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Relationship between Knowledge and Attitude toward BSE Behavior for Early Breast Cancer Detection among Atma Jaya Hospital Nurses

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Abstract

Introduction: Breast cancer is a frequently occurring type of cancer in Indonesia, with symptoms of rapid and invasive growth of abnormal cells. Deaths due to this cancer can be reduced by avoiding risk factors and early detection, such as through breast self-examination (BSE). Assessing knowledge, attitudes, and behavior regarding BSE is important for early detection, especially for nurses as health workers. This study assessed the relationship between knowledge and attitudes towards BSE behavior among Atma Jaya Hospital nurses.

Methods: This is an analytical observational study employing a cross-sectional design, involving 105 samples selected through purposive sampling according to established inclusion and exclusion criteria. The variables in this study include knowledge, attitude, and behavior regarding breast self-examination (BSE). Data were collected through the distribution of questionnaires to respondents and will be statistically analyzed using the Chi-Square test ($x2$) with a significance level (α) = 5%, and the analysis will be conducted using STATA software.

Results: Based on the data analysis, there is no correlation between knowledge and attitude toward the practice of breast self-examination (BSE), with p-values of 0.623 and 0.994.

Conclusion: There is no significant relationship between Knowledge and Attitude towards BSE Behavior.

Keywords: BSE Attitude - BSE Behavior - BSE Knowledge

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INTRODUCTION

Breast cancer is a common non-communicable disease in Indonesia, characterized by uncontrolled cell growth that can spread to nearby organs.[1] According to the International Agency for Research on Cancer (IARC), it was the most diagnosed cancer globally in 2020, and in Indonesia, it accounts for about 16.6% of all cancer cases.[2-3] Many patients are diagnosed at advanced stages, leading to low cure rates, prolonged treatment, and increased financial and psychological burdens.[4] Therefore, early detection through methods like breast self-examination (BSE) is crucial. However, public knowledge and attitudes towards BSE vary.[5]

Health knowledge significantly influences behavior, as it forms the basis for decision-making.[6] Attitudes, shaped through social interaction, also affect behavior.[7] Studies by Selvita and Salami found a positive relationship between knowledge and BSE behavior, while studies by Rizki, Ekorini, and Ika did not. [8-11] Similarly, Selvita and Eka Haryanti found a positive correlation between attitudes and BSE behavior, but Ika and Shinta found no significant relationship.[8-13]

Despite nurses generally knowing BSE, previous research on the relationship between knowledge, attitudes, and BSE behavior among women in healthcare remains controversial. This study aims to evaluate this relationship among nurses at Atma Jaya Hospital, essential for optimizing early detection efforts and contributing to nursing science through improved preventative practices and education strategies.

METHODS

Study Design

This study is an observational analytic research with a correlational study design and a cross-sectional approach.

Subject and Sampling Method

The researcher obtained information regarding the number of nurses from the manager of Komkordik at Atma Jaya Hospital. Through purposive sampling, the researcher selected respondents who fulfilled the inclusion and exclusion criteria to ensure the sample's relevance to the research objectives. Inclusion criteria for the study were female nurses at Atma Jaya Hospital willing to participate and those who had signed informed consent. Exclusion criteria included nurses with a personal history of breast cancer, abnormalities in their own breasts, and those who did not complete the questionnaire.

Recruitment of participants involved an self-introduction at the nurse station and a subsequent briefing session to explain the study's purpose and procedures. Interested nurses were provided with informed consent forms, and those who agreed and met the criteria were included in the study.

The sample size was determined using Lemeshow's formula due to the unknown prevalence of Breast Self- Examination (BSE) practices. The study population comprised female nurses at Atma Jaya Pluit Hospital, North Jakarta, with a total of 105 nurses meeting the inclusion and exclusion criteria selected as the sample.

Instrument

Instruments in this research include Informed Consent sheets and questionnaires distributed offline. The source of the instrument was the previous research conducted at STIKES Harapan Ibu. The instrument had undergone validity and reliability testing, yielding results that indicated all items were valid and reliable. Validity testing was performed using Corrected Item-Total Correlation, and reliability testing employed Cronbach's Alpha (r table = 0.413). The reliability scores obtained were 0.841 for knowledge, 0.901 for attitude, and 0.846 for behavior.14 To use the instrument, participants were asked to respond to the questionnaire items based on their knowledge, attitudes, and behaviors related to BSE. The citation and reference for the instrument are provided from the research at STIKES Harapan Ibu.

Data Collection

Data were collected in September 2023 at Atma Jaya Hospital through the offline distribution of questionnaires to the respondents. The primary data were gathered by handing out paper questionnaires for respondents to fill out. The researcher visited Atma Jaya Pluit Hospital to collect the data. Initially, the researchers introduced themselves, explained the purpose of the questionnaire, and provided instructions on how to complete it. Respondents were then given an Informed Consent form along with the questionnaire. Completing the Informed Consent form and the questionnaire took approximately 10-15 minutes.

