

THE EFFECT OF EDUCATIONAL MEDIA “AYO SADARI” ON THE KNOWLEDGE AND SKILLS OF TEENAGE GIRLS TO PERFORM BSE

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ABSTRACT

Teenage girls are at risk of reproductive health problems due to hormonal changes. This makes teenage girls vulnerable to various diseases, including breast cancer. Therefore, adolescents need to make an effort to detect breast cancer early with regular breast self-examination (BSE). To improve knowledge and skills related to SADARI, an audio-visual media education media 'AYO SADARI' is needed. This study aimed to determine the effect of audio-visual educational media 'AYO SADARI' on the knowledge and skills of adolescent girls in performing BSE. This research method is quasi-experimental, with a research design of a one-group pre-test and post-test design. The population is teenage girls in class X MIPA and Language of Diponegoro Senior High School Tumpang, Malang Regency. This study used a total sampling, namely 38 female students. The research instrument used a knowledge questionnaire and a skills observation sheet. Data analysis used the Wilcoxon Signed Rank Test. Data analysis showed an effect of audio-visual educational media 'AYO SADARI' on increasing the knowledge and skills of teenage girls in performing BSE (p-value ≤ 0.05). Audiovisual educational media present an energetic voice and attractive images so that they can increase the knowledge and skills of teenage girls in the early detection of breast cancer.

Keywords: Audiovisual, BSE, Educational Media, Teenage Girls

1. INTRODUCTION

Adolescence is a transitional period from childhood to adulthood, marked by physical, emotional, and psychological changes. Adolescence also carries the risk of reproductive health problems due to hormonal changes. This can make adolescents susceptible to various diseases. A variety of reproductive diseases can affect adolescents both now and as they grow into adulthood. One reproductive system disease with a relatively high incidence is breast cancer (Lestari et al., 2019). The entire introduction is presented in an integrated paragraph format.

According to the International Agency for Research on Cancer, which published the Global Cancer Incidence, Mortality, and Prevalence 2020 (GLOBOCAN, 2020), breast cancer ranks first worldwide with approximately 2.3 million new cases and 680,000 deaths. Data from the World Health Organization (WHO) in 2008 showed that the number of young women with cancer reached 1,150,000, 700,000 of whom were in developing countries (Widyawaty et al., 2021). Meanwhile, Indonesia ranked highest with nearly 66,000 new cases and a death rate of over 22,000 in 2020 (Indonesian Cancer Foundation, 2021). Based on the 2018 Basic Health Research (RISKESDAS) data, the national prevalence of cancer reached 16 per 100,000 or around 330,000 sufferers, of which 18.7% were breast cancer cases (Ministry of Health of the Republic of Indonesia, 2018).

Breast cancer is often found in young women, even quite a few fourteen-year-old girls suffer from breast tumors, which can potentially develop into cancerous cells if not detected early (Alini & Indrawati, 2018). According to the Yogyakarta Special Region Provincial Health Office in 2014, it was explained that 1,240 adolescents aged 15 to 24 years old suffered from breast cancer (Handayani, 2019). In fact, according to the latest news in 2019, two female students at a vocational high school in the DKI Jakarta

area were diagnosed with breast cancer (Deviani et al., 2020).

The high incidence of breast cancer can lead to increased mortality due to late detection. Breast cancer incidence is partly influenced by the lack of public knowledge, especially women, about early detection of breast cancer. One activity that can be done to reduce the incidence of breast cancer is through early detection of breast cancer, one of which is breast self-examination (BSE). Breast self-examination is an activity that develops a woman's awareness of the condition of each individual's breast health (Lestari et al., 2019). Breast cancer patients can be cured if detected at an early stage, so that treatment can be given early, thereby extending life expectancy for breast cancer sufferers (Aeni & Yuhandini, 2018). Breast self-examination is also a simple examination technique, is inexpensive, harmless, safe, painless, and highly effective in detecting breast cancer early. Breast cancer deaths tend to be lower in women who have undergone BSE examinations than in those who have not (Naimah & Mukhoirotin, 2021). Breast self-examination (SADARI) can be performed on adolescent girls who have experienced physical changes and primary sexual development by experiencing menstruation and secondary sexual development which is puberty by experiencing breast enlargement (Aeni & Yuhandini, 2018).

