The Relationship between Female Students Knowledge and Self-Breast Examination (SADARI) in Early Detection of Breast Cancer

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ABSTRACT

Background: Cancer represents a collection of non-infectious ailments distinguished by the abnormal and malignant growth of cells or body tissues. Internationally, cancer remains a significant contributor to mortality and poses an ongoing challenge to national healthcare systems. Notably, breast cancer stands out as the predominant form of cancer among females, although, in certain instances, it can also manifest in males.

Objective: To assess the level of awareness among female students about identifying early signs of breast cancer at State Vocational School 8 Kupang.

Research methods: This study employed a quantitative research design, utilizing an analytic observational research method with a cross-sectional approach. The total sample size was 50, selected through a total sampling technique.

Results: The analysis revealed that among the 50 respondents, 24 (48%) exhibited a low level of knowledge, and 29 (58%) were unable to perform breast self-examination. The Wilcoxon test yielded a significant value of 0.000

Conclusion: The findings suggest a correlation between students' knowledge and their ability to conduct breast self-examination (BSE) for the early detection of breast cancer at State Vocational School 8 Kupang.

Keywords: Breast Cancer, Breast Self-Examination (BSE), and Knowledge

Introduction

Cancer is a group of non-communicable diseases characterized by the abnormal and malignant growth of cells or body tissues. Specifically, breast cancer is the most frequently encountered type of cancer in the female population, although in some cases, this cancer can also manifest in males. (Stanisławek, 2021) Breast cancer is currently one of the most frequently diagnosed cancers and the fifth leading cause of cancer-related deaths, with an estimated 2.3 million new cases worldwide, according to GLOBOCAN 2020 data. (Oluwadamilola et al., 2017). Breast cancer stands as the second leading cause of death

among women, following cervical and cardiovascular cancers. It occurs due to the disruption of the cell growth system within breast tissue. The breast is composed of mammary glands, fatty tissue, milk-producing sacs, and lymph nodes. Abnormal cells can develop in these four components, leading to slow but progressive damage to the breast. (Mahayani, Sukraandini and Suniyadewi, 2020)

Cancer is a group of diseases characterized by the uncontrolled growth and spread of abnormal cells. If left unchecked, this uncontrolled growth can lead to death. Cancer is the second leading cause of death in the United States, responsible for nearly 1 in 4 deaths. In the U.S., the lifetime risk of developing cancer is 1 in 2 for men (42%) and 1 in 3 for women (38%). According to the American Cancer Society, 1,685,210 new cancer cases were expected to be diagnosed in 2016, with an estimated 595,690 deaths attributable to cancer. (Stanisławek, 2021)

Breast cancer is one of the most prevalent types of cancer in Indonesia. According to the Pathological Based Registration in Indonesia, breast cancer ranks first with a relative frequency of 18.6%. Among the 15 countries in Asia, breast cancer holds the top position for the highest number of cases in seven of them. (Angrainy, 2017) Additionally, breast cancer ranks within the top five causes of cancer-related deaths and In Indonesia, over 80% of cases are diagnosed at advanced stages, and 60-70% of breast cancer patients seeking treatment are already in advanced stages, making treatment efforts challenging. Therefore, there is a need for understanding preventive measures and early diagnosis to facilitate the identification of patients at an early stage, ultimately reducing breast cancer-related mortality. (Taqiyah and Jama, 2020)

In the East Nusa Tenggara (NTT) Province region, it is observed that breast cancer exhibits the most significant prevalence compared to other types of cancer in the female population. Data indicates that in 2018, there were 1,252 reported cases, with a prevalence rate of 0.05%. Analysis based on recorded medical data from patients undergoing treatment at RSUD Prof. Dr. W. Z Johannes depicts that there were 205 cases of breast cancer patients in Kupang in 2018. Subsequently, this figure was followed by 142 cases in 2019, and then decreased to 77 cases in 2020. Although there was a decline over the three years, it cannot be denied that cancer will persist, emphasizing the necessity for continued serious attention and early intervention for this disease. (Elfeto, Tahu and Muskananfola, 2022).

