



Health Education Influence on Changing WUS Behavior in Early Detection of Breast Cancer

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ABSTRACT

Data from Global Cancer Statistics in 2018 revealed 18.1 million new cancer cases globally, with Indonesia ranked 8th in Southeast Asia. A study in Mekarsari Delitua village found 4.5% of women suspected of breast cancer, with varying screening rates. A project in Mekarsari Delitua village aimed to educate women on breast cancer prevention through videos. The research was quantitative in nature using a quasi-experimental design (pre test and post test control group). The research sample was 59 comprehensive participants in the intervention group and control group. Data analysis used Wilcoxon.. In 2022, a study in Mekarsari Delitua Village found that counseling sessions improved attitudes and knowledge scores on Breast Cancer Prevention. The mean difference was 22.25, indicating a positive impact. A Breast Cancer Prevention video also increased practicing breast self-examination (SADARI) scores, from 29.88 to 46.80. The statistical analysis showed a substantial enhancement in respondents' prevention practices post-video intervention, indicating a positive impact on the community. Videos have a strong impact on shaping the preventive behavior of women regarding breast cancer. It is recommended that village leaders collaborate with health workers to enhance health education for women of childbearing age. This partnership aims to empower the community in detecting and safeguarding against breast cancer. The study suggests that counseling positively influenced both attitudes and knowledge regarding Breast Cancer Prevention.

Keywords: *attitude, breast cancer, health education, knowledge*

INTRODUCTION

Breast cancer and cervical cancer are the highest prevalence of cancer in women in Indonesia. Both cancers can be found at an earlier stage, but now cancer is more often known at an advanced stage (70%) so the mortality rate is high. Every February 4 this year, World Cancer Day is commemorated with the theme "*I am and I will*" (Abbass-Dick et al., 2019). This theme is meaningful to invite all relevant parties to carry out their respective roles in reducing the burden due to cancer (Abd-elkareem et al., 2022).

Globocan data states that in 2018 there were 18.1 million new cases with a mortality rate of 9.6 million, where 1 in 5 men and 1 in 6 women in the world experienced cancer incidence. The data also states that 1 in 8 men and 1 in 11 women die of cancer. The cancer rate in Indonesia (136.2/100,000 population) ranks 8th in Southeast Asia, 23rd in Asia (Adiyaman et al., 2022). In Indonesia, the highest incidence for men is lung cancer 19.4 per 100,000 population, an average death rate of 10.9 per 100,000 population, followed by liver cancer 12.4 per 100,000 population, an average death of 7.6 per 100,000 population. On women, breast cancer was highest at 42.1 per 100,000 population, death rate at 17 per 100,000 population, followed by cervical cancer at

23.4 per 100,000 population, death rate at 13.9 per 100,000 population. Based on RISKESDAS data, the prevalence of tumor/cancer in Indonesia shows an increase from 1.4 per 1000 population in 2013 to 1.79 per 1000 population in 2018. The highest cancer prevalence is in Yogyakarta province at 4.86 per 1000 population, followed by West Sumatra at 2.47 79 per 1000 population and Gorontalo at 2.44 per 1000 population. For the prevention and control of cancer in Indonesia, especially the most in women, namely breast and cervical cancer, one of the efforts made by the government is early detection of breast cancer and cervical cancer in women aged 30-50 years using the Clinical Breast Examination (SADANIS) method.

From the 2018 IDHS data, it is stated that the results of early detection of breast examination in Indonesia; Breast tumors, 2,253 suspected breast cancer in 89,394 women aged 30-50 years (4.5%) in North Sumatra. The examination is carried out using the Clinical Breast Examination (SADANIS) method.

The coverage of early detection of breast examination aged 30-50 in women is highest in Tebing-Tinggi City at 86.5%, followed by Padang Lawas Utara Regency at 62.5%, and Gunungsitoli City at 61.0%.

The data shows that the percentage of deaths from breast cancer is lower than the percentage of new cases, so if the cancer can be detected and treated early, the possibility of cure is much higher (Alkhalaf et al., 2020).

