

# The Influence of Health Education on Breast Self-Examination with Video Media on Knowledge and Attitudes of Female Students at the Institut Kesehatan Immanuel Bandung

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## Article Information:

Received June 14, 2023  
Revised June 17, 2023  
Accepted June 17, 2023

## Keywords:

Attitude; BSE; Knowledge

## Abstract

Breast cancer is the most common type of cancer in Indonesia and one of the main causes of cancer mortality, according to GLOBOCON (2020) data. The purpose of this study is to evaluate the knowledge and attitudes of female students at the Immanuel Health Institute in Bandung after receiving BSE health education through video media. Pretest-posttest design with one group is used in this pre-experimental style of study. Utilizing a proportionate stratified random sampling procedure, the sample consists of 68 female students. The Wilcoxon signed rank test was utilized during the analysis process. The results of the study obtained that the majority of respondents' knowledge before being given education was less (39.7%) after being given education, most of them were good (72.1%). The attitude of the respondents before being given the majority of negative education was (54.4%) after being given the majority of positive education (75.0%). The results of the Wilcoxon statistical test showed knowledge p-value 0.000 ( $p < 0.05$ ) and attitude p-value 0.000 ( $p < 0.05$ ). It can be concluded that there is an effect of providing health education on breast self-examination with video media on the knowledge and attitudes of students at the Institut Kesehatan Immanuel, Bandung. Suggestions for female students to routinely do BSE every month after menstruation.

## A. Introduction

Data from the Global Burden of Cancer (GLOBOCAN) which was released by the World Health Organization (WHO) states that the number of cases and deaths from cancer up to 2018 amounted to 18.1 million cases and 9.6 million deaths in 2018. Globally, The most common cancers in the world are lung cancer (2.094 million cases), breast cancer (2.089 million cases), and colorectal cancer (1.8 million cases) (Permenkes, 2015). The incidence of cancer in Indonesia is 136.2/100,000 population, ranking 8th in all of Southeast Asia and ranking 23rd in Asia. Data sourced from the Dharmais Cancer Hospital in 2018 showed that the most cases of cancer were breast cancer at 19.18%. In data sourced from the Hasan Sadikin Hospital in Bandung, the number of cancer sufferers at RSHS in 2019 recorded 11,318 people with the most cases being breast cancer (Permenkes, 2015).

Breast cancer prevention efforts have been listed in (Permenkes, 2015) on Prevention of Breast Cancer and Cervical Cancer. These countermeasures are carried out with early detection activities, one of which is breast self-examination (BSE) which can be done independently.

Early detection of breast cancer is an effort to detect and identify breast cancer early because if breast cancer can be detected at an early stage and treated appropriately, the cure rate is quite high, which is around 80-90% (Permenkes, 2015). Breast self-examination (BSE) is an early detection effort that every woman can easily do to find lumps or abnormalities in the breast, because 85% of abnormalities in the breast are actually the first time the sufferer recognizes them (Permenkes, 2015). The American Cancer Society recommends that early detection of breast cancer with the BSE method should be carried out by women from the age of 20 because at that age women's breast tissue is fully formed and is also experiencing menstruation.

The BSE procedure, which is easy and has great benefits, does not guarantee that this behavior is practiced by Indonesian women. In fact, there are still many Indonesian women who have not gotten used to this behavior. The lack of implementation of BSE is an indirect trigger for delays in diagnosis and medical treatment as well as the high mortality rate from breast cancer. Women's lack of awareness to immediately check the condition of their breasts if they feel or experience breast abnormalities is the cause of the high incidence of breast cancer cases. Most breast cancer sufferers come to check themselves when the cancer has entered an advanced stage, so the chances of recovery are smaller (P. Sari et al., 2020).

One of the factors of late breast cancer treatment is influenced by low knowledge and lack of breast cancer education since adolescence in detecting breast cancer early. The lack of information about BSE has resulted in many people not knowing what breast self-examination is, so they don't apply BSE (IG Sari et al., 2021).

Report (Bray et al., 2018), there were 14 million new cases of cancer and 8.2 million deaths from breast cancer worldwide and increased to 18.1 million new cases in 2018 with a mortality rate of 9.6 million deaths.

One of the efforts to increase individual or community knowledge about health is through health education activities (Notoatmodjo, 2018). Health education is an initial step in increasing one's knowledge. By providing health education about early detection of breast cancer, it is expected to increase good knowledge and positive attitudes. However, the success of health education also depends on the media used during counseling (Wada et al., 2020).