Based on previous research, the pre-test assessment showed that the level of adolescent knowledge in performing BSE examinations was categorized as sufficient for 20% of respondents and insufficient for 80% of respondents. This occurs because adolescents have never received health counseling or information regarding BSE examinations, and BSE steps (Arifin et al., 2022). Another study conducted by Hartutik & Pradani (2020) in the pre-test assessment stated that the ability of respondents to perform BSE examinations before being given health education showed that 50% of respondents had poor results and 50% had

moderate results. This is due to the respondents' lack of knowledge in performing BSE. Therefore, it is important to provide health education counseling to adolescents regarding early detection of breast cancer through BSE examinations from an early age. By increasing adolescent knowledge about BSE as early as possible, it can have a very positive impact on adolescents, such as increasing their knowledge and ability to perform BSE.

One effort that can be done is by providing health education regarding BSE examination. Health education is a dynamic process of behavioral change, because the change is to form self-awareness in each individual, group or society (Lestari et al., 2019). This is in line with the research conducted by Pratiwi with the title "Differences in the Effectiveness of Breast Self-Examination (BSE) Health Education Using Leaflets and Audio-Visual Media for Young Women at SMK NY Ungaran" in 2019 which stated that health education with audio-visual media that presents more detailed writing and images so that they can be clearly observed can arouse the enthusiasm of adolescents to better understand and digest the material given. Another study conducted by Alini & Indrawati (2018) stated that the effectiveness of health counseling with audio-visual media can make adolescents receive information quickly and easily remembered and can be understood well, more interesting and not monotonous.

According to previous research conducted by Sherina Arifin, (2021) education about BSE using MAMOJI media as an effort to detect breast cancer early stated that the trial of the MAMOJI product on a small group of adolescent girls was found to be very feasible so that the product developed was suitable for use and very effective in increasing adolescent knowledge about BSE. MAMOJI is an educational media categorized as audio-visual media and is equipped with jingles. The jingle element contained in the media can make

adolescents more interested in watching and singing the jingle and can raise their spirits when hearing it. The MAMOJI media also only contains the steps for BSE examinations, so researchers want to add material about BSE examinations and the concept of breast cancer.

The results of the preliminary study showed that 90% of students had never received information related to BSE, had never performed BSE, and did not know when BSE could be performed. Therefore, researchers were interested in conducting research on "The Effect of Audio Visual Media "AYO BSE" on the Knowledge and Skills of Adolescents in Performing BSE" on female adolescents at Diponegoro Tumpang High School, Malang Regency.

2. METHODS

This research was conducted using a *quasi-experimental method* with a research design in this study using a *one group pre-test and post-test design approach*. The population in this study were all 38 female students of class X MIPA and Language at SMA Diponegoro Tumpang. The sampling technique in this study was *non-probability sampling*, namely the *total sampling method*. The research instrument used a knowledge questionnaire and observation sheet with a pre-test as the initial assessment and a post-test as the final assessment to determine the effect of the audio-visual media "AYO BSE" on the knowledge and skills of adolescent girls in performing BSE. The research was conducted in April - May 2022 at SMA Diponegoro Tumpang, Malang Regency. Data analysis used *the Wilcoxon Signed Rank Test*.

3. RESULTS

The research data was subjected to univariate analysis to determine the frequency distribution of respondent characteristics.