Data Analysis

All collected data was analyzed using STATA software. The analysis begins with univariate analysis to observe the frequency distribution of each variable. This is followed by bivariate analysis conducted using the Chi-Square test (x^2) with a significance level (α) = 5%. The results are considered significant if $p \leq 0.05$ and not significant if $p > 0.05$. The findings will be interpreted in tables.

Ethical Consideration

This research has obtained a research ethics approval form (Ethical Clearance) with No: 25/07/KEP- FKIKUAJ/2023 from the research ethics commission of the Faculty of Medicine and Health Sciences, Atma Jaya Catholic University of Indonesia, approved on 31 July 2023.

RESULTS

The data described includes respondent characteristics such as age, whether they have received information about breast self-examination (BSE), sources of BSE information, whether they have performed BSE, and reasons for not performing it.

From the data listed in Table 1, it can be concluded that most respondents are female nurses aged 20-30 years, totaling 68 respondents (64.7%). There is no history of breast cancer reported by the respondents or their family members, and they also do not have any tumors or abnormalities in their breasts. Additionally, the table indicates that most respondents, 101 respondents (96.1%), have received information about BSE. The main sources of information are healthcare workers, accounting for 73 respondents (69.5%), and the internet/social media, encompassing 48 respondents (45.7%). In the context of this study, 103 respondents (98.1%) have performed BSE, while only 2 respondents (1.9%) have never done so. The reasons given by the two respondents for not performing BSE are that they do not have breast abnormalities and do not know how to perform BSE.

Table 1. Respondent Characteristics

Number	Respondent Characteristics	Frequency (n = 105)	%
1	Age		
	20 - 30 years	68	64,7
	31 - 40 years	26	24,7
	41 - 50 years	10	9,5
	> 50 years	1	0,9
2	Obtaining BSE Information		
	Ever	101	96,1
	Never	4	3,8
3	Source of Information BSE		
	Internet/social media	48	45,7
	Family/friends	5	4,7
	Health workers	73	69,5
	Other	14	13,3
4	Implementation of BSE		
	Ever	103	98,1
	Never	2	1,9
5	Reasons for Never Doing BSE		
	Have no abnormalities in the breasts	1	-
	Feeling stranged/ embarrassed observing your own breasts	0	-
	There is no family history of breast cancer	0	-
	Don't know how to do BSE	1	-

Table 2 shows that out of a total of 105 respondents, 22 respondents (21%) have poor knowledge about breast self-examination (BSE), while 83 respondents (79%) have good knowledge about BSE.

Table 2. Respondents' knowledge of BSE

Knowledge	Frequency (n = 105)	%
Poor	22	21
Good	83	79

Table 3 indicates that out of a total of 105 respondents, 44 respondents (41.9%) have a negative attitude towards BSE, and 61 respondents (58.1%) have a positive attitude towards BSE.

Table 3. Respondents' attitudes towards BSE

Attitudes	Frequency (n = 105)	%
Negative	44	41,9
Postivie	61	58,1

Table 4 reveals that out of a total of 105 respondents, 43 respondents (41%) exhibit poor BSE behavior, whereas 62 respondents (59%) exhibit good BSE behavior.

Table 4. Respondents' behavior towards BSE

Behavior	Frequency (n = 105)	%
Poor	43	41
Good	62	59

Bivariate analysis was conducted to evaluate the relationship between variables using the Chi-Square test (x^2) with a significance level (α) = 5%. This analysis process used STATA software.

Based on the data in Table 5, there are 83 respondents (79%) categorized as having good knowledge. Of these, 48 respondents (57.8%) exhibit good BSE behavior, while 35 respondents (42.2%) exhibit poor BSE behavior. Conversely, of the 22 respondents (21%) with poor knowledge, 14 (63.6%) exhibit good BSE behavior, and 8 respondents (36.4%) exhibit poor BSE behavior. The statistical test results using the Chi-Square test produced an OR value of 0.783 and a p-value of 0.623 (p-value > 0.05), indicating no significant relationship between knowledge and BSE behavior.

Based on the data in Table 6, there are 44 respondents (41%) categorized as having a negative attitude, with 26 respondents (59.1%) exhibiting good BSE behavior, while 18 respondents (40.9%) exhibit poor BSE behavior. Meanwhile, of the 61 respondents (59%) with a positive attitude, 36 (59.1%) exhibit good BSE behavior, and 25 respondents (40.9%) exhibit poor BSE behavior. The statistical test results using the Chi-Square test produced an OR value of 0.997 and a p-value of 0.994 (p-value > 0.05), indicating no significant relationship between attitude and BSE behavior.

