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The effectiveness of audiovisual health education on knowledge and attitudes towards breast self-examination among female communication science students

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Abstract

Background: Breast cancer is the most common type of cancer among women in both developed and developing countries. In Indonesia, breast cancer ranks first with 16.2% of cases in 2022. One way to prevent breast cancer is through early detection by performing breast self-examination (BSE). Improving knowledge and attitudes toward breast self-examination can be achieved through health education using various methods, one of which is audiovisual media.

Purpose: To determine the effectiveness of health education using audiovisual media on the knowledge and attitudes of female Communication Science students towards breast self-examination.

Method: This research design uses a quasi-experiment with a one-group pretest-posttest design. The sample in this study consisted of 41 female Communication Science students at 'Aisyiyah University Yogyakarta, selected using proportional random sampling. Data collection was conducted using questionnaires, and data analysis was performed using the Wilcoxon test.

Results: The results of the analysis showed a significant increase in knowledge ($p = 0.000 < 0.05$) and attitude ($p = 0.000 < 0.05$) after intervention with audiovisual media.

Conclusion: Health education using audiovisual media is effective in improving knowledge and attitudes toward breast self-examination among female students in the Communication Studies Program.

Keywords: Audiovisual; Attitudes.; Breast Self-Examination; Health Education; Knowledge.

INTRODUCTION

Breast cancer is the most common type of cancer among women in both developed and developing countries (Nova, Ningsih, Armi, & Ramadhanti, 2024). According to data from the Global Cancer Observatory, breast cancer is the most common type of cancer worldwide, with 2.3 million new cases and the fourth leading cause of cancer deaths, reaching 666,103 cases. In Indonesia, breast cancer ranks first with 66,271 new cases (16.2%) and is the third leading cause of death with 22,598 cases (9.3%) (World Health Organization, 2025).

The high incidence of breast cancer can have a wide-ranging impact, including physical, psychological, social, and economic aspects (Widodo, Djuwadi, Budianto, & Halis, 2025). The magnitude of this impact highlights the need to raise awareness and change attitudes among women regarding the importance of early detection, one of which is through breast self-examination (Sari, Maryam, Nafisah, Aqifah, Intan, & Ruslinawati, 2025).

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Breast self-examination (BSE), also known as breast self-examination, is a method used to detect breast problems, such as lumps, masses, or changes in shape (Aryani, Mulyani, & Ekawaty, 2024). It is very easy to perform, free of charge, painless, and harmless (Siregar, 2022). It can be performed by women from adolescence to adulthood. Performing BSE correctly and regularly can help detect breast cancer early by 80% (Fadillah, Alfani, Yusup, Audia, Sopian, & Fitriani, 2023).

Lack of knowledge can trigger negative attitudes toward SADARI examinations, due to limited understanding of the procedure (Susantie, Ovany, & Handriani, 2025). Women's reluctance to undergo SADARI is one of the factors contributing to delays in breast cancer diagnosis (Saputra, Ariyani, & Arsi, 2024).

Knowledge and attitudes toward breast self-examination (BSE) are influenced by several factors (Kurniati & Annisa, 2021). Higher education facilitates understanding of health information and fosters positive attitudes toward BSE (Kurniati & Annisa, 2021). Increasing age, coupled with life experience, also fosters awareness of the importance of BSE (Jadhav, Azeez, Mathew, Kumar, Snegha, Yuvashree, & Mangalagowri, 2024). In addition, exposure to information, family support, and cultural values that support health issues are factors that strengthen knowledge and positive attitudes towards SADARI (Nurhadiyah & Sutrisn, 2020).

One effective way to improve knowledge and attitudes towards breast self-examination (BSE) is through health education (Hamdanesti et al., 2023). Health education is a process aimed at improving an individual's knowledge, attitudes, and skills in maintaining their health. Health education about BSE can improve knowledge, practical skills, and foster positive attitudes toward early breast cancer detection (Hamdanesti, Rahmi, & Jepisa, 2023). The success of health education is influenced by the media used, one of which is audiovisual media, which combines sound and images to attract attention, facilitate understanding, and accelerate changes in individual attitudes and skills (Rafika, 2023).

Previous research shows that the provision of audiovisual media in the form of SADARI videos has a

significant effect on increasing the knowledge and attitudes of female students at the Tarbiyah Takalar Islamic Boarding School, with Wilcoxon test results showing a value of $p=0.000$ ($\alpha<0.05$). These findings prove that audiovisual media is an effective educational method in improving adolescents' understanding of breast self-examination. However, the respondents in this study were female students, indicating a research gap regarding the effectiveness of audiovisual media on groups of female students with different educational backgrounds and environments (Arifuddin & Rahmat, 2021).

RESEARCH METHOD

This was a quasi-experimental study using a nonequivalent control group design. The sample consisted of one intervention group receiving health education through audiovisual media and one comparison group receiving health education through demonstration methods. Both groups were given a pretest, then each group received treatment, and a posttest was administered to both groups.