Table 1. Distribution frequency respondents based on age, age of menarche and education

Characteristics	Frequency	Percentage
Age		
11-14 years	0	0%
15-17 years	38	100%
18-20 years old	0	0%
Age of Menarche		
< 12 years	4	10.6%
12 years old	14	36.8%
> 12 years	20	52.6%
Education		
Once	5	13.2%
Never	33	86.8%

Based on Table 1, it can be seen that all adolescent girls are aged 15-17 years (100%). It is also known that the majority of adolescent girls experienced their first menstruation at the age of 12 years or older (52.6%). The majority of adolescent girls have never received education (86.8%). It can be concluded that the majority of adolescent girls at Diponegoro Tumpang High School have never received education about breast self-examination (SADARI).

Table 2. Level of knowledge before and after being given health education using the audio-visual media "AYO SADARI"

Level of Knowledge	Before		After		p-value
	f	%	f	%	
Good	3	7.9	38	100	
Enough	21	55.3	0	0	
Not enough	14	36.8	0	0	≤ 0.001*
Total	38	100	38	100	

* Wilcoxon Signed Rank Test results

Based on Table 2, it can be seen that before being given health education with audio-visual media "AYO SADARI" most respondents had a level of knowledge in the sufficient category (55.3%) and after being given health education all respondents had a level of knowledge in the good category (100%). It is also known that based on the *Wilcoxon signed rank test hypothesis test*, a p-value of ≤ 0.001 indicates that ≤ 0.05 means there is a difference in knowledge before and after being given health education with audio-visual media "AYO SADARI".

Table 3. Skill levels before and after being given health education using the audio-visual media "AYO SADARI"

Level of Knowledge	Before		After		p-value
	f	%	f	%	
Very good	0	0	25	65.8	≤ 0.001*
Good	0	0	13	34.2	
Enough	0	0	0	0	
Not enough	0	0	0	0	
Very less	38	100	0	0	
Total	38	100	38	100	

* Wilcoxon Signed Rank Test results

Skills are abilities acquired through learning or demonstration to perform a task easily and accurately. Increased knowledge will influence a person's ability to perform an activity. The results of the study indicate that the skill level of adolescent girls before being given health education using the audio-visual media "AYO BSE" at SMA Diponegoro Tumpang was very low, where all students did not understand and could not demonstrate the steps of BSE. Therefore, the overall skill level of adolescent girls was categorized as Very Poor.

Meanwhile, after receiving health education using the audio-visual media "AYO BSE," half of the adolescent girls performed in the Very Good category, while the rest performed in the Good category. These results clearly demonstrate that the adolescent girls' skill levels improved after receiving health education.

4. DISCUSSION

Knowledge encompasses all activities, including the methods and tools used. With knowledge, a person can develop the ability to describe, explain, analyze, and explain the parts of what they know.

Education using audiovisual media can improve cognitive aspects (knowledge) up to C3 (applying) according to Bloom's taxonomy. This is proven by the results of research with a knowledge questionnaire covering C1 (remembering), C2 (understanding), and C3 (applying). After being given education using the audiovisual media "AYO BSE" all adolescent girls had knowledge in the good category (100%). This can be seen that after being given health education, the level of adolescent knowledge increased.

According to Notoatmodjo (2014), several factors influence knowledge, including information/knowledge gained from both formal and non-formal education, which can have a short-term impact on knowledge, leading to changes and improvements. Several media can also support this increase. One example is audiovisual media, which presents images and sounds, making it easier for young women to absorb the material presented.

This is in line with research conducted by Lestari et al (2020) which stated that there are differences in the level of knowledge of adolescent girls before being given health education and after being given health education.

Besides information, age can also influence knowledge. Age reflects a person's psychological, social, and physical maturity,

which can influence the teaching and learning process. Therefore, it can be said that age can influence the increase in a person's knowledge, including knowledge regarding early detection of breast cancer. This is supported by research results showing that the majority of respondents were 16 years old. Based on the theory according to (Notoatmodjo, 2014), with increasing age, the level of knowledge can develop according to the experience and knowledge gained. As age increases, a person's level of maturity in thinking will be more mature and can take more rational actions.

