
The Effectiveness of Health Education Method on Early Detection Carcinoma Mammae in Teenage Girls At Madrasah Aliyah in Mijen Sub-District

Aronida Mutia Yuslikhah , Yuni Wijayanti, Eunike Raffy Rustiana

Universitas Negeri Semarang, Indonesia

Article Info

History of Article:
Accepted 21 February
2019
Approved 28 May
2019
Published 20 August
2019

Keywords:
Health Education,
Mammary carcinoma,
SADARI (realize),
Teenage girls.

Abstract

Carcinoma Mammae or Breast Cancer is a type of malignant tumor which is the number one killer for women. In Semarang, there were 1182 new cases in 2017, this number increased from 2016 which was 749 cases of breast cancer. This research aims to analyze the level of effectiveness of health education between video media and demonstration methods on changes in knowledge, attitudes, and behavior of independent early detection of carcinoma mammae in teenage girls of Madrasah Aliyah in Mijen Sub-District. This research is a quantitative research using the Quasi-Experiment method with pre-test post-test design. The research sample was 130 respondents with purposive sampling technique. The instrument was a research questionnaire and observation sheet. The results showed that health education with a demonstration method was more effective on changes of knowledge (p-value 0.022), attitudes (p-value 0.041), and behavior (p-value 0.036) in independent early detection of carcinoma mammae in teenage girls of Madrasah Aliyah in Mijen Sub-District. Whether a change occurs or not is related to the stimulus given to someone. Training is a part of education which is related to the learning process to improve skills in a relatively short period and also through methods which prioritize practice (demonstration) rather than theory.

© 2019 Universitas Negeri Semarang

address:
Kampus Unnes Jl Kelud Utara III, Semarang, 50237, Indonesia
E-mail: aronidamutiayuslik@gmail.com

p-ISSN 2528-5998
e-ISSN 2540-7945

INTRODUCTION

Carcinoma Mammae or Breast Cancer is a type of malignant tumor which originates from the skin glands, glandular tract, and tissue next to the thoracic cavity. Where breast cancer cells hide in the body unnoticed and suddenly become malignant tumors or cancer (American Cancer Society, 2016).

Many breast cancer patients are found at a young age, many of them are having breast tumor at 14 years old which have the potential to be cancerous if not detected earlier (Mboi, 2014).

High incidence of breast cancer globally in a study at Colombo, Sri Lanka stated that cognitive information needs on breast cancer were seen as very important by the general public, therefore, the study recommended to design a content and target group for breast cancer education (Kuruppu, 2018).

Data in Indonesia of new breast cancer cases are (136./100,000) population and are ranked 8th in Southeast Asia. The highest incidence for women is breast cancer with a number of new cases (42.1/100,000) population with average mortality (17/100,000) population. The prevalence of tumors or cancer in Indonesia is 1.79 per 1000 population in 2018 (Ministry of Health, 2019).

Data in Indonesia of new breast cancer cases are (136./100,000) population and are ranked 8th in Southeast Asia. The highest incidence for women is breast cancer with a number of new cases (42.1/100,000) population with average mortality (17/100,000) population. The prevalence of tumors or cancer in Indonesia is 1.79 per 1000 population in 2018 (Ministry of Health, 2019).

The purpose of this study is to analyze the effectiveness of health education between video media and demonstration methods on changes in knowledge, attitudes, and behavior of independent early detection of mammary carcinoma in teenage girls of Madrasah Aliyah in Mijen Sub-District.

METHODS

This study is quantitative research which uses the Quasi-experiment method with pre-test post-test group design. The population of teenage girls at MA X and MA Y were 145 respondents. The sampling technique in this study is purposive sampling with the results of 30 samples.

Data collection techniques in this study were conducted by interview, test, observation, and documentation. In this study, bivariate analysis was conducted to observe the effect on the independent variables and the dependent variables using

RESULTS AND DISCUSSION

This study was conducted in 2 Madrasah Aliyah schools in Mijen Sub-District in October-November 2018. In this study, the researchers provided health education interventions with Video and Demonstration methods by comparing 2 intervention groups which were the video intervention group and the demonstration intervention group.

