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KNOWLEDGE, ATTITUDES, AND MOTIVATION ASSOCIATED WITH BREAST SELF-EXAMINATION AWARENESS AMONG MIDWIFERY STUDENTS IN BENGKULU CITY

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Abstract

Breast cancer is a serious and frightening threat to women because it can cause death. In 2022, there were 2,296,840 (23.8%) breast cancer sufferers in the world, with a mortality rate of 666,103 (15.4%). Breast Self Examination (BSE) is the easiest, cheapest and most effective early detection of breast cancer that can be done at home every month since women enter the age of 20 years. This study aims to determine the relationship between knowledge, attitudes and motivation with BSE behavior in Midwifery Students in Bengkulu City. The research design used a cross-sectional approach. The number of samples of 106 respondents was taken using the proportional random sampling technique. The results of the chi square test showed a relationship between knowledge (p-value 0.000), attitudes (p-value 0.000) and motivation (p-value 0.000) with BSE behavior. The results of the logistic regression test showed that knowledge is the most dominant factor with BSE behavior (OR = 15.008). It is expected that midwifery students will perform BSE when they start studying BSE courses, motivate themselves to immediately perform BSE routinely every month as an effort to detect breast cancer early.

Keywords: BSE, Knowledge, Attitude, Motivation, Behavior

INTRODUCTION

Breast cancer is a highly dangerous disease among women, as it can be life-threatening. In 2022, there were 2,296,840 cases of breast cancer worldwide (23.8% of all cancers), with 666,103 deaths (15.4%), representing the highest rate compared to other types of cancer. In Europe, 557,532 cases (24.3%) were reported, with 144,439 deaths (21.7%). In Asia, there were 985,817 cases (42.9%) with 315,309 deaths (47.3%) (Global Cancer Observatory, 2023). Based on data from the 2022 Indonesian Health Profile, a total of 2,614,959 women aged 30–50 years underwent early breast cancer screening, and 1,221 (0.05%) were suspected of having the disease. The highest number of suspected breast cancer cases was reported in West Java Province, with 266 cases (22%), while Bengkulu Province ranked 15th, with 10 women (0.81%) suspected of having breast cancer. Breast cancer is a non-communicable disease with an unknown exact cause; however, several risk factors have been identified, including a family history of breast cancer, early menarche (<12 years), age at first pregnancy (>35 years or never pregnant), age at

first childbirth (≥30 years), age at menopause (>55 years), nulliparity, not breastfeeding, obesity, and low levels of physical activity (exercise <4 hours per week) (Iqmy et al., 2021; Hero, 2021).

The government has implemented several breast cancer early detection programs, including Breast Self-Examination (SADARI), Clinical Breast Examination (SADANIS), and mammography screening (Ministry of Health, 2022). SADARI is the simplest, most affordable, and most effective method of early breast cancer detection that can be performed at home every month, starting at the age of 20 (Fatmawati & Prastiwi, 2021; Marhaeni et al., 2023). The purpose of SADARI is to identify any abnormal changes in a woman's breasts. These abnormalities may appear as lumps or nodules, which can indicate the presence of tumors. The earlier these abnormalities are detected and followed by prompt intervention, the higher the likelihood of survival (American Cancer Society, 2016; Asmalinda Wita et al., 2022).

However, women's awareness of performing Breast Self-Examination (SADARI) remains low, at around 25–30%. This is mainly due to the limited public knowledge regarding the importance of SADARI. Insufficient knowledge about SADARI influences individuals' attitudes and behaviors (Dinnia et al., 2016; Marhaeni et al., 2023). Several obstacles prevent female students from practicing SADARI, such as difficulty remembering the appropriate time to perform it, fear of discovering lumps, and a lack of confidence in recognizing abnormalities in the breast. This lack of knowledge contributes to an indifferent attitude toward SADARI, low motivation among female students, and consequently, poor practices in performing SADARI as a method of early detection. Therefore, strong motivation is required both intrinsic and extrinsic to encourage the consistent performance of SADARI (Ayuningtyas & Supriyadi, 2023).

Implementing Breast Self-Examination (SADARI) requires both adequate skills and strong motivation. It is not only important to understand all aspects related to SADARI but also to possess the motivation to practice it as an effort for the early detection of breast cancer. Consequently, if any abnormalities are detected, they can be addressed at an early stage, thereby reducing the risk of disease progression. With sufficient knowledge, a positive attitude, and high motivation to perform SADARI, good preventive behavior can be established (Ayuningtyas Pratiwi & Supriyadi, 2023). According to data from the Dinas Kesehatan Kota Bengkulu (2022), there were 22 cases of breast tumors, which increased to 38 cases in 2023, along with two women suspected of having breast cancer.

