

ORIGINAL ARTICLE

The Associated Health Knowledge and Vulnerability to Breast Self-examination Behavior Among Women in Bengkulu, Indonesia

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ABSTRACT

Introduction: Based on the data provided by the World Health Organization (WHO), it is projected that in the year 2021, there would be a total of 2.3 million cases of breast cancer diagnosed among women worldwide, resulting in approximately 685,000 fatalities. Breast self-examination represents a screening modality that can be conducted at an early stage. Breast self-examination refers to a diagnostic procedure in which a woman conducts a thorough examination of her own breasts, employing visual observation and manual palpation to identify the presence of any abnormal masses or indications of breast cancer. **Materials and methods:** This study employed an analytic survey approach with a cross-sectional design. The sample consisted only of women between the ages of 26 and 35 in Bengkulu city. The sampling technique employed was stratified sampling. **Results:** Through univariate analysis, it was shown that among the 382 participants, 226 (59.2%) exhibited a lack of health awareness, while 209 (54.7%) displayed low vulnerability. The bivariate analysis revealed a noteworthy correlation between women's health knowledge and their susceptibility to engaging in breast self-examination behavior. **Conclusion:** Breast self-examination is an effective method for detecting early changes in the breast. Having a good understanding of this procedure can influence individuals' behavior in performing regular breast examinations. However, there is currently a lack of awareness among women regarding breast cancer. Therefore, it is imperative to take proactive measures to enhance knowledge through Health Education initiatives

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INTRODUCTION

According to (1) breast cancer is a highly common form of cancer in women worldwide, ranking second in terms of the number of cases and fifth in terms of the number of deaths caused by cancer in women and non-communicable diseases (2). (3) indicated that the total number of newly documented cases in 2020 was around 2.3 million. Among the Indonesian population, breast cancer has the highest prevalence compared to other types of cancer (4).

Performing breast self-examination is the most effective approach to identify any abnormalities in the look of the breast that could be suggestive of breast diseases and changes (5)(6). Performing breast self-examination is a crucial healthcare practice that should be carried out by

women of all ages. Engaging in breast self-examination (BSE) and promoting breast cancer awareness can contribute to the effective management and early identification of cancer (7). Although the screening method of breast self-examination has become the most affordable, non-invasive, and time-consuming approach, there are still some practical difficulties (8).

Breast self-examination is a noninvasive and cost-effective way for detecting breast cancer. Gaining information about breast self-examination helps in promptly detecting any abnormalities in the breast, resulting in a significant reduction in the incidence of illness and mortality related to breast cancer (9).

A recent study conducted in Indonesia found that among 143 adolescents, 76 individuals (53.1%) shown a high level of understanding on BSE, whereas only 28% (36.8%) exhibited poor BSE behavior (10). Conversely, a study conducted among Palestinians (11) revealed that a significant proportion of women (68.7%) exhibited limited knowledge on breast cancer, including its

dangers, diagnostic techniques, treatment options, as well as its signs and symptoms.

MATERIALS AND METHODS

The research methodology employed in this study is the analytical survey method. Specifically, the researcher collects data from a sample of respondents using a questionnaire administered through interviews. The study adopts a cross-sectional approach, aiming to examine the relationship between the dependent and independent variables that are measured and collected simultaneously in the research subject. This study was carried out in 20 health centers located in Bengkulu City. The population is defined as the collective of individuals to whom the research findings will be applied (12). This study comprised a sample of 382 individuals between the ages of 26 and 35. We employed a stratified random sample methodology to choose individuals from each Puskesmas area in 20 distinct sites. The present study employed a questionnaire as a means of gathering primary data pertaining to Health Knowledge, vulnerability, and behaviors related to breast self-examination. The questionnaire was adapted from existing research findings (13–15). The Health Knowledge literacy questionnaire comprised 10 items with both correct and incorrect response choices, whereas the vulnerability questionnaire included 6 items with the following answer options: strongly disagree, disagree, neutral, agree, strongly agree. Computer-based data analysis was conducted in multiple stages, employing the chi-squared test for both univariate and bivariate analysis.

Ethical Clearance

This study approve by research ethics committee Fakultas of Health Science, University of Dehasen of Bengkulu Indonesia with number of ethical clearances is 0002/D-KEPK/FD/II/2024.

RESULTS

Table I presents health knowledge regarding breast cancer. Of the 10 questions given to respondents, the average answer was correct, namely about understanding breast cancer 262 (69%), symptoms of breast cancer 266 (70%), prevention of breast cancer 290 (76%), understanding of breast self-examination 253 (66%), causes of breast cancer 293 (77%), BC therapy 266 (70%), benefits of BSE 303 (79%), time of carrying out BSE 232 (61%).

Table I: Health Knowledge Assessment about breast cancer (N=382)

Health Knowledge Questionnaire	Correct answer		Wrong answer	
	f	%	f	%
Breast cancer is a neoplastic condition characterised by the development of malignant tumours originating from cells within the breast tissue	262	69	120	31

CONTINUE

Table I: Health Knowledge Assessment about breast cancer (N=382). (CONT.)

Health Knowledge Questionnaire	Correct answer		Wrong answer	
	f	%	f	%
An early sign of breast cancer that appears is a small lump in the breast that does not feel pain	259	68	123	32
Consuming grilled meals can help prevent breast cancer.	290	76	92	24
One method of preventing breast cancer is to examine one's own breasts	271	71	111	29
Examining oneself in the breasts might help avoid breast cancer	253	66	129	34
Breast cancer can be caused by hormones and heredity.	293	77	89	23
One of the therapies for breast cancer is chemotherapy.	266	70	116	30
Breast cancer is a risk associated with early or early onset of menstruation.	243	64	139	36
The primary advantage of engaging in breast self-examination is the ability to detect the presence of palpable masses within an individual's own mammary glands	303	79	79	21
The optimal timing for conducting breast self-examination is approximately one week prior to the onset of menstruation, to be repeated consistently on a monthly basis.	232	61	150	39

Table II shows vulnerability, of the 382 respondents who answered in the affirmative about the high risk of breast cancer, 41.6%, physical health 86.6%, lifestyle 42.2%, family history 31.9%.