Table 1. The Effectiveness of health education between video media and demonstration method on changes in knowledge of teenage girls

Knowledge	Video Method			Demonstration Method		
	N	Median Rank	p value	N	Median Rank	p value
Before health education	(-) Rank 7	28.1		(-) Rank 2 ^a	10.5	
After health education	(+) Rank 61 ^b	32.7	0.00	(+) Rank 63 ^b	33.5	0.00
	Ties 1 ^c		0	Ties 8		0
Total	65			65		

Based on Table 1, the knowledge of independent early detection of mammary carcinoma on teenage girls of Madrasah Aliyah in Mijen Sub-District with video and demonstration methods experienced changes before and after health education with both p-values (0.000).

In this study, the knowledge of teenage girls after being given health education using the demonstration method increased, for respondents who were given the video method also increased even though the increase was not as effective as the demonstration method. A study of the effectiveness of health education interventions on early breast examination related to breast cancer prevention in Colombian students showed that the preliminary results before being given an intervention found 80% of respondents had poor knowledge about breast self-examination. After being given an intervention about breast self-examination (BSE or SADARI in the Indonesian language), a significant result was shown with a decreasing result on poor knowledge to 12.9% with p-value <0.001 (Masso-Calderon, 2016).

Table 2. The effectiveness of health education between video and demonstration methods on changes in attitude of teenage girls

Attitude	Video Method			Demonstration Method		
	N	Median Rank	p value	N	Median Rank	p value
Before health education	(-)	1.00		(-)	33.0	.00
After health education	(+)	64 ^b	0.00	(+)	65 ^b	0.00
	rank	Ties	0	rank	Ties	0
	64 ^b	0 ^c		65 ^b	0 ^c	
Total	65			65		

Based on Table 2, the attitude of independent early detection of mammary

carcinoma on teenage girls of MA in Mijen Sub-District with video and demonstration methods experienced changes before and after the health education with both p-values (0.000).

Attitudes in the demonstration group differed from those in the audiovisual (video) screening group. In the video intervention group, respondents did not have the opportunity to conduct BSE demonstrations or practices. According to Notoatmodjo (2007), one of the effective ways to shape and change an attitude is by given repetitive activities in stages which will be easily absorbed by the individual itself. Therefore, one of the indicators of health attitudes is one's health knowledge.

The selection of audiovisual (video) as one of the methods of health education which can be accepted by respondents is evidenced by the increase in knowledge before and after being given health education. This video provides health education which is more interesting and not monotonous. This is in accordance with Yulinda's study (2018) which states that health education using lectures and audiovisual videos is effective to increase the knowledge and attitudes of teenage girls to conduct BSE routinely with the p-value (0.000).

Referring to Alini's study (2018), it can be seen that audiovisual usage in the form of videos proved to be more effectively used as a means or method of health education in increasing the knowledge of teenage girls on BSE with the p-value of 0.003.

In this research, the lecture and demonstration methods were also effectively used as a health education method of breast self-examination, in accordance with a study conducted by Deviani (2018) that health education by using the lecture and demonstration method was more effective than lectures in increasing knowledge regarding the early detection of breast cancer with Mann Whitney test results obtained p-value of 0.048 < α 0.05. According to research by Rohmawati (2018), counseling by using demonstration methods was more effective compared to IEC in increasing knowledge about breast self-examination (BSE).

Table 3. The effectiveness of health education using video media and demonstration methods towards changes in behavior in teenage girls

	Video Method			Demonstration Method		
	N	Mean	p-value	N	Mean	p-value
Before Health Education	(-)	7.07	0.00	(-)	5.38	0.00
After Health Education	(+)	36.1	0	(+)	38.8	0
Total	65			65		

Based on table 3, the results showed that the behavior of early detection of independent carcinoma mammae or breast cancer in teenage girls with both methods, such as video and demonstration methods was obtained in both health education methods, namely p-value = 0.000 (p <0.05) so there was an effect of health education with video media and demonstration on the behavior of early detection of independent carcinoma mammae or breast cancer in teenage girls at Madrasah Aliyah in Mijen District before and after given health education.