Based on the results of a preliminary survey conducted by the researchers, it was found that 8 out of 15 midwifery students had never performed Breast Self-Examination (SADARI), and many students still did not practice SADARI as an effort for early detection of breast cancer. Therefore, this study aims to examine the relationship between knowledge, attitude, and motivation and SADARI behavior among Diploma Three Midwifery students in Bengkulu City in 2024.

MATERIALS AND METHODS

This study employed a cross-sectional design and was conducted from May to June 2024 in five health education institutions in Bengkulu City: Poltekkes Kemenkes Bengkulu, Bengkulu University, STIKES Sapta Bakti, Dehasen University, and STIKES Tri Mandiri Sakti. The total sample consisted of 106 respondents selected using a proportional random sampling technique, comprising 20 from Poltekkes Kemenkes Bengkulu, 32 from Bengkulu University, 25 from STIKES Sapta Bakti, 13 from Dehasen University, and 16 from STIKES Tri Mandiri Sakti. The inclusion criteria included active female students of the Diploma Three Midwifery program, Level II, Semester 4, Academic Year 2023/2024; students who were willing to participate; and students who were healthy and present on campus during the sampling period.

Data were collected using a questionnaire developed by the researcher, which had been tested for validity and reliability. The SADARI knowledge questionnaire consisted of 10 items, with validity coefficients ranging from 0.428 to 0.726 and a Cronbach's alpha reliability coefficient of 0.732, indicating high reliability. The SADARI attitude questionnaire comprised 9 statements measured using a Likert scale, with validity values ranging from 0.472 to 0.718 and a Cronbach's alpha value of 0.715, also indicating high reliability. The SADARI motivation questionnaire included 9 statements measured using a Likert scale, with validity coefficients ranging from 0.426 to 0.826 and a Cronbach's alpha of 0.821, showing high internal consistency. The SADARI behavior questionnaire consisted of 9 statements measured using a Guttman scale, with validity coefficients ranging from 0.424 to 0.669 and a Cronbach's alpha of 0.622. Data were analyzed using the Chi-square test and multiple logistic regression. This study was approved by the Center for Ethical Review of Health Research, Poltekkes Kemenkes Bengkulu, under ethical clearance No. KEPK.BKL/332/05/2024, issued on May 22, 2024.

RESULTS AND DISCUSSION

Table 1. Descriptive Statistics of Research Variables

Variable	Mean	Median	SD	Min	Max
SADARI Knowledge	7,51	8,00	1,213	4	10
SADARI Attitude	27,65	28,00	2,719	20	35
SADARI Motivation	27,12	27,00	2,389	21	33
SADARI Behavior	6,69	7,00	1,149	4	9

Table 1 presents the descriptive statistics of the research variables. The mean score for SADARI

knowledge was 7,51 (SD = 1,21), with scores ranging from 4 to 10. The mean score for SADARI attitude was 27,65 (SD = 2,72), with a range of 20 to 35. The mean score for SADARI motivation was 27,12 (SD = 2,39), ranging from 21 to 33. Meanwhile, the mean score for SADARI behavior was 6,69 (SD = 1,15), with scores ranging from 4 to 9.

Table 2. Characteristics of Respondents

Variable	Frequency (n = 106)	Percentage (100%)
Age		
19 tahun	62	58,4
20 tahun	39	36,8
21 tahun	5	4,8
Institution		
Poltekkes Kemenkes Bengkulu	20	18,9
Universitas Bengkulu	32	30,2
STIKES Sapta Bakti	25	23,6
Universitas Dehasen	13	12,2
STIKES Tri Mandiri Sakti	16	15,1

Based on the characteristics of the respondents presented in Table 2, most of them (58.5%) were 19 years old, followed by 36.8% who were 20 years old and 4.7% who were 21 years old. In terms of institutional affiliation, the majority of respondents (30.2%) were from Bengkulu University, 23.6% from STIKES Sapta Bakti, 18.9% from Poltekkes Kemenkes Bengkulu, 15.1% from STIKES Tri Mandiri Sakti, and 12.3% from Dehasen University.