This is in line with research conducted by (Handayani, 2019) of 50 respondents, there were 28 (56%) respondents aged 16 years who could be categorized as middle adolescents so that this could also determine that young women were able to think rationally about the importance of breast self-examination (SADARI) carried out early which aims to be able to detect early signs and symptoms of breast cancer.

The research also showed that three young women had received education about breast self-examination (BSE). This education was obtained through social media, and most had not received any education about BSE. Young women who had received previous education tended to have good knowledge both before and after receiving health education using the audio-visual media "AYO BSE." This includes knowledge factors seen from a person's experience. Experience is one way to gain truth from knowledge, therefore someone with experience will have more and broader knowledge.

Humans possess sensory organs that function to capture external stimuli, known as the five senses. Each sense organ has its own absorption capacity, which can affect the stimulus received. The absorption capacity of the five senses is as follows: vision (82%), hearing (11%), touch (3.50%), taste (2.50%), and smell (1%). This indicates

that the sense of sight has the highest absorption capacity, followed by hearing (Khotimah et al., 2019). Therefore, audiovisual media that present images and sounds are effective for health education because the absorption capacity of sight and hearing is utilized, thus optimizing the absorption capacity of adolescent girls towards the material presented.

Based on research results from Sherina Arifin (2021), it explains that the five senses that send the most information to the brain are the eyes (75-87%). Meanwhile, 13-25% can be obtained through other senses. Humans can absorb 50% of the material they hear and see, which is divided into 30% of what they see and 20% of what they hear.

Based on the theory of Susanti & Zulfiana (2018), audiovisual media is a type of media containing messages or material created creatively using the senses of sight and hearing. This media consists of sound and images. Health education media supported by audiovisual media, which presents more detailed images and text so that it can be clearly observed, will stimulate a person's enthusiasm for learning, enabling them to better understand and digest the material provided by the teacher, thereby increasing knowledge (Pratiwi et al., 2019).

According to Alini & Indrawati (2018) health education with audio visual media is effective in increasing the knowledge of young women, where by using videos they will be able to receive messages quickly and easily remembered, can be well received, more interesting and not monotonous because by hearing and seeing it can increase the enthusiasm of young women towards the contents of the video and watching the video until the end. In the audio visual media "AYO BSE" has been clearly explained about BSE namely the definition, purpose, time, age and steps. There is material about the definition, types, signs and symptoms of breast tumors, so that it can be clarified again about the purpose of BSE which is to detect breast tumors early.

Meanwhile, after receiving health education using the audio-visual media "AYO BSE," half of the adolescent girls performed in the Very Good category, while the rest performed in the Good category. These results clearly demonstrate that the adolescent girls' skill levels improved after receiving health education.

Based on Table 3, supported by the results of previous research conducted by Epita & Nikmah (2020), it shows that there was a change in skills between before and after counseling using audiovisual media. Before the counseling, 80% of respondents were in the insufficient category and 16.7% of respondents were in the sufficient category. Meanwhile, after the counseling, 83.3% became proficient in performing BSE skills.

Another study conducted by (Hartutik & Pradani, 2020) also showed that the ability of female students to practice BSE at SMK Batik 2 Surakarta before being given health education with audio-visual media was mostly in the poor category (50%), while after being given health education, the majority were in the moderate category.

According to the theory of Robbins & Judge in 2009 in Aji (2019) stated that there are several factors that influence skills, one of which is the intellectual ability factor is the ability needed by someone to carry out a series of activities both mentally, physically, thinking, reasoning and solving various problems. Before being given health education about BSE, young women still do not fully understand the purpose of BSE steps so that young women cannot know the importance of BSE to detect breast tumors early and demonstrate BSE steps before being given health education. Then after knowing the importance of doing BSE, young women become motivated to do BSE steps as an effort to detect breast tumors early.