According to (Daryanto, 2011) Interesting media will increase the motivation of the audience to learn and understand the material provided. One of the interesting types of extension media is video media. This video media is one of the media that presents information or messages in audio and the ability of this media is considered more interesting, because it contains both elements, namely being seen and heard (Ernawati, 2022; Harsismanto et al., 2019). According to the pyramid of experience written by Edgar Dale, that a person learns where more than 50% is from what has been seen and heard (Devi S Ervina, 2013 in (Aeni, 2018).

Based on a preliminary study conducted on May 27 2022 through interviews with 10 female students at the Immanuel Bandung Institute of Health, it was found that out of ten female students 3 said they did not know what BSE meant in terms of meaning, purpose and steps. Meanwhile, 7 female students knew what BSE was, such as its meaning and purpose. However, only 3 people had ever done BSE, although not routinely. The BSE is not routinely carried out because there are no disturbing complaints, they are not used to doing it, they don't remember when they have to do it. Whereas 4 female students who knew BSE had never done BSE on the grounds that they did not know the steps for BSE, were afraid of the results they would find when doing BSE, and were embarrassed to examine their own breasts.

## **B. Research Methods**

The research design used a pre-experiment with a one group pretest posttest design. The population in this study were female students at the Institut Kesehatan Immanuel Bandung, totaling 212 female students. Sampling used proportionate stratified random sampling technique and obtained a sample of 68 female students. The instruments used in this study were questionnaires and videos from the Ministry of Health (2018). The data taken is primary data which is obtained through a questionnaire which is given to the respondent before the counseling is then given an intervention with video media after an interval of 3 days the questionnaire is given again with the same question. Knowledge is good if the results are correct  $\geq 75\%$ , knowledge is sufficient if the results are correct  $>56\%$  and knowledge is lacking if the results are correct  $<55\%$ . A positive attitude if the results of measuring  $T \geq 50$ ,

The frequency distribution and percentage of each study variable are used in data analysis procedures. Because the findings of the normality test using the Kolmogorov-Smirnov data distribution were not normal

(p 0.05), bivariate analysis was conducted using the Wilcoxon Sign Rank Test statistic with a significance threshold of 0.05.

### C. Result and Discussion

**Table 1.** Characteristic Distribution of Female Students at the Institut Kesehatan Immanuel Bandung

<b>Characteristics of Respondents</b>	<b>(N)</b>	<b>%</b>
<b>Age</b>		
20	35	51,5
21	10	14,7
22	15	22,1
23	8	11,8
<b>Force</b>		
2021	36	52,9
2020	10	14,7
2019	14	20,6
2018	8	11,8
<b>Study program</b>		
D3 Nursing	8	11,8
Nutrition	28	41,2
Public Health	7	10,3
MPRS	11	16,2
S1 Nursing	14	20,6
<b>Obtain BSE information</b>		
Once	47	69,1
Never	21	30,9
<b>Source of information on BSE</b>		
Internet/social media	23	33,8
Course material	3	4,4
Health workers	8	11,8
Television/radio	6	8,8
Friends/family	7	10,3
Never	21	30,9
<b>Have done BSE</b>		
No	49	72,1
Yes	19	27,9
<b>Reasons for never doing BSE</b>		

Feel weird watching your own breasts	9	18,4
Fear of being diagnosed with breast cancer	15	30,6
None of the family had breast cancer	7	14,3
No abnormalities in the breast	13	26,5
Do not know how	5	10,2

Based on Table 1, it shows that the largest number of respondents in this study were 20 years old (51.5%), the largest batch was the 2021 batch (52.9%), and the most study programs were Nutrition (41.2%). Respondents who had received BSE information were as many as (69.1%), the source of information related to BSE that was obtained the most was through the internet/social media (33.8%). Respondents who had never done BSE were 49 (72.1%) respondents for fear of being diagnosed with breast cancer (30.6%).

**Table 2.** Frequency Distribution of Female Students' Knowledge Before and After Being Given Health Education with Video Media

knowledge category	Pre-test		Post test	
	N	%	N	%
Not enough	27	39,7	5	7,4
Enough	25	36,8	14	20,6
Good	16	23,5	49	72,1
<b>Total</b>	<b>68</b>	<b>100</b>	<b>68</b>	<b>100</b>

Based on Table 2, it shows that before being given health education, almost half of the respondents had insufficient knowledge, namely 27 (39.7%), and after being given health education, most of the respondents had good knowledge, namely 49 (72.1%).