Inclusion criteria: active female students majoring in communication science, aged 18-23 years, interested in participating in the research, having never received health education on breast self-examination (BSE), willing to participate in all research activities. Exclusion criteria: Female students were not present during the intervention, did not complete the questionnaire completely, and experienced physical or psychological conditions that prevented participation in the research activities.

The questionnaire was prepared in the form of 24 objective questions with 4 answer choices A, B, C, and D. The questions were prepared using a Likert scale with a score range of 1-4 according to the level of accuracy of the respondent's answer. Very accurate answer: 4, Quite accurate answer: 3, Less accurate answer: 2, Inaccurate answer: 1 With a total score: 96.

Before conducting the hypothesis test, a normality test using the Kolmogorov-Smirnov test was performed for small sample sizes > 50 to ensure the data were normally distributed. A homogeneity of variance test was then performed to ensure the variance of scores

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between treatment groups was homogeneous. A statistical test was then performed to compare pretest and posttest scores within a single group. If the data were normally distributed, a paired t-test was used, while if the data were not normally distributed, a

Wilcoxon test was used. To compare posttest scores between groups, if the data were normally distributed, an independent t-test was used, and if the data were not normally distributed, a Mann-Whitney test was used.

RESEARCH RESULTS

Tabel 1. Characteristics of Respondent (N=41)

Variable	Results	Mean Rank	Z	P-value
	(19.63 ± 1.13)			
18	8/19.5			
19	10/24.4			
20	14/34.1			
21	7/17.1			
22	2/4.8			
Family History (n/%)				
Yes	5/12.0			
No	36/88.0			
Information (n/%)				
Ever	16/39.0			
Never	25/61.0			
Source of Information (n/%)				
Family	2/5.0			
Friends	1/2.1			
Internet	3/7.3			
Social Media	10/24.4			
Never	25/61.0			
Knowledge Pret-test (n/%)		21.28	-5.450	0.000
Good	14/34.0			
Enough	27/66.0			
Poor	0/0			
Knowledge Post-test		21.28	-5.450	0.000
Good	36/88.0			
Enough	5/12.0			
Poor	0/0			
Attitudess Pret-test (n/%)		20.29	-4.619	0.000
Good	13/31.7	34/83.0		

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Enough	26/63.4	7/17.0
Poor	0/0	0/0

The table shows that the majority of respondents were aged 20 years, totaling 14 (34.1%) respondents. Based on family history of breast cancer, the majority of respondents had no family history of breast cancer, totaling 36 (87.8%) respondents. Based on the information provided, the majority of respondents had never received information about SADARI, with 25 (61.0%) respondents. Based on the source of information, the majority of respondents obtained information about SADARI through social media, with 10 (24.4%) respondents. It can be seen that prior to receiving health education through audiovisual videos, the majority of respondents had sufficient knowledge, namely 27 (65.9%) respondents. After receiving health education through audiovisual videos, 36 (87.8%) respondents had good knowledge. It can be seen that before receiving health education through audiovisual videos, the majority of respondents had sufficient attitude, namely 26 (63.4%) respondents. After receiving health education through audiovisual videos, the attitude of 34 (82.9%) respondents improved to good.

Based on the results of the Wilcoxon knowledge test the p-value of $0.000 < \text{significance level of } 0.05$ indicates that there is a difference in knowledge before and after receiving health education about breast self-examination. Based on the results of the Wilcoxon attitudes test the p-value of $0.000 < \text{significance level of } 0.05$ indicates that there is a difference in attitudes before and after receiving health education about breast self-examination.

DISCUSSION

The results of the study in table show that in the pretest, the majority of respondents 27 (65.9%) had sufficient knowledge, while 14 (34.1%) had good knowledge. It can be seen that before receiving health education, the respondents' average level of knowledge was already in the sufficient category. Although none of the respondents had ever received health education about BSE, the results of the pretest showed that the respondents' average knowledge was already in the sufficient category. This was likely because the respondents had previously heard and obtained some information about BSE from their surroundings, such as family, friends, the internet, and social media. This is in line with the other research which states that knowledge before health education was in the adequate category (Syahnel, Hasmiwati, & Murni, 2021).

The results of the study in Table 2.1 show that in the posttest knowledge of the majority of respondents 36 (87.8%) showed good knowledge, while 5 (12.2%) respondents showed sufficient knowledge. The knowledge of respondents in both groups improved in the post-test assessment, with the majority falling into the good category. These research results are in line with other research, which states that there is an

increase in knowledge after receiving education in the good category (Saragih, 2020).

A person's knowledge is influenced by various factors, including education level, age, experience, beliefs, family support, socio-cultural conditions, and access to information or media (Syahnel et al., 2022). In this study, information was also a factor that influenced the questionnaire results. The availability of information sources on BSE obtained by respondents was thought to be one of the factors that caused respondents' knowledge levels to be in the sufficient category. In addition, the level of education also affects a person's knowledge; the higher the level of education, the broader the knowledge possessed. The respondents in this study were college students, so it is possible that they had acquired various knowledge beforehand, including information related to BSE. In terms of experience, some respondents had family members with a history of breast cancer, which enabled them to gain knowledge through information searches and prevention efforts.

