THE INFLUENCE OF 'SADARI' EDUCATION (BREAST SELF-EXAM) ON KNOWLEDGE, ATTITUDES, AND BEHAVIORS OF HIGH SCHOOL GIRLS

Yuli Mulyanti, Deswani, Ulty Desmarnita, Rita Ismail

Nursing Major Poltekkes Kemenkes Jakarta III, West Java, Indonesia

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Abstract: Women still face the most concerning disease, called breast cancer, with the most alarming cases to this day, yet it is possible for the patients to get treated properly if the cancer can be detected earlier. The efforts to get public awareness on the breast cancer symptoms and risks had been performed, one of which is by practicing breast self-exam (BSE). The purpose of this study was to determine the effect of BSE education (SADARI) on knowledge, attitudes, and behavior of young woman, specifically high school girls. The research method employed a quasi experimental design with pre and post-test on control group. The research sample was high school students, specifically girl students, with a total sample of 60 respondents for the intervention as well as control groups. The analysis of this study employed a t-test. The data collected that most respondents were 16 years old (88.4%), had their first menstruation at the age of ≥12 years old (76.7%), had not been exposed to the practice of SADARI or any BSE education before (60%), had never practiced on BSE (75%), and had a history of cancer running within the family by 26.7%. There was a significant difference in the mean of knowledge variable between the intervention group and the control group after the intervention (p value = 0.000). There was a significant difference in the mean of attitude variable between the intervention group and the control group after the intervention (p value = 0.031), and there was a significant difference in the mean of awareness variable between the intervention group and the control group (p value = 0.026). It can be concluded that there is a significant or meaningful relationship between the education and the knowledge, attitudes and behavior of school girls.

Key words: attitude, breast self-exam, knowledge, practice

INTRODUCTION

It is widely known that cancer can be a very fatal non-communicable disease threatening human life around the world. In 2018, it was reported around 18.1 million new cases, and 9.6 million people were reported died from cancer (WHO, 2018). This indicates that the survival rate of cancer is about 50%. The cancer, one of which is breast cancer commonly in women, is ranked fifth as the leading causes of death (627,000 deaths, 6.6%) because the prognosis is relatively favorable, at least in more developed countries (WHO, 2018).

The highest number of breast cancer cases is reported in developing countries which there are 883,000 cases compared to developed countries which are 794,000 cases. The Incidence Rate (IR) varies nearly four times among all regions of the world starting at 27 cases per 100,000 in Central Africa and East Asia, and up to 92 cases per 100,000 in North America (Infodatin, 2016).

In Indonesia, according to the data from the Hospital Information System (SIRS), the highest prevalence of breast cancer is 2.4% and is located in Yogyakarta. Data from the Dharmais Hospital, breast cancer is the most common cancer among others. The last 10 years to 2016 show an increase in breast cancer cases per year (Infodatin, 2016).

Compared to lung cancer, the rates on new cases and mortality cases due to breast cancer are smaller. This is because of early detection and treatment affect to the possibility of recovery. More than 30% of cancer can be prevented by avoiding some risk factors such as lifestyle and diet. Early detection on cancer may get a better treatment; therefore, to increase public awareness on the symptoms and risks of breast cancer, intervention and education are necessary, one of which is self-exam.

The results of early-stage cancer treatment are much better than advanced stages, with a relatively favorable prognosis. In general, patients will often come to the hospital after the disease is in an advanced stage in which it is difficult or even the worst case of incurable. According to Dyanti (2016) the factors affecting to the delay of conducting initial examinations include education, knowledge, and behavior from an early age and routine

awareness. Hartiningsih (2014) states that most cancer patients are relatively young ranged between 35 to 39 years old. Ahmad (2016) explains that health education should emphasize correct breast self-exam or BSE techniques, so woman can apply their knowledge effectively and regularly, and have increased awareness about BSE at an earlier age.

The Indonesian government has made efforts to control cancer through early detection of breast cancer for woman, including the SADANIS program (clinical breast examination) which is conducted by trained health personnel. However, the implementation has not run optimally. Various factors cause such as public awareness for early detection and also the workload of puskesmas officers.

Prevention is better than cure, breast cancer prevention efforts with a healthy and smart lifestyle, namely regular health checks, get rid of cigarette smoke, be diligent in physical activity, a healthy diet and balanced calories, adequate rest and manage stress (Ministry of Health, 2015). Early detection of cancer is an effort to identify diseases or disorders that are not yet clinically clear, by using a series of tests or certain procedures that can be used to quickly distinguish organs that appear healthy, truly healthy and those that appear healthy but have abnormalities. Early detection aims to identify disease at an earlier stage or by finding abnormalities early, namely curable cancers to reduce morbidity and mortality.