Several risk factors have been identified as potential causes of breast cancer, including environmental changes, exposure to radiation from electronic devices such as phones and laptops, and lifestyle alterations such as the consumption of instant foods. Additionally, the low level of public knowledge about breast cancer can also contribute to the increasing incidence of this cancer. Reluctance, embarrassment in facing breast examinations, concerns about surgical procedures, and a lack of understanding about detection methods and preventive measures are all potential factors that can influence the rise in breast cancer cases.

Based on the initial data collection conducted with female students at State Vocational School 8 Kupang, the researcher conducted a question-and-answer session with 15 respondents as the sample. The results indicated that 13 respondents (80%) or the

majority were not familiar with breast cancer and had never heard of SADARI, a method for early detection of breast cancer. Additionally, the students had not been exposed to information about SADARI, either within the school environment or externally. On the other hand, 2 respondents (20%) were already aware of breast cancer and had heard of SADARI but were unable to perform it. They obtained information about SADARI from the internet. Based on this phenomenon, the researcher was motivated to conduct a study to explore the "Relationship between female students' knowledge and Self-Breast Examination (SADARI) in the effort to detect breast cancer early at State Vocational School 8 Kupang.

Objective

This study aims to investigate the correlation between female students' knowledge and Self-Breast Examination (SADARI) in the early detection efforts of breast cancer at State Vocational School 8 Kupang.

Methods

This study employs an analytical observational method with the aim of identifying mechanisms and triggers of the phenomenon. A cross-sectional approach is utilized, where data is collected at a specific point in time to analyze the relationships among the involved risk factors. The focal population consists of female students attending State Vocational School 8 Kupang, comprising 50 students from the 10th and 11th grades. The research authorization letter is obtained from Stikes Nusantara Kupang and addressed to the Head of State Vocational School 8 Kupang. The research proposal is then submitted to the school. After receiving approval, the researcher gathers the students in the school auditorium for the research session. Respondents are briefed about the study and provided with informed consent forms. Subsequently, the completion of questionnaires and observation sheets takes place. The data is analyzed using the Wilcoxon test.

Result

1. **General Data**

Table 1 Characteristics of Respondents Based on Respondents' Age

Variable	category	N	%
Age	15 years	3	6
	16 years	21	42
	17 years	26	52
	Total	50	100

Table 1 indicates that out of 50 respondents, the majority are 17 years old, with a total of 26 respondents (52%), while a small portion are 15 years old, comprising 3 respondents (6%).

2. **Specific Data**

Table 2 Characteristics of respondents based on the level of knowledge

Variable	category	N	%
Knowledge Level	Good	8	16
	adequate	18	36
	low	24	48
	Total	50	100

Table 2 illustrates that out of 50 respondents, the majority possess a low level of knowledge, totaling 24 respondents (48%), while a minority exhibit a good level of knowledge, consisting of 8 respondents (16%).

Table 3 presents the characteristics of respondents based on breast examination.

Variable	Category	N	%
Breast	Able	21	42
Examination	unable	29	58
	Total	50	100

Table 3 illustrates that out of 50 respondents, the majority are unable to perform breast examination, totaling 29 respondents (58%), while a minority, comprising 21 respondents (42%), are capable of conducting breast examination.

Table 4 shows the relationship between female students' knowledge and Self-Breast Examination (SADARI) in the early detection of breast cancer.

		Pemeriksaan Payudara				Total		P Value
		Mampu		Tidak Mampu				
		n	%	n	%	n	%	
Pengetahuan	Baik	4	8%	4	8%	8	16%	0,000
	Cukup	14	28%	4	8%	18	36%	
	Kurang	3	6%	21	42%	24	48%	
Total		21	42%	29%	58%	50	100%	

Table 4 indicates from the conducted Wilcoxon test, there is a significant value of 0.000 (p<0.05) signifying a correlation between female students' knowledge and self-breast examination (SADARI) on the early detection of breast cancer at State Vocational School 8 Kupang.

