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## Conscious Techniques Affected the Adolescent's Ability In Early Breast Cancer Detection



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### Abstract

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Breast cancer is a malignant tumor and grows in the breast tissue resulting in death. Breast cancer prevention by means of breast self-examination. This study aimed to determine the effect of video media on conscious techniques with a combination of demonstrations on the practical ability of adolescents in early detection of breast cancer. The method used a quasi-experimental design, non-equivalent control group design with a population of 279 and a sample of 40 respondents with inclusion criteria of young women, aged 16 years as students of SMA Negeri 1 Tarik Sidoarjo. The data collection measured skills in 2 groups of respondents. The experimental intervention group used videos and demonstrations, while the intervention control group used lectures and leaflets. The intervention was done in 1 day, the posttest was conducted 7 days after the intervention. The results showed that the average value of the pretest posttest of the two groups increased. The results of the statistical test paired T-Test obtained a significant value of p-value =  $(0.000 < 0.05)$  meant that there was an effect of providing video media with conscious techniques with a combination of demonstrations on the practical ability of adolescents in early detection of breast cancer. Educators should develop programs to improve skills for early detection of breast cancer, in collaboration with health workers through health promotion so that all students are aware of health.

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## INTRODUCTION

Breast cancer is a type of cancer that can attack anyone, both women and men ([Indonesia, 2016](#)). Especially in women, breast cancer is synonymous with a malignant disease that causes death ([Akram et al., 2017](#)). According to the World Health Organization (WHO), every year the number of ca mammae sufferers increases by around 12 million and 7.6 million of them die ([Pinto, J et al., 2022](#)). The latest survey in the world shows that every 3 minutes someone finds breast cancer and every 11 minutes someone dies from breast cancer ([Zulzariah et al., 2024](#)). Based on data from the Ministry of Health of the Republic of Indonesia, it shows that cancer sufferers reached 61,682 with a prevalence of 12/100,000 women ([Dewi, 2017](#)). Apart from that, breast cancer is also in second place as the most common cancer that attacks women in Indonesia after cervical cancer.

The government has made various efforts to control cancer through approaches and control of risk factors as well as treatment and palliative services ([Dewi, 2017](#)). There are various ways to prevent and detect breast cancer, one of which is by detecting breast cancer as early as possible using the Breast Self-Examination (BSE) technique ([Hutapea, 2017](#)). The purpose of this examination is to determine whether there are lumps that can develop into cancer in a woman's breasts. It is very important to implement BSE measures, because it has been proven that almost 85% of breast abnormalities are discovered for the first time by sufferers through the correct application of BSE ([Maharani Pulungan, R., & Ranggauni Hardy, 2020](#)). BSE behavior can be an early detection of breast cancer, so that in the early stages you can get the right medical treatment.

BSE examinations are very appropriate for teenagers, but many teenagers are not aware of the

skills of breast examination techniques ([Fitri et al., 2018](#)), so this education must be introduced. So it is necessary to take intervention steps through educational activities using video media. Demonstration using video media on awareness techniques for teenagers is expected to improve teenagers' skills in caring for and maintaining the health of body organs, especially the breast organs ([Maharani Pulungan, R., & Ranggauni Hardy, 2020](#)). The factor that influences skills is knowledge. So that teenagers are encouraged to have health skills. Especially in the breast organs. Health education interventions using awareness techniques through video media and materials were chosen because they influence skills in adolescents. The advantage of this awareness technique is that it can be done easily at home.

## METHODS

The study used a quasi-experimental nonequivalent control group design. The sampling used a purposive sampling technique with a sample size of 40 respondents which was divided into 20 people as the control group and 20 people as the experimental group who met the criteria. The inclusion criteria were (1) students attending SMA Negeri 1 Tarik Sidoarjo, (2) aged  $\geq 16$  years, (3) young women, (4) subjects willing to be respondents. The study was carried out during the months of 23 June -7 July 2022. The data collection was carried out through checklist observations related to breast self-examination before and after treatment. The data were processed and analyzed by using a test of differences in the dependent variable before and after treatment using the Paired T-Test statistical test. This research has received approval from the Ethics Committee Poltekkes Kemenkes Malang with the number 151 / KEPK-POLKESMA / 2022.