Table 3. Frequency Distribution of SADARI Knowledge, Attitude, Motivation, and Behavior

Variable	Frequency (n = 106)	Percentage (100%)
Knowlede		
– Poor	51	48,1
– Good	55	51,9
Attitude		
– Negative	46	43,4
– Positive	60	56,6
Motivation		
– Low	47	44,3
– High	59	55,7
Behavior		
– Poor	42	39,6
– Good	64	60,4

Table 3 shows that among the 106 Diploma Three Midwifery students in Bengkulu City, most respondents (51.9%) had good knowledge of SADARI, while 48.1% had poor knowledge. The good level of knowledge is likely related to the respondents' educational background as midwifery students who

have received information and education about breast cancer and SADARI. Furthermore, most female students (56.6%) demonstrated a positive attitude toward SADARI, while 43.4% showed a negative attitude. A positive attitude may result from a good understanding of SADARI, as these students have accepted and are willing to perform it, thereby forming a positive perception. This finding is consistent with the study by Yusran and Iriyanti (2022), which stated that attitude represents a person's affective response, where positive feelings such as pleasure, acceptance, and openness reflect a favorable attitude toward an object.

The majority of female students (55.7%) had high motivation, while nearly half (44.3%) had low motivation. The high level of motivation toward SADARI may be attributed to the students' enthusiasm and good understanding of SADARI. This finding is consistent with the study by Fatmawati and Prastiwi (2021), which stated that motivation is the driving force that compels an individual to take action in order to achieve a goal. This force is generally stimulated by various needs, such as desires to be fulfilled, behavior, goals, and feedback. Furthermore, most female students (60.4%) demonstrated good SADARI behavior, while 39.6% showed poor behavior. According to the study by Deska et al. (2019), students who exhibit good SADARI behavior tend to possess sufficient knowledge about SADARI, which encourages them to seek further information about the procedure. In addition, students with good knowledge of the benefits of SADARI have internal motivation to perform it regularly.

Table 4. Relationship between Knowledge, Attitude, and Motivation and Breast Self-Examination (SADARI) Behavior

Variable	SADARI Behavior				P-Value	OR	CI 95%
	Poor		Good				
	N	%	N	%			
Knowledge							
- Poor	33	64,7	18	35,3	0,000	9,370	19,686 (3,747-23,433)
- Good	9	16,4	46	83,6			
Attitude							
- Negative	31	67,4	15	32,6	0,000	9,206	18,866 (3,748-22,614)
- Positive	11	18,3	49	81,7			
Motivation							
- Low	31	66,0	16	34,0	0,000	8,455	17,131 (3,470-20,601)
- High	11	18,6	48	81,4			

Table 4 shows that almost all students (83.6%) with good knowledge also demonstrated good SADARI behavior. This may be attributed to the respondents' educational background as midwifery students who have received knowledge and information about SADARI through lectures, making it easier for them to apply this practice in daily life. This finding is consistent with previous studies (Ronasyari, 2019; Yuslana et al., 2020), which state that an individual's knowledge and attitude are influenced by several factors, including education, experience, and age. A small proportion (16.4%) of students had good knowledge but exhibited poor SADARI behavior. Based on interviews conducted by the researchers, several reasons

were identified for not performing SADARI, including laziness, absence of symptoms, forgetfulness due to busy schedules, and fear of finding a lump or anxiety about potential surgery.

Students often experience panic and anxiety due to the fear of finding lumps in their breasts. However, the main purpose of SADARI is to detect the presence or absence of breast abnormalities early, thereby preventing late-stage breast cancer detection and increasing life expectancy. Knowledge is acquired through education and experience, which serve as learning processes and play an important role in shaping an individual's behavior. The formation of new behavior, when based on knowledge, awareness, interest, experience, and environmental factors, tends to be more sustainable over time (Sirait Martha, 2021).

The results showed a p-value of 0.000, indicating a significant relationship between knowledge and SADARI behavior among Diploma Three Midwifery students in Bengkulu City in 2024. This finding is consistent with the study by Marhaeni, Ros Rahmawati, and Sonda Maria (2023), which reported a significant relationship between knowledge and early detection behavior of breast tumors through SADARI. Similarly, Tae et al. (2020) found a relationship between the level of knowledge about SADARI and adherence to SADARI practice among Diploma Three Midwifery students at STIKes Yogyakarta. Almost all students (81.7%) with a positive attitude demonstrated good SADARI behavior. This suggests that the more positive a student's attitude toward SADARI, the greater the likelihood that she will perform it. A small proportion (18.3%) of students had a positive attitude but showed poor SADARI behavior, which may be attributed to laziness or misconceptions about SADARI. Negative attitudes toward SADARI behavior can also be influenced by emotional factors or a lack of responsiveness, such as fear of breast cancer and embarrassment in performing SADARI (Wijaya et al., 2024). This finding supports Notoatmodjo's (2017) theory, which states that attitude is a readiness or willingness to act in a certain way.