Breast cancer can be detected early, with BSE examination (breast self-examination). If the BSE results are abnormal, it can be continued to a trained health worker for SADANIS examination or to the hospital through a mammography examination which can detect 80-90% of all breast cancers

METHODS

A quasi-experimental research with a pre and post-test design with control group was applied to comprehend the objective of this study. The study was conducted by providing BSE health education and interventions to the intervention group. The total sample of this research was 60 girl students selected from two different Public Senior High School in Cipayung, East Jakarta, namely Senior High School 64 which the students were assigned as the intervention group and Senior High School 113 as the control group. The data were processed and analyzed through bivariate analysis using t-test. Ethical considerations were firstly acquired through their consent in participating this study; therefore, the researchers were obliged in maintaining respondents' privacy, respecting respondents' autonomy, maintaining respondents' comfort, explaining informed consent, and using the respondents' data merely for scientific purposes only.

RESULTS

Table 1. Respondents' characteritics

Variable(s)	Intervention group		Control group		Total	
	N	%	N	%	N	%
Age differences						
• **15 years old**	2	6.7	3	10	5	8.3
• **16 years old**	27	90	26	86.7	53	88.4
• **17 years old**	1	3.3	1	3.3	2	3.3
Menarche	5	0.17	9	30	14	23.3
• **<12 tahun**	25	83.3	21	70	46	76.7
• **≥12 tahun**						
SADARI or BSE education exposure						
• **Not yet exposed**	14	46.7	22	73.3	36	60
• **Exposed**	16	53.3	8	26.7	24	40

Had SADARI or BSE						
• **No**	19	63.3	26	86.7	45	75
• **Yes**	11	36.6	4	13.3	15	25
History of cancer within family						
• **Yes**	4	13.3	12	40	16	26.7
• **None**	26	86.7	18	60	44	73.3

Table 2. The mean analysis of knowledges, attitudes, and behavior on pre and post of SADARI exposure within intervention and control group

Variable(s)	Group	N	Mean	SD	P value
Knowledges	Intervention				
	Before				
	After	30	14.07	2.212	0.000
	Deviation	30	17.83	1.440	
			-3.76		
	Control Group				
	Before				
	After	30	14.07	2.586	0.328
	Deviation	30	13.06	2.978	
			1.91		
Attitudes	Intervention				
	Before				
	After	30	34.87	3.340	0.007
	Deviation	30	35.93	2.900	
			1.67		
	Control Group				
	Before				
	After	30	34.80	2.473	0.219
	Deviation	30	34.23	3.070	
			0.57		
Behavior	Intervention				
	Before				
	After	30	24.80	4.139	0.000
	Deviation	30	26.93	4.118	
			-2.133		
	Control Group				
	Before				
	After	30	24.80	5.095	0.441
	Deviation	30	24.37	4.597	
			0.43		

Table 2 shows the mean value of knowledges before and after the SADARI which is 14.07 and 17.83. Also, the deviation in this variable between before and after the intervention is shown. The statistical test results obtain a p-value of 0.000, so it can be concluded that there is a significant difference in the mean of knowledge values before and after being exposed to the SADARI in the intervention group.

The mean value of attitudes before SADARI is 34.87 while after the intervention is 34.93. There is a deviation in the mean value of the variable of attitude before and after the BSE education. The statistical test results obtain p-value 0.007, so it can be concluded that there is a significant difference in the mean values of attitude before and after the intervention in the intervention group.

The mean values of BSE practice before the intervention was 24.80, and it increases after the intervention which is 26.93. There is a difference in the mean values of BSE practices before and after the intervention. The statistical test results obtain a p-value of 0.000, so it can be concluded that there is a significant difference in the mean values of BSE practice before and after the intervention in the intervention group.

Table 3. The analysis of mean values of knowledges, attitudes, and behavior on pre and post of the SADARI intervention between both groups

Variable(s)	Group	N	Mean	SD	95% CI	F	P value
Knowledges	Intervention	30	17.83	0.553	2.660-4.874	11.406	0.000
	Control	30	13.06				
Attitudes	Intervention	30	35.93	0.771	0.157-3.243	0.485	0.031
	Control	30	34.23				
Behavior	Intervention	30	26.93	1.127	0.311-4.822		0.026
	Control	30	24.37			0.020	

Table 3 shows meaningful correlation between the mean values of knowledges, attitudes, and behavior on intervention and control group after being exposed to the SADARI education (pvalue 0.000; 0.031; dan 0.026).