A study about the health belief model (HBM) in early breast cancer detection behavior mentions that the two components of benefits are perceived as p-value 1,202 and barriers to mammography p-value 0,864, where both of them have a significance value of p <0,05, which means there is no model of health beliefs that can predict in the early detection of breast cancer (Darvishpour, 2018).

Basically, health education is one of the most appropriate efforts used as a media for promotion of breast cancer screening, where a study conducted on the Family Welfare Programme (PKK) mother group in Tlogomas Village, Malang showed that health education for early detection of breast cancer can improve the skills of PKK women in carrying out breast self-

examination (BSE) with p-value (0.000) (Bauty, 2017).

The research results showed that there was a change in behavior after given health education using video media, namely the Wilcoxon Test results and obtained behavioral value of early detection of independent breast cancer in teenage girls with positive ranks of 36.13 with p-value = 0,000 (p <0.05). In the intervention group by using demonstration media namely the results of Wilcoxon Test obtained behavioral values in the early detection of independent breast cancer in teenage girls with positive ranks of 38.81 with p-value = 0,000 (p <0.05) which means there is a change in behavior before and after health education for early detection of breast cancer. These behavioral changes are supported by the results of the respondents' practice in conducting breast self-examination (BSE) where the results of statistical tests found that the practice of BSE before health education was 47.7% and increased after given health education with video media as many as 55.5%, as well as intervention groups of demonstration method before health education as many as 44.6% and experienced an increase after given health education with demonstrations as many as 63.1%.

In accordance with the results that has been explained, according to Purwanti (2016) health education by using video media is more effective in changing behavior about the practice of BSE compared to module media with p-value 0.03.

Table 4. The effectiveness of health education between video media and demonstration methods towards changes in Knowledge, Attitudes, and Behavior in teenage girls

Variable	Health detection of early detection of independent breast cancer in teenage girls	N	Mean Rank	<i>p-value</i>
knowledge	Video method	65	58.13	0.022
	Demonstration method	65	72.87	
attitudes	Video method	65	58.62	0.036
	Demonstration method	65	72.38	
behavior	Video method	65	59.93	0.041
	Demonstration method	65	71.07	

Based on the Mann Whitney test results, it can be seen that the *p-value* for knowledge, attitudes, and behavior of early detection of breast cancer is <0.05 so it can be concluded that health education using demonstration methods is more effectively used as a health education method in improving knowledge, attitudes, and behaviors about early detection of independent breast cancer in teenage girls at Madrasah Aliyah in Mijen District. In line with the research conducted by Hadi (2016) that after given the health education using the demonstration method, found that the mother's ability to conduct BSE were increased, indicated by a significance value <0.05 .

A study comparing the effectiveness of peer group education and the demonstration method on the BSE skills found that health education using the peer group education method was more effective in improving adolescent skills in BSE (Purnanni, 2018).

According to the researchers' assumptions, the results showed that there is relationship between the attitudes of young women and the implementation of BSE because when researchers conducted the research and assessed the questionnaires with the results of questionnaires, there were still many teenage girls who act negatively because they did not understand about

the BSE methods even though BSE was an easy method to detect early breast cancer. The effectiveness of the two educational methods used, including video and demonstration shows that health education by using demonstration methods is more effective in improving the knowledge, attitudes, and behavior of teenage girls about early detection of breast cancer compared to health education using video media with Mann Whitney statistical test results and found the value of knowledge with *p-value* 0.022, attitude with *p-value* 0.036 and behavior with *p-value* 0.041. This is in accordance with a research carried out by Suparmi (2017) that health education by using demonstration method is more effective in increasing the motivation of BSE practice than using the BSE video methods.

This result is supported by the demonstration, the senses can serve and deliver the message to the brain, starting from the senses of sight or visual system (eyes), hearing (ears) and also the sense of touch, unlike the audiovisual (video) where the sensory that function is only two senses including vision (eyes) and hearing (ears) without being able to feel or do in this case the practice of BSE (kholid, 2012).