Detection of breast cancer can be done by conducting Breast Self-Examination (SADARI), Clinical Breast Examination (SADANIS) and Mammography (Alkis et al., 2021). On three ways of early detection of breast cancer, SADARI is the easiest and cheapest way women can do in their respective homes. SADARI is very important to be recommended to the community because almost 86% of lumps in the breast are found by sufferers themselves. However, the coverage of breast cancer detection in Medan City in 2014 has not reached the target of 80% (55,679 people) of 69,599 women aged 30-50 years (Arbour et al., 2019). The data reported was only 314 people (0.45%) who carried out early detection of breast cancer. Judging from the estimated population and sex ratio in North Sumatera province in 2016, there were 1,880,961 women were of childbearing age. Out of the total women of childbearing age, only 41,604 (4.25%) have done SADARI and 96.6% never did SADARI. This is because public behavior in conducting early detection of breast cancer is still low, in general due to lack of knowledge about breast cancer and early

detection with SADARI (Ares Segura, 2022). In realizing healthy behavior, there are conditions needed, namely good knowledge. can be supported from good delivery media as well. This makes good knowledge about SADARI very important to have in order to realize healthy behaviors, in this case early detection behavior of breast cancer. According to the results of research, there was an increase in knowledge after providing health education seen from an increase in the average value (mean) of 13.63 to 17.72 (Beyene et al., 2022).

So far the government has made efforts and follow-up cancer control through the Indonesian Cancer Foundation by holding various activities in the fields of promotive, preventive, curative and rehabilitative (Anggraini et al., n.d.). The promotive activities carried out are the provision of health education. Health education activities are carried out by spreading messages, instilling confidence so that people are not only aware, know and understand but also want and can carry out a recommendation related to health and improve health status (Branger et al., 2019).

Currently, the media that is starting to be developed is through video. Health education using video media is able to convey a consistent message and give viewers the opportunity to watch

repeatedly and can increase understanding. Video media can also convey information better than media in the form of writing, and video media has a motivational effect in the learning process (Dewi & Suwanti, 2021). Based on the phenomena that have been described, researchers are interested in conducting a study entitled "*The effect of health education with videos on breast self-examination (SADARI) on Women of Childbearing Age (called WUS) behavior in Mekar Sari Village, Deli Serdang Regency in 2022*".

METHOD

This research with a quasi-experimental design using a one group before and after intervention design approach, was conducted in Mekar Sari Village, Delitua District, Deli Serdang Regency from January to December 2022. The population in this study was all WUS in Mekar Sari Village sample as many as 59 people.

RESULTS AND DISCUSSIONS

Results

This study titled "The Effect of Health Education Using Video on Breast Cancer Prevention on WUS Behavior in Mekar Sari Village, Delitua District, Deli Serdang Regency in 2022

In the implementation of this study, the author divided into 2 episodes. Episode 1: By conducting health education to change respondents' knowledge and attitudes about Breast Cancer Prevention, a lecture and question and answer method was carried out in Mekarsari Delitua Tanjung Village, Delitua District, Deli Serdang Regency for 2 (two) months. Episode 2: By forming a WhatsApp group (group chat). sharing video on how to self-examine breasts.

The characteristics of Women of Childbearing Age, Knowledge and Attitudes before and after counseling on Breast Cancer prevention in Mekar sari Village, Delitua District, Deli Serdang Regency in 2022 can be described in Table

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Table 1. Respondents' Characteristics

No	Respondent Characteristics	Total	
		f	%
1.	Respondent Age		
	< 20 tahun	9	15.3
	20-50 tahun	42	71.2
	>50 tahun	8	13.6
2.	Education		
	Primary School	6	10.2
	Junior High	16	27.1
	High School	33	55.9
	University	4	6.8
3.	Employment		
	Work	52	88.1
	Not Working	7	11.9
4.	Marriage Status		
	Not Married	6	10.2
	Married	45	76.3
	Divorced	8	13.6
5.	Parity		
	0	8	13.6
	1-2	29	49.2
	3-4	21	35.6
	>4	1	1.7
6	Contraceptives Used		
	None	20	33.9
	Hormonal	31	52.5
	Non Hormonal	6	10.2
	Sterilization	2	3.4
7	Information about Breast Cancer detection		
	From healt-worker	15	24.2
	Non health-worker	47	75.8
8	Do SADARI		
	Yes	31	52.54
	Never	28	47.46
	Total	59	100.00

From Table 1 above, it can be concluded that most women of childbearing age aged 20-50 years as many as 42 respondents (71.2%)

Based on the education, the majority of mothers with high school education as many as 33 (55.9%) minorities with university education.