Other factors that can influence skills according to Siswiyanti & Rosalina (2021) are experience and motivation. Experience is something that can strengthen a person's

ability to perform skills, so that experience can also be used as a basis for becoming better than before. Meanwhile, motivation is something that can arouse a person's desire to perform various actions. Motivation can also encourage someone to be able to carry out actions according to the procedures that have been taught. This is consistent with the results of research that the skill level of adolescent girls after being given education with the audio-visual media "AYO BSE" increased because the adolescent girls had gained experience that can influence maturity in thinking and motivation, which can foster a desire to be able to perform BSE steps in an effort to detect breast tumors early.

This aligns with research conducted by Hartutik & Pradani (2020), which found that the majority of female students' abilities or skills in performing BSE after receiving health education were in the moderate category. Respondents with lower skills were influenced by several factors, including information and previous experience. Gaining experience will help adolescents become more skilled at BSE.

A person's cognitive aspect (knowledge) is crucial for developing skills or actions for the better. Skills based on sound knowledge will have a greater impact on others than those without. Psychomotor measurements are used to assess a person's achievement of competency in demonstrating performance.

Education using audio-visual media can improve skills up to the psychomotor aspect P2 (manipulative) according to Bloom's taxonomy. Based on the results of the study with observation sheets covering P1 (Imitate), namely during the second week of the study, young women can imitate the steps of BSE in the audio-visual media "AYO SADARI", P2 (Manipulative), namely young women can redemonstrate without looking at the audio-visual media "AYO SADARI" with the results that most young women have skills in the very good category (65.8%).

The results of this study also showed that the majority of respondents had experienced menstruation. Menstruation is one of the requirements for performing BSE. According to Rahayu & Prijatin (2016), women who have primary sex characteristics, characterized by menstruation, and secondary sex characteristics, such as breast enlargement, are eligible to perform BSE.

Breast self-examination (SADARI) can be done on the 7th to 10th day from the first day of menstruation, taking into account that on that day the influence of the hormones estrogen and progesterone has subsided and the tissue in the breast glands is not swollen or edematous, so it will be easier to palpate for breast tumors (Aeni & Yuhandini, 2018).

Given that the primary goal of BSE is to detect breast cancer early, providing health education to young women has fostered fear, increased enthusiasm, and motivated them to understand. The jingle in the audiovisual media "LET'S BSE" (Let's BSE) makes it easier for respondents to imitate, memorize, and practice the steps.

The results of the analysis using the *Wilcoxon Signed Rank Test statistical test* obtained a $p\text{-value} \leq 0.001$ at a knowledge and skill level of less than $\alpha = 0.05$ with a 95% confidence level indicating that providing health education with the audio-visual media "AYO BSE" can influence the knowledge and skills of female adolescents at SMA Diponegoro Tumpang.

This also aligns with research conducted by Asyima (2021), which showed a significant increase in knowledge and attitudes ($p=0.001$, $p<0.05$). One effort to increase knowledge is through health education supported by media to convey messages. Audio-visual media is considered better and more engaging because it contains both audible and visual elements. Health education using videos can clarify the images and steps of the BSE examination because during the process, respondents not

only hear the sound but also directly and clearly see the steps of BSE.

Based on the results of the discussion above, it can be concluded that the provision of audio-visual media "AYO SADARI" has an impact on the knowledge and skills of young women in performing SADARI.

5. CONCLUSION

The results of the study indicate that there is an influence of the audio-visual educational media "AYO SADARI" on the knowledge and skills of young women in performing BSE at SMA Diponegoro Tumpang Malang Regency before and after being given health education. This audio-visual educational media "AYO SADARI" can be a means to increase knowledge about breast self-examination (BSE), especially for young women so that they can increase their insight about BSE so that they can carry out early detection of breast tumors regularly and this media can also be used as a learning medium in the school environment .

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