CONCLUSION

From this study, it can be concluded that the demonstration method is one of the more effective methods to be used as a BSE education method because the demonstration method allows the respondent to see the procedure directly and step by step in doing BSE as well as can directly practice the breast self-examination. Training is one part of education that is related to the learning process to improve skills in a relatively short time and also by using methods that prioritize practice rather than theory.

SUGGESTION

For the Health Service, they should continue to carry out socialization and health education in secondary schools to provide information about the importance of BSE as an effort to detect breast cancer so that the Semarang City Health Office can plan a counseling program

about BSE to schools and provide training to health personnel about BSE.

For the UNNES Masters of Public Health, they can collaborate with several high schools to hold an empowerment program for teenage girls and young women in early detection of breast cancer by holding health promotion at school so the students can also apply the knowledge acquired during the lectures.

REFERENCES

- Alini., & Indrawati. 2018. "Efektifitas Promosi Kesehatan Melalui Audio Visual dan Leaflet tentang SADARI (Pemeriksaan Payudara Sendiri) terhadap peningkatan Pengetahuan Remaja Putri tentang SADARI di SMAN 1 Kampar Tahun 2018". *Jurnal Ners*, 2(2) : 1-9
- American Cancer Society (ACS). 2016. *Cancer fact and Figures*. INC. <http://www.cancer.org>.
- Apriliyana, D., Farid, A., Atik, M., & Djoko, N. 2017. Hubungan Persepsi, Paparan Media Informasi dan Dukungan Orang Tua dengan Praktik Pemeriksaan Payudara Sendiri (SADARI) pada Remaja Putri di SMA N 3 Semarang Tahun 2017. *Jurnal Kesehatan Masyarakat (e-Journal)*. 5 (4). hlm: 207-214.
- Baitipur, L.N., & Widraswara, R. 2018. "Pendidikan Kesehatan Melalui Video untuk Meningkatkan Pengetahuan dan Praktik PSN DBD". *Journal of Health Education*. 3 (2) : 86-90.
- Bauty, D., Wahyuni, T.D., & Andinawati, M. 2017. "Pengaruh Pendidikan Kesehatan tentang Deteksi Dini Kanker Payudara terhadap Kemampuan Melaksanakan SADARI pada Ibu PKK di Kelurahan Tlogomas Malang". *Nursing News*, 2 (3) : 697-707
- Dahlan, M.S. 2014. *Statistik untuk Kedokteran dan Kesehatan*. Edisi 6. Jakarta: Epidemiologi Indonesia.
- Darvishpour, A., Vajari, S.M., & Noroozi, S. 2018. "Can Health Belief Model Predict Breast Cancer Screening Behaviors?". *Open Access Maced Journal of Medical Sciences*, 6 (5) p. 949-953.
- Deviani, I.L.P., Citrawati, N.K., & Suasti, N.M.A. 2018. "Efektivitas Pendidikan Kesehatan dengan Metode Ceramah dan Demonstrasi terhadap Peningkatan Pengetahuan tentang Deteksi Dini Kanker Payudara pada Remaja Puteri". *Bali Medika Jurnal*, 5 (1): 50-65.
- Dinkes Provinsi Jawa Tengah. 2018. *Buku Saku Kesehatan Tahun 2018: Dinkes Provinsi Jawa Tengah*.
- Fridayanti, W., & Laksono, B. 2017. "Keefektifan Promosi Kesehatan terhadap Pengetahuan, Sikap dan Perilaku tentang Tes IVA pada Wanita Usia 20-59 Tahun". *Public Health Prespective Journal*. 2 (2) : 134-130.
- Hadi, S., Milwati, S., & Utami, N.W. 2016. "Effect of Application of Health Promotion with Skill Demonstration of Ability Breast Self Examination (Sadari) For Mother - Inmother Pkk Malang. *The 3rdUniversty Research Colloquium*. pp. 416-423.
- Kemenkes. 2019. "Hari Kanker Sedunia 2019". www.depkes.go.id
- Kholid, A. 2012. *Promosi Kesehatan: dengan Teori Perilaku, Media dan Aplikasinya untuk Mahasiswa dan Praktisi Kesehatan*. Jakarta : Rajawali Pres.
- Kuruppu, D.C., Wijeyaratne, C.N., Gunawardena, N., & Amarasinghe, I. 2018. "Perceived Importance of Information Needs on Breast Cancer Among Adults: A Population Based Survey in The District of Colombo, Sri Lanka". *Asian Pacific Journal of Cancer Prevention*, 19 (8), p. 2247-2253.
- Margono. 2010. *Metodologi Penelitian Pendidikan*. Jakarta: Rineka Cipta.
- Masso-Calderon, A.A., Meneses-Echavez, J.F., Correa-Bautista, J.E, Tofar-Civuentes, A., et al., 2016. "Effects of an Educational Intervention on Breast Self-Examination, Breast Cancer Prevention-Related Knowledge, and Healthy Lifestyles in Scholars from a Low-Income Area in Bogota, Colombia". *J Can Educ*. pp. 673-679. doi : 10.1007/s13187-016-1133-z.
- Mawan, A.R., Indriwati, S.E., & Suhadi. 2017. "Pengembangan Video Penyuluhan Perilaku Hidup Bersih dan Sehat (PHBS)