Based on the employment, the majority of respondents as working mothers as many as 52 people (88.1%).

Based on marital status, the majority of women of childbearing age were married as many as 45 respondents (76.3%). Based on Parity, the majority of respondents had children 1-2 people, as many as 29 respondents (49.2%).

The contraceptives used by the majority of respondents used hormonal contraceptives as many as 31 people (52.5%). On

information about breast cancer prevention, the majority of respondents have received as many as 47 people (75.8%) the majority of information received from non-health workers (TV, social media, friends etc.). A total of 31 (52.54%) had done SADARI but did not regularly do when remembered.

Description of the behavior of women of Childbearing Age about Breast Cancer Prevention before and after counseling (Table 2)

Table 2. Respondents' Behavior Before and After Counseling on Breast Cancer

No	Behavior	Pre- Counseling		Post Counseling	
		f	%	f	%
1.	Knowledge				
	Poor	15	25.4	3	5.1
	Moderate	43	72.9	40	66.8
	Good	1	1.7	16	27.1
2.	Behavior				
	Unsupportive	9	15.3	7	11.9
	Supportive	50	84.7	52	88.1
3.	Action				
	Non-compliant	23	39.0	1	98.3
	Compliant	36	61.0	58	1.7

From Table 2. It can be seen that the knowledge of women of childbearing age before counseling was carried out the majority of the knowledge was less as much as 18 enough as many as 43 people (72.9%). Only 1 person (1.7%) had good knowledge about Breast Cancer Prevention. After counseling using illustrated media about breast cancer prevention, respondents' knowledge increased. respondents have good knowledge to 16 people (27.1%), and lack

of knowledge 3 people (5.1%). Based on respondents' **Attitudes** before and after counseling on Breast Cancer Prevention, the majority of respondents' attitudes supported about Prevention of Breast Cancer as many as 50 people (84.7%) After counseling, the supportive attitude has increased to 52 people (88.1%).

On **Actions**, based on the experience of in accordance as many as 23 people (39.0%) After playing the video through the WhatsApp group, respondents' actions

about breast self-examination increased from actions that were not in accordance with the method of breast self-examination to 1 person (1.7%)

The difference between behaviors consists of the knowledge and attitude of

respondents before and after being given the outreach.

Knowledge

Differences in respondents' knowledge before and after counseling on Breast Cancer Prevention can be seen in Table 3

Table.3. Respondents' Knowledge Before and After Counseling on Breast Cancer Prevention

Variable	Mean	SD	MD	p	SD pre & post
Knowledge					
-Pretest	60,25	19,52			
-Posttest	68,64	21,55	8,39	0,049	32,09

The average knowledge of respondents before counseling on Breast Cancer Prevention in Mekarsari Village in 2022 was 60.25 with a standard deviation of 19.52. After counseling on Breast Cancer Prevention in Mekarsari Village, the average knowledge of respondents was 68.64 with a standard deviation of 21.55, it can be seen that the difference in the average value of 8.39 between the pretest and posttest values with a standard deviation of 32.09. The results of the statistical test obtained a value of $p = <0.049$, it can be concluded that there is a

significant increase in respondents' knowledge about Breast Cancer Prevention in Mekarsari Village.

Attitude

The difference between respondents' attitudes before and after response being carried out. Responds before and after counseling on Breast Cancer Prevention in Mekarsari Village in 2022 can be seen in the Table 4

Tabel.4. Respondents' Attitudes Before and After Health Education on Breast Cancer Prevention

Variable	Mean	SD	MD	P	SD pre & post
Attitude					
-Pretest	54,61	11,44	22,25	0,00	27,33
-Posttest	76,86	24,70			

From the table 4, the average attitude of respondents before and after counseling was carried out on Breast Cancer Prevention in Mekarsari Village in 2022. The attitude before counseling was 54.61 with a standard deviation of 11.44. After counseling, the respondents' attitudes increased to 76.86 with a standard deviation of 24.70, it can be seen that the difference in the mean value of 22.25 between the pretest and posttest values with a standard deviation of 27.33, the statistical test results obtained a value of p

= <0.000, it can be concluded that there is a significant increase in respondents' attitudes about Breast Cancer Prevention in Mekarsari Delitua Village in 2022.

