Zumaro, E. M., Laksono, B. (2019). The Effectiveness of Clinical Breast Examination (Sadanis) Application to Breast Self-Examination (BSE) in Pemalang. *Public Health Perspectives Journal*, vol. 4, issue 1, pp. 30 – 36. Retrieved from <https://journal.unnes.ac.id/nju/index.php/phpj/article/view/18127>.