## RESULTS

### 1. Characteristic of Respondent

Table 1. Frequency Distribution of Characteristics Respondent

Variable	Experiment Group		Control Group	
	Frequency	Percent (%)	Frequency	Percent (%)
Age (years)				
16	5	30	3	25
17	13	60	13	65
18	2	10	2	10

Interest in learning BSE				
Yes	19	95	14	70
No	1	5	6	30
History of Breast Cancer				
Yes	2	10	3	15
No	18	90	17	85
Learning Tools				
LCD	10	50	2	10
Handphone	4	20	12	60
Buku	3	15	2	10
Internet	3	15	4	20
Exposure to BSE Information				
Once	3	15	1	5
Never	17	85	19	95

*Source: Primary Data*

## 2. Specific Data

Table 2. Results of Paired T-Test Pretest Posttest Experimental and Control Group

Group	N	SD	Mean	p-value	Mean Different
Experimental					
Pre	20	22,678	42,30	0,000	-47,7
Post	20	8,926	90,00		
Control					
Pre	20	10,368	27,15	0,000	-24,5
Post	20	7,602	51,70		

The study results showed that there is an average difference in the experimental group, namely -47.7 and a significant p-value = (0.000 <  $\alpha$  0.05). This means there is an effect of providing video media in combination with demonstrations on teenagers' skills in the early detection of breast cancer. On the other hand, the study results showed that there is an average difference in the control group, namely -24.5, and a significant p-value = (0.000 <  $\alpha$  0.05). This means there is an influence of giving lectures using leaflet media on teenagers' skills in the early detection of breast cancer.

## DISCUSSION

Based on the study results showed that there was an influence of providing video media in combination with demonstrations on teenagers' practical abilities in the early detection of breast cancer. Video media is a media that provides the

display of moving images in the form of a set of images arranged in a regular manner following a predetermined movement path at each time increment that occurs (Septianto, 2020). The advantage of video media is that it presents information clearly and realistically very well to add to the experience. learning, video media is an interesting audio-visual media so it can trigger motivation to learn, video media is very appropriate to use to influence a person's psychomotor skills. The weakness of video media is that its procurement also depends on the electricity source, the explanation of the material uses unidirectional communication, making it difficult to get feedback or questions in the middle of the learning process (Nugroho, 2017).

Counseling using the demonstration method is a delivery process or performance that is demonstrated so that it can be known and

understood by students in real or artificial ways ([Endayani et al., 2020](#)). The advantage of the demonstration method is that it is objective and real, the demonstration method shows the implementation of knowledge, with demonstration examples accelerating absorption directly from the source, seeing before doing ([Clark, R. C., & Mayer, 2023](#)). Students benefit from seeing something being done before they have to do it themselves. The weaknesses of the demonstration method are that a good demonstration is not easy to carry out, sufficient skills are needed to carry out a good demonstration, the demonstration method is limited to certain types of teaching, a successful demonstration requires a lot of time and is quite expensive, and requires a lot of initial preparation ([Endayani et al., 2020](#)).

Increasing skill scores in the experimental group using video media in combination with demonstrations can be used intensively. From the results of this study, it was found that the frequency distribution of clinical skills abilities had a high value. This is in accordance with the theory which states that students' retention process (absorption and memory) of learning material can increase significantly if the learning process is through the senses of hearing and sight ([Indrawati, 2020](#)). Video media becomes more effective because by using video media any information can be understood well because it has good sound and image elements ([Indrawati, 2020](#)). This video media has concrete learning material or realistic learning messages so it is very good for achieving good psychomotor skills ([Daryanto, 2016](#)). The demonstration method in research is that health education or counseling can improve awareness skills for early detection of breast cancer ([Sinaga, 2018](#)).

There are several things that influence teenagers' skill abilities so that there is an increase in the experimental group's posttest scores to be high, namely by using the demonstration method and respondent interest. The demonstration accelerates absorption straight from the source, looking before doing. The demonstration method can reduce errors when compared to just reading or listening to information from researchers, because respondents get a clear perception of the results of their observations. Apart from that, respondents also actively participate in demonstrations, so respondents will gain practical experience to develop skills and abilities. Interest in the experimental group, the majority of teenagers are

interested in learning awareness techniques, because the percentage of interest in the experimental group is greater.

Based on the results of study in the control group, it shows that there is an influence of providing the lecture method using leaflet media on teenagers' practical abilities in early detection of breast cancer.