The difference between WUS Actions on Breast Cancer Prevention before and after health education and video media in Mekar Sari Village, Deli Serdang Regency in 2022 can be seen in the following table 5.

Tabel.5. Respondents' Awareness Before and After Health Education With Video Media was Carried Out

Variable	Mean	SD	MD	P	SD pre & post
Action					
-Pretest	29,88	8,20	16,90	0,00	2,90
-Posttest	46,78	9,02			

From the table above, the average actions of respondents before and after a video screening about Breast Cancer Prevention was carried out by conducting breast self-examination (SADARI) in Mekarsari Delitua Village in 2022. The respondent's score on how to check their own breasts before video playback was 29.88 with a standard deviation of 8.20. After the video playback was carried out and respondents could watch the video through the WhatsApp group about SADARI, the respondent's score increased to 46.80 with a standard deviation of 9.01, there was a

difference in the mean value of 16.90 between the pretest and posttest values with a standard deviation of 2.90. The results of the statistical test obtained a value of p = <0.000. It can be concluded that there is a significant increase in respondents' actions on Breast Cancer Prevention with Breast Self-examination (SADARI) before and after watching videos in Mekarsari Delitua Village in 2022.

Discussion

Knowledge

This research shows a significant increase in respondents' knowledge regarding Breast Cancer Prevention in Mekarsari Delitua Village ($p < 0.05$). There was an increase in knowledge before being given and after being given health education, namely knowledge from 27.5 to 36.2. sufficient knowledge from 8.95 to 6.7 and insufficient knowledge from 6.55 to 0.1 (Bucher & Spatz, 2019).

Knowledge is the result of knowing and occurs when sensing a particular object. What is obtained through sensing; the senses of sight, hearing, smell, taste and touch (Buckingham et al., 2022). Individual knowledge about an object contains two aspects, namely positive aspects and negative aspects which will determine the individual's attitude in behavior, if more positive aspects and objects are known it can lead to positive behavior towards certain objects (Budiati & Setyowati, 2019). Video media is a type of audiovisual media which relies on the senses of hearing and sight. Audiovisual media has the advantage of being able to show objects that cannot normally be seen, depicting a process accurately which can be witnessed repeatedly so that it can encourage instilling attitudes, inviting thought and discussion (Munaf, 2021).

According to research (Ciesielska-figlon et al., 2021) audiovisual media as a health education medium is effectively used to provide increased knowledge to mothers and change mothers' attitudes for the better. Audio-visual is the most appropriate tool at this time because a person's knowledge is received through the senses, reaching 75% - 87% of human knowledge obtained or transmitted through the sense of sight and 13% - 25% through the sense of hearing (Cohen et al., 2018).

In this research, a person's knowledge can be influenced by education. From the research results it was found that 6 people (10.2%) had elementary school education and 3 people (5.1%) had less knowledge. Most of the respondents' knowledge was sufficient, with the majority having junior and senior high school education (Davra et al., 2022). The amount of information received is influenced by the level of education. The higher a person's education, the easier it is to get information (Deniz, 2022).

Attitude

According to this study, respondents' attitudes toward breast cancer prevention in Mekarsari Delitua Village have significantly improved ($p < 0.05$). This research is in line with research by Shylviana Permata Sari et al; the influence of video media on changes in the attitudes

of female students at SMA Negeri 1 Samarinda. There was an increase in knowledge with a mean of 10.29, p value = 0.00 before and after being given video media health education. The influence of health education using video on knowledge about awareness among women of childbearing age there was an increase in knowledge before and after being given education using video media from 27.5 to 36.2 (Douglas & Geddes, 2018). According to Saefudin Azwar, attitude is one of the personality elements that a person must have to determine his actions and behave towards an object accompanied by positive and negative feelings (Chen et al., 2022).