DISCUSSION

Based on the results of the study, it was found that the characteristics of the respondents were mostly 16 years old (88.4%), had experienced menarche at the age of 12 years old or above (76.7%). Most of them had not been exposed to BSE (60%), most had never practiced BSE (75%), and some of them claimed to had a family history of cancer (26.7%). The results of this study are in accordance with Angrainy's research (2017) which shows that most vocational students as the subject of her study do not practice BSE (82%). Likewise, research by Veena (2015) shows as many as 75.5% of women do not have adequate knowledge about breast cancer and do not understand on the proper concept of BSE (80%). In contrast to the results of Ahmed's (2016) study, there are 71.4% of women who understand well on BSE practices, yet only 33.1% of his participants implement the practices.

The majority of respondents considered BSE as important in early detection of breast cancer, in which 59.7% of repondents had adequate knowledge and 87.2% had positive attitude towards the practice of BSE. However, this also showed that the knowledge of high school students about BSE still needs to be improved.

The results of the equivalence test showed that there was a significant difference in exposure to awareness information, had been aware of, and family history of cancer between the intervention group and the control group. This is because these factors are changeable factors, meaning that if you are exposed to information about awareness, you still need to improve in order to change your behavior. While the family history of cancer, this cannot be changed, however, a family history of cancer is a risk factor for individuals to develop cancer, including breast cancer.

The results showed the difference in the mean values of knowledge before and after the SADARI intervention. This is in accordance with the results of research by Angrainy (2017) which indicate a significant relationship in health education about BSE with knowledge of early detection of breast cancer. Similarly, the results of Abasi's research (2015) show that there are significant differences in knowledge before and after training. These researches indicate on the importance of BSE education since adolescence period. BSE education helps individuals, especially women, in providing beneficial information in implementing the practice of it. BSE is necessary to be carried out as early as

possible, in order to encourage young women to do breast self-exams regularly, so breast abnormalities can be detected earlier and mortality rates can be minimized.

The results of research on the attitudes of high school students show significant differences in the mean values before and after the intervention. Providing BSE or SADARI education can influence the attitudes of the participants of the education. In accordance with the results of Angrainy's research (2017), the study shows a significant relationship between BSE attitudes and behavior. Moreover, the results of Ahmed's (2016) study showed a positive attitude towards BSE, yet the knowledge and practice are still inadequate.

The results showed that there were significant differences in the average of BSE practice among girl students before and after treatment. Ahmed (2016) states that health education must emphasize correct and proper BSE techniques, so the techniques can be applied effectively and regularly. The education is expected to help in increasing the awareness on BSE at an earlier age. Increases in BSE knowledge and practice level will allow detection of breast cancer at an early stage, which in turn can reduce mortality rates in the future. In addition, it will help women deal with breast cancer related problems.

The results of this study are in line with Khiyali's (2015) research which states that health education based on HBM (Health Believe Model) is effective in promoting breast self-exam. This is similar to the results of research by Tuna (2014) that health education with online methods is effective in providing education about BSE to women. However, this study was conducted face-to-face with direct contact with the participants using the lecture method and provided pictures of BSE examination as well as videos on how to do BSE.

In the end, BSE is very important for every woman. It is expected that the education can raise the awareness on women towards every changes occured on their breast area. As the awareness is raised, the cancer or health probles related to their breast can be detecte earlier, so that treatment can be done earlier as well to overcome the problem, to minimize morbidity and mortality rates, as well as to obtain a better quality of life.

CONCLUSION

There were significant differences in the mean values of knowledge, attitudes, and behavior of BSE practices before and after the BSE or the SADARI education in the intervention group compared to the control group. Therefore, it is necessary to increase the dissemination of information about BSE to adolescence which can be done starting from junior high school through wide-range variety media. It is not only about understanding the BSE, but the more important thing is the practice of BSE itself which necessary to be done regularly in order to be more aware of one's health, especially breast cancer.

CONflICT OF INTERESTS

The authors have no conflict of interests to declare.

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ETHICAL CLEARANCE

The letter of approval for conducting this research was issued by the ethics commission of the Poltekkes Kemenkes Jakarta III No. KEPK-PKKJ3 / 213 / IV / 2019..

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