Discussion

The analysis results indicate that out of 50 respondents, the majority of female students at SMK Negeri 8 Kupang have a low level of knowledge, with a total of 24 respondents (48%), and a small portion have good knowledge, with a total of 8 respondents (16%). This study aligns with prior research conducted noting that the majority of respondents, approximately 51.5%, had a low level of knowledge. Similar findings were also reported, where the majority of respondents, around 55.3%, demonstrated a low level of knowledge. Knowledge is an outcome that arises from the process of "knowing," triggered by human experiences in perceiving the world through various senses, including touch, smell, taste, hearing, and sight. From the research conducted, it was found that the majority of female students in grades X and XI at SMK Negeri 8 Kupang have minimal knowledge regarding the early detection of breast cancer. They are unfamiliar with methods for detecting breast cancer, and as a result, they have not engaged in early breast cancer detection.

The analysis results indicate that out of 50 respondents, the majority of female students at SMK Negeri 8 are unable to perform breast self-examination, with a total of 29 respondents (58%), while a small portion can perform breast self-examination, totaling 21 respondents (42%). This study is consistent with the findings of research conducted by Rosliana Dewi Kristi Lisdyani and Johan Budhiana (2022), which noted that the majority of respondents faced difficulties in performing breast self-examination, accounting for 65.1%. Similar challenges were also present in the study conducted where most respondents encountered difficulties in performing breast self-examination, with a rate reaching 70%. The researcher contends that the majority of female students in grades X and XI at SMK Negeri 8 Kupang are unable to perform breast self-examination due to a lack of health education received from healthcare professionals, resulting in their unawareness of how to conduct self-examinations. (Dewi *et al.*, 2022)

The Wilcoxon test results show a significant value of 0.000 (p<0.05), indicating a correlation between female students' knowledge and self-breast examination (SADARI) for the early detection of breast cancer at SMK Negeri 8 Kupang. This study aligns with the research conducted by Rosliana Dewi (2021), stating that there is a correlation between knowledge and early detection in adolescent girls with a p-value of 0.000. (Dewi *et al.*, 2022) A similar study found an impact of health education on knowledge, attitudes, and practical abilities of adolescents regarding SADARI, with a value of p=0.000.(Marfianti, 2021) This study contradicts the findings, which stated no knowledge about breast cancer with SADARI behavior (ρ= 0.420). Breast cancer is generally considered a serious threat to health, with serious consequences and the potential to be life-threatening. This issue is not only relevant in developed countries with advanced healthcare systems but is also a global health problem that significantly impacts populations in developing countries, often facing limitations in resources and access to healthcare services. (Deska, Ningsih and Luviana, 2019)

Lack of awareness and community involvement in breast cancer screening also contributes to a lack of understanding of the importance of breast cancer screening. Efforts

are needed to educate women with limited knowledge about breast cancer and its detection methods. One recommended approach is through the practice of Self-Breast Examination (SADARI), which ideally should be introduced during adolescence. (Nurhayati, Nur Hartiningsih and Isnaeni, 2023). In this study, the researcher found that the knowledge level of female students in grades X and XI at SMK Negeri 8 Kupang is low, with many students not understanding how to perform breast self-examinations, making them unable to care for their breasts. The researcher argues that the low knowledge level of female students in grades X and XI at SMK Negeri 8 Kupang regarding breast self-examination is due to a lack of socialization or health education received by students for early breast cancer detection. Regular education or counseling conducted by healthcare professionals is needed to improve the knowledge of adolescents to prevent breast cancer.

Conclusion

There is a significant relationship between the knowledge of female students and the practice of self-breast examination (SADARI) for the early detection of breast cancer at SMK Negeri 8 Kupang, with a significant value of 0.000.

In this context, it is evident that there is a need for health education focused on enhancing awareness and capabilities among female students in the early detection of breast cancer. These initiatives are crucial to reducing the risk of breast cancer among adolescents and providing greater support for women's health globally. These findings emphasize the importance of more effective preventive measures and education to address health issues among female students.

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