Video media is an audiovisual media that involves the senses of hearing and sight (Murray et al., 2023). Media is very important to use in carrying out health education in the context of changing behavior (Zhang et al., 2022). There are various theories that can be used to change behavior, one of which is the Theory of Reasoned Action (Theory of Planned Behavior/ TPB). The Theory of Planned Behavior (TPB), first coined by Ajzen, states that beliefs will shape attitudes, then intentions and behavior (Walsh et al., 2019). The belief that the process of early detection of breast cancer is considered important because it can prevent breast cancer has resulted in respondents' desire

to learn about breast self-examination (Wagner et al., 2019).

Video media has great ability to attract attention, influence attitudes and behavior (Triansyah et al., 2021). The use of animation media also influences changes in the subject's attitude for the better after seeing the video (Souza et al., 2022). The factors that influence attitudes are the media for conveying information which usually contain suggestions to direct someone's opinion (Shlafer et al., 2018). If the suggestion is strong enough, it will provide an affective basis for assessing something so that a direction of attitude is formed which is realized through action. Before being given health education using audio-visual media, the majority of subjects had negative attitudes (Schindler-Ruwisch et al., 2019).

Mass media as a means of communication, such as television, radio, social media, have a big influence in forming people's opinions and beliefs (Nicolò et al., 2023). The suggestive messages provided, if strong enough, will provide an affective basis for perceiving and assessing something so that a certain attitude is formed. Currently, there is a lot of information about ways to prevent breast cancer, one of which is by carrying out early detection of breast cancer with BSE (Nielsen et al., 2022). The existence of new information

regarding breast cancer prevention provides a new knowledge base for the formation of a positive attitude towards breast cancer prevention. So that respondents are motivated to BSE regularly every month so that they can detect breast abnormalities as early as possible (Li & Bus, 2023).

Action

This research shows a significant increase in respondents' action regarding Breast Cancer Prevention in Mekarsari Delitua Village ($p < 0.05$). This research is in line with research with Using video media has a greater impact on health education because it can attract respondents (targets) so that they can increase their knowledge and attitudes influencing their actions. To realize the attitude of respondents who support carrying out BSE into a real change, a supporting factor is needed, namely the existence of a video that allows respondents to see and be reminded of how to carry it out because it does not require equipment, it only takes approximately 10 minutes each time to do it (Garg et al., 2022).

The audio-visual (see-listen) method is more stimulating in conveying the messages/information conveyed because the respondent can see and the respondent can also hear the content of

the message. So the audio visual method has a higher mean value compared to the pocket book method (see) which depicted (Fan et al., 2019) .’

The results of this research showed that the majority of respondents' ability to improve in carrying out BSE depended on existing knowledge and skills (Ra et al., 2022). Some respondents indirectly received information from health workers, television, newspaper magazines and social media (Tezuka et al., 2020). Video media is a display of moving images accompanied by sound. Health education that is oriented towards the activities and experiences of respondents has advantages compared to the delivery of other health education. Because health education is activity and experience oriented, achieving two activities at once, namely saying and doing. By Magnesen (in Dryden and Vos, 1999: 100) it is said that 90% of learning success can be achieved in this way "90% of what we say and do (Feda et al., 2024).

In 2020, there were 2.3 million women diagnosed with cancerbreast cancer and 685,000 deaths globally . Until the end of 2020, there are 7.8 million women alive are diagnosed with breast cancer within 5 years the latter, making it the most common cancer in the world. Breast cancer is the most common cancer in women. Breast cancer It often occurs in women over the age of 40-50 years, and

accounts for about 80% of cases (Thaxton et al., 2021).

Breast cancer is diagnosed in women aged > 50 years..The lumps initially have the same color as skin but over time they develop becomes reddish. Lumps like bumps accompanied by pain and throbbing (Warren et al., 2021). The lump is very large, hard, painful, difficult to move and there is a change in the color of the breast skin which becomes reddish (Wk & Two, 2012). Patient complained that there were spots on the nipple on the left breast white with peeling skin. Breast cancer occurs most frequently as a painless lump or thickening in the breast. Generally, symptoms (Ycaza et al., 2020).

Breast cancer includes: lump or thickening of the breast, change in size, the shape or appearance of the breasts, redness, pitting or other changes to the skin, changes in the appearance of the nipple or changes in the skin around the nipple (areola) and/or abnormal discharge from the nipple (B, 2020). Contraception is one of the efforts can be selected in order to prevent its occurrence fertilization and pregnancy (Cagnacci et al., 2022).