The results showed a p-value of 0.000, indicating a significant relationship between attitude and SADARI behavior among Diploma Three Midwifery students in Bengkulu City in 2024. This finding is consistent with the study by Oktavia and Amelia (2024), which reported a relationship between students' attitudes and their practice of SADARI. Similarly, Marhaeni et al. (2023) found a relationship between attitude and early detection behavior of breast tumors through SADARI. Almost all students (81.4%) with high motivation demonstrated good SADARI behavior. This may be due to their good knowledge of SADARI and strong awareness of breast cancer prevention through regular practice of SADARI. This result aligns with the study by Nurna et al. (2022), which stated that a person's tendency to take preventive health actions is strongly influenced by knowledge. Individuals with better knowledge tend to have higher motivation to perform SADARI, resulting in behaviors that are goal-oriented and purposeful. A small proportion (18.6%) of students with high motivation exhibited poor SADARI behavior. This may be

attributed to laziness, reluctance, or unwillingness, which reflect a lack of awareness and response to the importance of practicing SADARI behavior (Afifah et al., 2022).

The results showed a p-value of 0.000, indicating a significant relationship between motivation and SADARI behavior among Diploma Three Midwifery students in Bengkulu City in 2024. This finding is consistent with the study conducted by Ayuningtyas and Supriyadi (2023), which demonstrated a relationship between the motivation of Bachelor of Nursing students at Muhammadiyah Purwokerto University and their SADARI behavior. Similarly, Afifah et al. (2022) reported a significant relationship between self-motivation and SADARI behavior among women of reproductive age.

Table 5. Results of Multiple Logistic Regression Analysis

Variable	B	S.E	Wald	Df	P-value	OR	PR (95%CI)	
							Lower	Upper
Knowledge	2,709	0,649	17,433	1	0,000	15,008	4,209	53,521
Attitude	2,238	0,635	12,427	1	0,000	9,371	2,701	32,513
Motiation	1,722	0,588	8,592	1	0,003	5,597	1,769	17,706

Table 5 shows that the variables of knowledge, attitude, and motivation had p-values of less than 0.05, indicating significant associations with SADARI behavior. Among these variables, knowledge had the highest odds ratio (OR = 15.01), meaning that students with good knowledge were 15 times more likely to perform good SADARI behavior compared to those with poor knowledge. Therefore, it can be concluded that knowledge is the most dominant factor influencing SADARI behavior among Diploma Three Midwifery students in Bengkulu City in 2024.

Knowledge is a fundamental domain that influences a person's behavior. Individuals with good knowledge of SADARI tend to exhibit good SADARI behavior, whereas those with limited knowledge tend to display poorer behavior. A person's behavior generally aligns with their level of knowledge (Yusran and Iriyanti, 2022). The better the respondents' knowledge about breast cancer, the stronger their desire to perform SADARI regularly as an effort for early detection of breast cancer. The study conducted by Fatmawati and Prastiwi (2021) demonstrated that when behavior is based on knowledge, awareness, high motivation, and positive attitudes, such behavior tends to be more sustainable over time.

This finding is also consistent with the study conducted by Durriyyah et al. (2023), which reported that the variable influencing SADARI behavior knowledge had an odds ratio (OR) value of 6.91. This indicates that individuals with good knowledge have approximately seven times higher likelihood of performing SADARI compared to those with poor knowledge.

CONCLUSION

Most female students demonstrated good knowledge, positive attitudes, high motivation, and good SADARI behavior. There was a significant relationship between knowledge, attitude, and motivation with SADARI behavior among Diploma Three Midwifery students in Bengkulu City in 2024. The most dominant factor influencing SADARI behavior was knowledge, with an odds ratio (OR) value of 15.01. It is expected that midwifery students will begin practicing SADARI as soon as they receive related coursework and continue to motivate themselves to perform SADARI regularly every month as an effort for early detection of breast cancer.

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DECLARATION OF INTEREST STATEMENT

The authors declare that they have no conflict of interests.

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