- Bermuatan Nilai Karakter Terhadap Peningkatan Pengetahuan Masyarakat dalam Menanggulangi Penyakit Diare". *Jurnal Pendidikan*, 2(7). pp. 883-888.
- Mboi, N. 2014. 'Panduan Praktik Klinis Bagi Dokter di Fasilitas Pelayanan Kesehatan', *Mentri Kesehatan Republik Indonesia*, pp. 332-337.
- Mulyawati, I., Kuswardinah, A., & Yuniastuti, A. 2017. "Pengaruh Pendidikan Kesehatan tentang Keamanan Jajanan terhadap Pengetahuan dan Sikap Anak". *Public Health Prespective Journal*. 2 (1) : 2-8.
- Niehoff, N.M., White, A.J., & Sandler, D.P. 2017. "Childhood and Teenage Physical Activity and Breast Cancer Risk". *Breast Cancer Res Treat*. 164 (3), pp 697-705, doi:10.1007/s10549-017-4276-7.
- Notoatmodjo. 2007. *Promosi Kesehatan dan Ilmu Prilaku*,. Jakarta: Rineka Cipta.
- Purnani, W.T., & Qoni'ah, B. 2018. "Efektivitas Pendidikan Kesehatan Metode Peer Group Education dengan Metode Demonstrasi terhadap Keterampilan SADARI". *JPH RECODE*, 2 (1) : 62-67
- Purwanti, S., Supriadi & Sumiati. 2016. "Perbedaan Pengaruh Pendidikan Kesehatan dengan Menggunakan Media Video dan Media Modul terhadap Perubahan Pengetahuan dan Perilaku tentang Praktik SADARI pada Sisiwi Kelas XI SMA". *Mahakam Midwefery Jurnal*, 1 (1) : 10-17.
- Rohmawati, W., & Kholfan, K. 2018. "Perbedaan Penyuluhan KIE dan Demonstrasi tentang SADARI pada Remaja Putri Kelas X di SMA Muhammadiyah 1 Kelaten". *Involusi Jurnal Ilmu Kebidanan*, 8 (15) : 1-13.
- Suparmi & Winarni. 2017. "Perbandingan Efektivitas Metode Demonstrasi dan Video dalam Peningkatan Motivasi Deteksi Dini Kanker Payudara". *PROFESI*, 14 (2) :66-
- Yulianti, I., Setyawan, H., & Sutningsih D. 2016. "Faktor-faktor Risiko Kanker Payudara (Studi Kasus pada RS Ken Saras Semarang)". *Jurnal Kesehatan Masyarakat (e-Journal)*. 4 (4) : 401-409.
- Yulinda, A., & Fitriyah, N. 2018. "Efektivitas Penyuluhan Metode Ceramah dan Audiovisual dalam Meningkatkan Pengetahuan dan Sikap tentang SADARIdi SMKN 5 Surabaya". *Jurnal Promkes*, 6 (2) : 116-128.