Contraceptive methods can be divided into obstacle methods and rhythm method. The obstacle method is a method use of contraception with the help of a device for example condoms in men or diaphragms in menwomen

(Debaudringhien et al., 2021), IUD (intra uterine device), vasectomy in men or tubectomy in women, pills pregnancy control, and so on (Abdu et al., 2023).

Method rhythm is a method for controlling processes a simple and natural pregnancy, for example by not having sexual relations at the time fertile time (Alastalo et al., 2023). Types of contraception can be grouped according to the user, the method, and the purpose of its use. Based on the user contraception is divided into contraception for men and contraception for women (Chen et al., 2022). Contraception for men, for example condoms and vasectomies. Contraceptives for women, for example diaphragms, tubectomy, pills, injections, implants, IUD (intra uterine devices), and so on (Dominguez Garcia et al., 2023).

Based on the method, contraception is divided into simple contraception and contraception modern. Simple contraception is also called as natural or traditional contraception (Dong et al., 2020). Example of the simple types of contraception is the method calendar, basal temperature method, observation method cervical mucus, interrupted copulation method, and etc (Ermias et al., 2023).

The calendar method is also called the method periodic abstinence (Le et al., 2021). This method is carried out with

calculate fertile periods and non-fertile periods fertile so it is not suitable when used in women with irregular menstrual cycles irregular (Otsuka et al., 2023). The advantages of the calendar method are no side effects and no costs, but requires good cooperation with partner not to have sexual relations during the fertile period (Kim et al., 2021).

The basal temperature method is carried out by doing measuring women's body temperature in the morning day when you wake up to determine the moment ovulation occurs (Info, 2020). An increase in temperature indicates that ovulation has occurred, but this also need to be considered carefully because (Fox et al., 2020). An increase in body temperature can also be caused by an infection in the body. Basal temperature method also requires good cooperation with partner (Debaudringhien et al., 2021).

Contraception to end fertility in the form of operative medical procedures, namely vasectomy in men and tubectomy in women. That matter can be done by tying, clamping or cutting of the vas deferens in men or fallopian tubes in women (Paneque et al., 2023). The use of hormonal contraceptives can increases the risk of developing breast cancer (Salhia et al., 2023). Tool the hormonal contraceptive can be in the form of a pill, combination birth control pills and mini

birth control pills, injections, or implant or norplan which is commonly known as the term birth control implant..Combination birth control pills contain the hormone estrogen and progesterone to prevent ovulation (Tholander & Tour, 2022). The hormone progesterone inhibits FSH secretion (follicle stimulating hormone) thereby inhibiting egg cell maturation. The hormone estrogen helps formation of the endometrium or mucous membrane which lines the uterine wall. Endometrium remains formed, but no egg cells mature so pregnancy cannot occur (Abdu et al., 2023).

There are various types of combination birth control pills types and packaged with different quantities on each package, namely 20 pills, 21 pills, or 28 pills each package. Combination birth control pills are generally packaged for use for 21 days and taken by family planning acceptor every day, starting from the 5th day until the 25th day, then stop drinking or a few days until you get your period (Alastalo et al., 2023).. Use of combined birth control pills regularly is a means of contraception very effective and easy to use. Side effects that may occur are. The consequences of using this combination birth control pill are headache, heart palpitations, increase weight gain, increased blood pressure, nausea, bleeding occurs between menstruation, decrease

milk production, and so on. The woman who have previously had a heart attack, brain hemorrhage, chest pain, blocked vessels blood, breast cancer, and liver dysfunction (Salhia et al., 2023).

It is recommended not to choose combination birth control pills as the contraceptive method of choice. The woman who approaching the age of 40 is also advised not to choose combined birth control pills as a contraceptive choice because it can increase the risk of disease cardiovascular (Ermias et al., 2023).

CONCLUSION

Based on the results of research on the influence of health education using videos on breast cancer prevention, it can be concluded that health education can increase knowledge and attitudes in efforts to prevent breast cancer.

The results of this research suggest that health workers coordinate with village heads to provide health education to women of childbearing age about preventing breast cancer in order to improve women's health status. It is anticipated that women who are fertile will keep taking part in monthly early breast cancer screenings. Please get advice from a health professional if there is any discrepancy.

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