Lectures are a cheap and easy method to do. This method has weaknesses, because it is often carried out unilaterally without giving participants the opportunity to actively participate. This method will be effective if combined with questions and answers between the lecturer and lecture participants, so that two-way communication occurs. The material that students can master as a result of the lecture will be limited to what the researcher has mastered. This weakness is indeed the most dominant weakness, because what the researcher gives is what he has mastered, so what the students master will depend on what the researcher has mastered.

Leaflets are printed media consisting of a number of words, images, or photos and color layouts. Leaflet is a media that prioritizes visual messages ([Indrawati, 2020](#)). The advantage of leaflets is that they are flexible, in the sense that target people can carry, store and access the information stored in them anytime and anywhere without having to have skills or use special equipment. The use of leaflets still has limitations in achieving targets, because leaflets are usually distributed only to one target group at certain moments and places ([Sustersic et al., 2017](#)). The increase in skills in the control group increased significantly. This is proven by the results of the scores from this group. But the average value of the control group was lower than the experimental group. This is in accordance with theory ([Daryanto, 2016](#)) which states that audio-visual is the most appropriate tool at this time because the knowledge a person has is received through the sense of sight reaching 75% - 85% and 13% - 25% through the sense of hearing.

In the opinion of the researchers, there are several things that influence the skills of teenagers so that there is an increase in the control group's posttest scores to be high, namely with leaflet media which is flexible, in the sense that the target community or respondents can carry and access the information stored in it anytime and anywhere. But the value for the control group was lower than the experimental group. This is caused by the method

used, interest in learning, and the listening ability of each respondent. Through lectures, it is very difficult to know whether all students have understood what was explained or not. When students are given the opportunity to ask questions, and no one asks, this does not guarantee that all students understand. Then, regarding interest in studying awareness, in the control group there were 30% of respondents who were not interested in studying awareness. This also affected the average score of the control group. Hearing ability means that each individual has different abilities, including the sharpness of capturing learning material through their hearing.

Based on the study results, it shows that in the experimental group there was an effect of providing video media in combination with demonstrations on teenagers' practical abilities in early detection of breast cancer. In the control group, there was also an influence of the lecture method using leaflet media on teenagers' practical abilities in early detection of breast cancer. In the experimental group, there was a significant increase during the posttest due to the treatment given, namely the influence of providing video media with a combination of demonstrations.

Counseling using the demonstration method is a delivery process or performance that is demonstrated so that it can be known and understood by students in real or artificial ways. The advantage of the demonstration method is that it is objective and real, the demonstration method shows the implementation of knowledge, with demonstration examples accelerating absorption directly from the source, seeing before doing. Students benefit from seeing something being done before they have to do it themselves. The weaknesses of the demonstration method are that a good demonstration is not easy to carry out, adequate skills are needed to carry out a good demonstration, the demonstration method is limited to certain types of teaching, demonstration of results takes a lot of time and is quite expensive, requires a lot of initial preparation.

There are several things that influence the experimental group's score so that it becomes high, namely by using the demonstration method and audience interest. The demonstration accelerates absorption straight from the source, seeing before doing. The demonstration method can reduce errors when compared to just reading or listening to information from researchers, because respondents get a clear perception of the results of their

observations. Apart from that, respondents also actively participate in demonstrations, so respondents will gain practical experience to develop skills and abilities. The percentage of respondents in the experimental group was more interested than the control group.

## CONCLUSION

The results of the study showed that there was an effect of providing video media in combination with demonstrations on teenagers' skills in early detection of breast cancer. Furthermore, there was an influence of giving leaflet media lectures on teenagers' skills in early detection of breast cancer.

## SUGGESTION

Schools should develop skills improvement programs regarding early detection of breast cancer, in collaboration with health workers through health promotion so that all students are aware of health. Furthermore, female students should be more critical in skills regarding early detection of breast cancer in order to obtain quality skills in disease prevention.

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## CONFLICTS OF INTEREST

The authors declare that we don't have conflict interests.

## AUTHOR CONTRIBUTIONS

The authors confirm contribution to the paper as follows: study conception and design, data collection: Diwin Amaliyah and Mujito; analysis and interpretation of results: Andi Hayyun Abiddin; draft manuscript preparation: Ning Arti Wulandari and Andi Hayyun Abiddin. All authors reviewed the results and approved the final version of the manuscript.

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