Table II: assessment of vulnerability (N=382)

Vulnerability Questionnaire	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
I perceive that I am at an elevated risk of developing breast cancer.	82	63	66	159	12
There exists a significant probability that I will develop breast cancer within the forthcoming decade	17	36	178	147	4
I possess a higher susceptibility to developing breast cancer compared to women with a lower risk profile	44	18	75	236	9
My physical health makes me more likely to get breast cancer	0	9	38	331	4
The lifestyle I live can increase the risk of developing breast cancer	0	68	138	162	14

CONTINUE

Table II: assessment of vulnerability (N=382). (CONT.)

Vulnerability Questionnaire	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
I have a chance of getting breast cancer because my family has had breast cancer before	0	57	116	122	87

Relationship between health knowledge and Vulnerability to breast self-examination behavior (Table III). The relationship between health knowledge and vulnerability with breast self-examination activities is presented in table. Based on the provided data, it can be observed that those with limited knowledge about health, accounting for 59.2% of the respondents, exhibit 140 instances of inadequate breast self-examination practices, which represents 61.9% of the total. Statistical tests indicate a significant link between health awareness and breast self-examination activity, with a p-value of 0.000, which is less than 0.005.

Table III: Relationship between health knowledge and Vulnerability to breast self-examination behavior

Variable	Breast self-examination				Total		P-Value
	Good		Not Good		N	%	
	n	%	n	%			
Health Knowledge							0,000
High	89	57,1	67	42,9	156	100	
Low	86	38,1	140	61,9	226	100	
Vulnerability							0,020
High	91	52,6	82	47,4	173	100	
Low	84	40,2	125	59,8	209	100	

Based on the provided data, it can be observed that among respondents with low vulnerability, 54.7% of them exhibit poor breast self-examination practices, which amounts to 125 individuals, accounting for 59.8% of the total. Statistical tests indicate a significant link between health awareness and breast self-examination activity, as evidenced by a p-value of 0.020, which is less than the threshold of 0.005

DISCUSSION

This study demonstrates a noteworthy correlation between health knowledge and The study establishes a noteworthy link between health knowledge and There is a lack of awareness of breast cancer, with only 52.9% of people having knowledge about it. Additionally, the understanding of breast self-examination behavior is inadequate, with only 61.9% of individuals having sufficient knowledge about it. (15) research findings indicate that there is a low level of understanding (less than 70%) about general information concerning breast cancer. The overall level of knowledge on breast cancer and breast self-examination is quite poor, as only 44.2% of participants have a high understanding.

The average score is 68.9, with a standard deviation of 6.5. Approximately 73 participants did not perform BSE practices; in addition, 30% of participants had never performed BSE practices, and 14% had not developed the motivation to perform BSE practices on a subsequent day (16).

(17) additional findings indicated that a mere 18% of the total participants engaged in breast self-examination. There was a substantial disparity in the overall understanding and implementation of breast self-examination, with a statistically significant difference ($P < 0.005$). According (18) Only 43.6% (95% CI 39.5–47.8%) of the study subjects reported engaging in self-examination. Out of the individuals who conducted breast self-examination, only 25.1% (95% CI 19.8–31%) reported adhering to the suggested monthly practice. Research results Only 44.7% had good knowledge about BSE (19).

The findings of this study indicated that among the 382 participants, they were administered a questionnaire on breast cancer consisting of 10 questions with many possibilities for both correct and erroneous answers. The findings indicated accurate responses on breast cancer symptoms (27%), procedures for doing breast self-examination (16%), and the advantages of breast self-examination (47%). (20) provides evidence by noting that the accuracy rate for multiple choice questions is around 7.9%, however the combined accuracy and error rate is 17.5%. The mean proportion of accurate responses was 49.62%.

The behavior of conducting breast self-examinations is associated with knowledge, since knowledge can enhance an individual's behavior. However, in research studies, it has been observed that respondents with strong knowledge may still exhibit bad behavior. This discrepancy can be attributed to other circumstances, such as the absence of symptoms in oneself.

The findings of this study demonstrated a notable correlation between vulnerability and breast self-examination habit, with a p value of 0.020, which is below the significance threshold of 0.05. Respondents with a high vulnerability rate of 45.3% and a breast self-examination behavior rate of 52.6% are considered favorable. Most of 541 participants in the study, 248 (45.8%) were able to perform direct payudara sendiri pemeriksaan, and 31% (95% CI: 25–37%) had previously completed a good direct breast self examination practice (13).

According to other research findings, family history of breast cancer (84.6%) and smoking (80.5%). In addition, only 73 respondents (33.0%) indicated that they followed good/regular practices (21). The study focuses on understanding women as a significant factor that influences their ability to do BSE practices. (95% CI

= 2.160–34.650; AOR = 4.407) (19). Most respondents said that the primary risk factor for breast cancer is social support (83.7%) (22).

CONCLUSION

Delayed treatment is frequently the main factor contributing to the mortality of women, with breast cancer being the leading cause. Although breast self-examination is a simple and affordable method for detecting breast cancer early, many women still lack the necessary expertise to do this check. There is currently a limited understanding of breast cancer, hence it is necessary for nurses to provide health education to women in order to enhance their awareness regarding breast cancer and the methods for conducting breast self-examination.

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