Table 5. The Relationship between Knowledge and BSE Behavior

Knowledge	BSE Attitudes						p - value	OR
	Good		Poor		Total			
	n	%	n	%	n	%		
Good	48	57,8	35	42,2	83	100		
Poor	14	63,6	8	36,4	22	100	0,623	0,783
Total	62	59	43	41	105	100		

Table 6. The Relationship between Attitudes and BSE Behavior

Attitudes	BSE Behavior						p-value	OR
	Good		Poor		Total			
	n	%	n	%	n	%		
Negative	26	59,1	18	40,9	44	100		
Positive	36	59,1	25	40,9	61	100	0,994	0,997
Total	62	59	43	41	105	100		

DISCUSSION

The study found that the p-value for the relationship between knowledge and BSE (Breast Self-Examination) behavior among female nurses at Atma Jaya Pluit Hospital is 0.623. This indicates that $p > 0.05$, leading to the rejection of the alternative hypothesis (Ha). The Odds Ratio (OR) obtained is 0.783, indicating $OR < 1$, which suggests that knowledge has a lower chance of influencing behavior, reflecting a protective effect. Consequently, there is no significant relationship between knowledge and BSE behavior among the respondents. The discrepancy might be attributed to respondent characteristics, especially regarding age range and social factors influencing behavior.[15] It is emphasized that other factors such as motivation, emotions, and intelligence also play a role in behavior, not just knowledge alone.[16]

Knowledge, perceived because of human sensory perception, forms the foundation for decision-making and action regarding various issues. However, despite high knowledge levels among respondents, this does not necessarily drive BSE behavior directly. While knowledge is a factor in shaping behavior, changes and expansions in health knowledge do not always lead to behavioral changes.[17] Other factors, including motivation, beliefs, culture, socio-economic status, education, and information from various sources such as family, healthcare workers, friends, and mass media, also influence behavior but were not examined in this study.[16,18]

The study's findings contrast with research by Friska Wulandari and Suci Musvita Ayu, which identified a significant relationship between knowledge and BSE practice among PGSD STKIP Muhammadiyah Kuningan students. The

differences may stem from variations in the study sample and the categorization of questionnaire responses, factors influencing behavior.[19] Linda Juwita and Ninda Ayu Prabasari's study on nursing students also found no relationship between knowledge and BSE actions. They noted that the decision-making process for behavior involves considering behavioral options, assessing consequences, and possible outcomes. The absence of a relationship between knowledge and positive BSE behavior is linked to the prevalence of respondents without a family history of cancer, leading them to perceive a lower risk of cancer and hence not performing BSE behavior.[20]

Similarly, the study's results showed that the p-value for the relationship between attitude and BSE behavior among female nurses at Atma Jaya Hospital is 0.994, indicating $p > 0.05$ and thus rejecting Ha. The OR obtained is 0.997, suggesting $OR < 1$, meaning that attitude also has a lower chance of influencing behavior, again indicating a protective effect. Therefore, it can be concluded that there is no significant relationship between attitude and BSE behavior among the respondents. The difference might be due to variations in educational levels and experiences affecting respondent behavior,[15] highlighting that a positive attitude does not always result in good behavior.[16]

Attitude is defined as a response to stimuli rather than an action and does not always translate into the expected behavior. While attitudes can influence behavior in certain situations, other factors not examined in this study, such as beliefs, motivation, facilities, and peer support, also play crucial roles in realizing positive behavior. In this context, attitude is merely one of the supporting factors for health behavior and does not always result in concrete actions.[21]

Additionally, research by Friska Wulandari and Suci Musvita Ayu demonstrated a significant relationship between attitude and BSE behavior among PGSD STKIP students, explaining that positive attitudes tend to increase the likelihood of performing BSE, depending on stimuli such as knowledge and social support. However, this study did not find a correlation between attitude and behavior, possibly due to inconsistent stimuli supporting behavior, such as inadequate knowledge, lack of social support, or inconsistency in behavioral stages.[20] These findings are supported by research by Gloria Tuelah et al., which also showed no significant relationship between attitude and BSE behavior among 12th-grade high school students. This lack of awareness about the importance of BSE and diverse individual backgrounds such as age, thinking, and experience were contributing factors.[17] The limitation of this study lies in the

presence of other influential factors on behavior that were not investigated.

CONCLUSION

Conclusions

A good level of knowledge about BSE (Breast Self-Examination) was observed in 83 respondents (79%), while 22 respondents (21%) had a poor level of knowledge. A positive attitude towards BSE was observed in 61 respondents (58.1%), while 44 respondents (41.9%) had a negative attitude. Good BSE behavior was observed in 62 respondents (59%), while 43 respondents (41%) exhibited poor behavior.

There is no significant relationship between knowledge and attitude towards BSE behavior as an early detection effort for breast cancer among nurses at Atma Jaya Hospital, with p-values of 0.623 and 0.994, respectively.

Recommendations

Future researchers are encouraged to further investigate other factors not accommodated in this study, including values, motivation, awareness, experience, and other factors related to BSE behavior.

Future researchers may consider different research designs or integrate the use of qualitative methods to provide a more comprehensive understanding of the phenomena being studied.

CONFLICT OF INTEREST

The author declares that there was no conflict of interest.

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