**Table 3.** Frequency Distribution of Student Attitudes Before and After Being Given Health Education Using Video Media

attitude category	Pre-test		Post test	
	N	%	N	%
Positive	31	45,6	51	75,0
Negative	37	54,4	17	25,0
<b>Total</b>	<b>68</b>	<b>100</b>	<b>68</b>	<b>100</b>

Based on Table 3, it shows that before the education was carried out, most of the respondents had a negative attitude, namely 37 (54.4%), and after being given health education, most of the respondents had a positive attitude, namely 51 (75.0%).

**Table 4.** The Influence of Health Education on Breast Self-Examination Using Video Media on the Attitude of Female Students at the Institut Kesehatan Immanuel Bandung

Category	Attitude				P-value
	Pre-test		Post test		
	N	%	N	%	
Positive	31	45,6	51	75,0	0.000
Negative	37	54,4	17	25,0	
<b>Total</b>	<b>68</b>	<b>100</b>	<b>68</b>	<b>100</b>	

Based on Table 4, it shows that the results of the Wilcoxon Signed Ranks Test statistic obtained a significance value of P-value 0.000 < 0.05, which means that there is an effect of health education on breast

self-examination with video media on the attitude of female students at the Immanuel Bandung Institute of Health.

**Table 5.** The Influence of Health Education on Breast Self-Examination Using Video Media on the Attitude of Female Students at the Institut Kesehatan Immanuel Bandung

Category	Attitude				P-value
	Pre-test		Post test		
	N	%	N	%	
Positive	31	45,6	51	75.0	0.000
Negative	37	54,4	17	25.0	
<b>Total</b>	<b>68</b>	<b>100</b>	<b>68</b>	<b>100</b>	

Based on Table 5, it can be seen that there is a correlation between health education on breast self-examination with video media and the attitudes of female students at the Institut Kesehatan Immanuel Bandung, with a significance value of  $P\text{-value } 0.000 < 0.05$ .

***Knowledge of female students about BSE before and after being given health education with video media at the Institut Kesehatan Immanuel Bandung***

According to the study's findings, of the 68 participants, almost half (39.7%) had less knowledge before receiving instruction. However, the majority of the respondents had good knowledge (72.1%) after receiving health education.

The improvement in respondents' knowledge in the post-test was as much as (48.6%), suggesting that the researchers' information was properly transmitted to respondents after providing health education to female students through video medium. The use of video media also prevents the information provided by researchers from being repetitive and dull, improving the quality of information delivery. According to research (Rachman & Putri, 2020) giving health education on BSE through video medium is beneficial in raising young women's understanding. This study supports that finding.

Unlike audiovisual media, which makes use of all five senses, video media depends on the target's hearing and sight. As a result, the employment of moving visual effects and the use of more senses to absorb and process information increases the likelihood that its contents will be understood and maintained in memory. and sound effects can help viewers understand the news's contents more easily so they can learn more (Siburian, 2015).

The degree of education at which the respondents are health students at tertiary institutions also affects one of the accomplishments of health education. Education is one of the aspects that affects knowledge, claim (Budiman & Riyanto, 2013). Education has an impact on how we learn; the more educated a person is, the easier and faster it is for them to take in information and comprehend it, leading to higher levels of knowledge.

For the development of one's actions, knowledge is a crucial domain (Jama et al., 2020). Actions that are grounded in knowledge will endure longer than actions that are not. A favorable reaction to BSE will develop if a person has good knowledge of the significance of early diagnosis of an abnormal mass in the breast. However, a poor understanding will prevent a successful response to BSE.

***The attitude of female students about BSE before and after being given health education with video media at the Institut Kesehatan Immanuel Bandung***

According to the study's findings, 68 respondents had generally negative attitudes toward health education prior to receiving it (54.4%), but after receiving it utilizing video media, most of them had positive opinions (75.0%). This study is consistent with studies (Putri, 2022) that indicates that women of reproductive age have improved attitudes both before and after receiving BSE counseling through video media. Education in health is a process of learning. People who get health education are more likely to adopt favorable lifestyle behaviors and attitudes. Counseling is a technique in health education that can improve someone's attitude (Notoatmodjo, 2018).