The results of the study show that in the pretest attitude, the majority of 26 (63.4%) respondents had a sufficient attitude. This study is not in line with the research, which states that before health education on

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women's reproductive health was conducted, most of the respondents' attitudes were in the good category, namely 46 (73.0%) in the positive attitude category and 17 (27.0%) in the negative attitude category (Kamiliya, Pramono, & Ardyanti, 2025).

The results of the study in Table 2.2 show that in the posttest, the majority of respondents 34 (82.9%) had a good attitude. These research results are in line with the other research which states that the posttest attitude towards BSE in the audiovisual media group was mostly in the good category. There were 18 (60.0%) good attitudes, 10 (33.3%) fair attitudes, and 2 (6.7%) poor attitudes (Naimah & Mukhoirotni, 2021).

One factor that influences attitude is knowledge, which is crucial in shaping a person's actions. With good knowledge about the importance of early detection of breast cancer, it is hoped that a positive attitude will emerge, leading to positive actions in the form of breast self-examination. This is in line with the other research which states that good knowledge and positive attitudes are influenced by curiosity, thereby encouraging young women to have a more positive attitude. Conversely, negative attitudes arise due to a lack of information, which causes adolescents to tend not to take preventive measures and to be less concerned about their own health (Azzahra, 2022).

With the rapid development of technology today, the fast flow of information and ease of access via the internet allows individuals to acquire knowledge more easily and effectively. The knowledge acquired forms the basis for shaping a person's attitude. However, attitudes are not formed directly, but through cognitive and motivational processes that can be developed through health education. This is supported by the ease, freedom, and completeness of information available online. Media plays an important role in helping to improve information retention, arouse interest and motivation, reduce the dominance of verbal communication as the sole source of information, and attract the audience's attention (Maresa, Riski, & Ismed, 2023).

Health education can be provided by utilizing media such as educational videos, animations, and multimedia, which are effective audiovisual strategies because they

combine visual, audio, and text elements to improve understanding. Health education using audiovisual media is one of the most effective educational methods because it presents material through visual and audio elements simultaneously (Kharisma, Irma, & Emi, 2024).

In this study, the respondents were female students who were able to think well and process and receive information more easily. This can be proven by the questionnaire results, which showed that before receiving health education, most respondents had sufficient knowledge, but after receiving health education, their knowledge was categorized as good. The results of the study in measuring knowledge after receiving health education found that one respondent experienced a decrease in score, so it is possible that the respondent was unable to remember well and did not concentrate during health education.

Knowledge is the result of a process of gaining understanding, marked by a change from not knowing to knowing (Ridwan, Sukri, & Syukri, 2021). In the study conducted at 'Aisyiyah University Yogyakarta, the knowledge measured was the knowledge about BSE among female Communication Science students. The questions in the questionnaire to measure the students' level of knowledge included the definition of BSE, the objectives of BSE, the timing of BSE, and the steps for implementing BSE.

Health education through audiovisual media changed the respondents' knowledge category from adequate to good. In this study, out of 41 respondents, the majority initially had adequate knowledge, which then changed to most respondents having good knowledge. No respondents were found to have poor knowledge before and after receiving health education.

In this study, the respondents were college-educated, which meant that they were able to think well and process and accept information that would later be used as the basis for their attitudes. This can be proven by the questionnaire results, which show that before being given BSE health education, most of the respondents' attitudes were categorized as adequate, but after being given BSE health education, most of the respondents' attitudes changed to the good category. The researcher assumes that providing information

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through audio-visual media education has a significant influence on a person's attitude change because good knowledge and information can influence a person's attitude. The change in female students' attitudes towards BSE can be seen from the pretest and posttest results. Based on the analysis of the respondents' questionnaire answers, it can be seen that there are still respondents who express disagreement in the conative part of the questionnaire or statements that lead to the respondents' willingness or unwillingness to be part of BSE.

The results of this study are in line with other research, which states that there is a difference in respondents' attitudes before and after being given health education about SADARI in the audiovisual video method group with a p-value of $0.004 < \text{significance level of } 0.05$ (Wahdi, Puspitosari, & Setiyowati, 2020).

The results of this study conducted on female Communication Science students show that health education through audiovisual media is effective in improving the attitudes of female Communication Science students towards SADARI. The researcher assumes that providing information through health education using audiovisual media is effective in improving a person's attitude because good knowledge and information can influence an individual's attitude.

CONCLUSION

Based on the results of the study, it can be concluded that the majority of female Communication Science students at Universitas 'Aisyiyah Yogyakarta had sufficient knowledge before receiving BSE health education, and the majority of female Communication Science students had good knowledge after receiving BSE health education. The attitudes of female Communication Science students before receiving BSE health education were mostly adequate, while after receiving BSE health education, the attitudes of female Communication Science students were good. There was effectiveness in providing education through audiovisual media on the knowledge and attitudes of female Communication Science students. In relation to the research results regarding knowledge and attitudes towards BSE, there are still those who fall into the

adequate category. It is hoped that students will be able to seek information about the importance of BSE and the benefits of performing BSE.

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