This is evident from the attitude of the respondents after being given counseling to provide a significant change from the attitude before being given counseling. Everyone tends to behave in accordance with the knowledge they have. This means that students' lack of knowledge about breast cancer will trigger a

negative attitude from these students. According to the notion put forth by Wawan and Dewi (2011) and backed in (Siburian, 2015), certain attitudes toward an object can reveal information about a person's understanding of the attitude in issue. Because they do not know how to conduct BSE examinations, lack of knowledge will have an effect on unfavorable attitudes, which will decrease interest in conducting BSE examinations.

According to the researcher's assumptions, besides being influenced by knowledge, attitude improvement is also influenced by media factors that are able to attract the attention of counseling participants, thus encouraging respondents to do what has been informed in the health education. Another factor that can influence the positive attitude of respondents is education. Where the results of data analysis showed that the majority of respondents in this study had a positive attitude in BSE examination efforts. One of the things that caused the high positive attitude of respondents towards BSE examinations was because the respondents were female students who had an educational background about health which could lead to a positive attitude towards an action related to health.

#### ***The effect of BSE health education with video media on the knowledge and attitudes of female students at the Institut Kesehatan Immanuel Bandung***

The Wilcoxon Signed Rank Test results were statistical tests of knowledge that yielded a p-value of 0.000. The findings of the attitude statistical test obtained a p-value of 0.000, a significant value less than 0.05 (0.000 0.05), while the significant value is less than 0.05 (0.000 0.05) for the attitude statistical test. These results demonstrate that health education via video media has an impact on female students at the Institut Kesehatan Immanuel's knowledge and attitudes regarding practicing BSE.

Research goes hand in hand with research (Fitryesta, 2016), the results of the study showed that the average value of knowledge and attitudes increased after being given counseling with video media, which meant that there was an influence on counseling on breast self-examination (BSE) using video media on knowledge and attitudes of early detection of breast cancer.

The contribution of the media to health education is essential to its effectiveness. Video is the medium employed. In theory, the five senses are used to record how people utilize media. The better the attitude, the clearer the knowledge acquired, and the more senses that are used to receive information.

Information is more readily received by respondents when it is presented to them using video media, which simultaneously engages their senses of sight and hearing. According to research Putri (2022) audio-visual media is the most effective tool at this time because a person receives knowledge through their senses, with 75% to 87% of all human knowledge coming from their sense of sight and 13% to 25% coming from their sense of hearing. In order to improve the knowledge and attitudes of female students, video media can be employed as a medium for health education.

Based on age characteristics, it shows that the age range of respondents is from 20 to 23 years old, which is a generation that lives in the midst of increasingly rapid technological advances. Respondents belong to generation Z where according to McCrindle children of generation Z are global, social, visual and technological generations. In the learning of Z generation children it will be difficult if educators still use the old method, namely lectures, there is a need for innovation in learning methods such as in the use of learning media. According to McCrindle, generation Z children prefer to analyze problems through videos rather than articles, and this has also been analyzed, so that it can be seen that the learning styles of generation Z children are more dominant in audio-visuals.

According to the researchers, the findings of this study show a significant relationship between the knowledge and attitudes of Institut Kesehatan Immanuel students regarding breast self-examination (BSE) in the early detection of breast cancer, supporting the claim made above that the majority of participants in the research were less knowledgeable and had a negative attitude toward breast self-examination (BSE) prior to receiving health education through video media. However, after receiving health education through video media, female students' levels of knowledge and attitudes improved.

#### **D. Conclusion**

1. Nearly half of the respondents had less understanding before the health education was conducted, while the majority had good knowledge (72.1%) after the health education was conducted.
2. The majority of respondents had a negative attitude toward health education before it was conducted (54.4%), but after it was conducted using video media, the majority had a good view (75.0%).

3. The Wilcoxon signed rank test findings of the analysis of the effect of BSE health education with video media on female students' knowledge showed a p-value of  $0.000 < 0.05$ , indicating that there is an influence of health education on female students' knowledge.
4. The Wilcoxon signed rank test examination of the effect of BSE health education with video media on female students' attitudes produced a p-value of  $0.000 < 0.05$ , indicating that there is an impact of health education on the views of female students.

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### First publication right :

Indonesian Journal of Health Research and Development

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