

The Urgency Of The Adolescent Breast Health Service Model Involving Puskesmas Nurses And The Role Of Uks Teachers Based On The Whatsapp Application

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ABSTRACT

Introduction: Health service for adolescents is a health problem that needs close attention from the health team. Health teams such as nurses can design a health service model for adolescents that can accelerate development programs and overcome health service problems. This study aims to test the quality of service by developing a health service model for adolescents by involving adolescent reproductive health service (Kespro) variables, screening with BSE, monitoring Puskesmas nurses, the role of UKS teachers in schools, WhatsApp application and service quality. **Methods:** Methods a quantitative designed were used with a cross-sectional approach. The samples were 199 student. Respondent was obtained through multistage sampling. The variabel Independent variable were adolescent reproductive health services, Breast Self-Examination (BSE) actions and monitoring of health center nurses and the dependent variable was the role of the UKS teacher, WhatsApp application and service quality. Data collection was performed using a questionnaire and data analysis with SEM version 22. **Results:** The results of this study indicated there was use of BSE Cancer Screening in adolescent reproductive. health services, using the whatsapp application and nurse monitoring at Public Health Centre (Puskesmas) and involving the role of UKS teachers could improve the quality of reproductive health services for adolescents. Of all the variables tested in model development, affects improve the quality of reproductive health services for adolescents. SEM test results obtained GFI (Goodness of Fit Index) values which should be within the expected Cut of Value range (p Value \leq 0.05). **Conclusion:** The use of booklet BSE and video BSE, is interrelated between adolescent reproductive health services, BSE cancer screening, using the whatsapp application, nurse monitoring (Puskesmas), the role of UKS teachers could improve quality of reproductive health services.

Keywords: Adolescents, BSE, WhatsApp, Service, Quality

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INTRODUCTION

The quality of health services for adolescents is currently getting more attention from the public and the government. Health services for adolescents are one of the health problems that need attention from the health department. Health teams such as nurses can design service models to accelerate development programs and overcome health problems in the form of concrete actions or based on evidence based practice¹. The survey revealed that 82.2% agreed that service quality was the main driver of the smooth running of health services at Public Health Centre (*Puskesmas*)². Adolescents who are a part of community need better services to anticipate various physiological changes that affect the breast organs³.

Changes in the estrogen and progesterone hormones sometimes experience irregularities in the breast such as tumors or cancer³. The National Breast and Cervical Cancer Early Detection Program (NBCCEDP) in America, has succeeded in significantly reducing breast cancer deaths in women by means of screening and early detection with evidence-based action (Evidence-based early detection). NBCCEDP has served more than 4.6 million women, finding an early diagnosis of breast cancer in more than 64,000 cases from 1991 to 2011. The program has reduced the public suffering from

breast cancer and screening results found that 25% of women with breast cancer are Hispanic⁴.

Breast cancer is an important public health problem, as morbidity and mortality tends to increase every year worldwide. In 2004 an estimated 519,000 women died from breast cancer. The incidence of breast cancer is higher in developed countries but the mortality rate is around 69% in developing countries. Data from Surabaya Oncology Hospital stated that there are approximately 500 to 600 new breast cancer patients every each year⁵. According to baseline health research (*Rikesdas*) in 2009, the highest cancer affecting Indonesian women is breast cancer with a rate of 26 per 100,000 women. This disease ranks first in inpatient cancer patients in all hospitals in Indonesia, which is 16.85%⁶. Furthermore, *Rikesdas* (2018) data showed that breast cancer has increased to 42.1 per 100,000 population with an average death rate of 17 per 100,000⁷. Nowadays, breast cancer does not only affect women aged 25-46 years, but adolescents aged 15 years can develop cancer as well. This fact requires socialization and early detection to junior high or high school schools to provide health services to adolescents in order to reduce morbidity and mortality due to breast cancer^{7,8}. Data from the survey of 100 adolescents in Blitar found that there was an effect of health education on breast

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cancer on knowledge and attitudes about breast self-examination in adolescents p-value (0.000) <0.05.5. The results of other studies indicated that, the role of Puskesmas in Youth Care Health Services (PKPR) is the prome of health services for youth⁸

The quality of health services to adolescents is determined by the components involved in providing these services, including: the media used, familiar people who meet teenagers every day, types of appealing services, easy to do by teenagers and having a direct monitoring team from the implementer of basic services such as Puskesmas. Puskesmas and educational institutions such as senior high school (SMA) and junior high school (SMP) need a network that allows adolescents to be continuously monitored for their health by using services with smartphones that have the WhatsApp application which can facilitate the recognition for those activities, communicate among School Health Unit (UKS) teachers, students, and Puskesmas officers. This application can also detect early cases of breast cancer and to document cases quickly and precisely⁹

Data from recent years mentioned that WA (WhatsApp) application has been used the most in positive activities by Moslems in Indonesia, trying to improve religious knowledge online. Social media is onsidered very relevant in various matters of increasing knowledge because it reaches the community very quickly¹⁰. Instagram and WhatsApp are two social media services that were introduced in 2010 and both of these applications are used by PubMed as a media to socialize health care and health science¹¹

Survey showed that very few consumers are perfectly satisfied with service centers such as hospitals and public health services¹². This reality requires a simple form of service by empowering women in the environment of adolescents who can continuously monitor the

physiological changes of adolescents, including the growth and development of breast reproductive organs. One of the closest adults to adolescents is teachers, who spends 6-8 hours/day with teenagers at school¹³

In this study, the researchers designed a service model that was appealing, easy to do and did not take a lot of time for health workers at the Puskesmas under the title "The urgency of the adolescent breast health service model involving Puskesmas nurses and the role of UKS teachers based on the WhatsApp application in Aceh".

METHODS

Study Design

The research design was a survey with the use of cross-sectional approach to describe analyzing variables simultaneously.

Population and Sample

The population was all teenage girls in SMAN Kota Banda Aceh (the capital city of Aceh Province) and SMAN Kota Sigli (the capital city of Aceh Pidie) in Aceh Province, Indonesia. Determination of sample size in this study was carried out using SEM provisions of > 100 people and no more than 1000 people. If the respondents are less than 100 people or more than 1000 people the results of data processing become biased¹⁴

The number of respondents obtained was 199 people. Sampling technique with Multi Stage Sampling with inclusion criteria, namely respondents: The inclusion criteria of respondents are: 1) Teenage girls who have menstruation, 2) Do not experience complications that have complications, 3) Do not experience a household in the family 4) Are willing to be respondents. The types of the independent variables, intervening variables and dependent variables in this study can be seen in Table 1 below:

Table 1 Research variable the adolescent breast health service model

Variable	Information	Dimension
X1	Health Services adolescent reproductive health	1. Complaints 2. Examination 3. Result
X2	Cancer Screening with BSE	1. Frequency 2. Methods 3. Result
X3	Community Health Center Nurse Monitoring (Puskesmas)	1. Schedule 2. Activities 3. Results and RTL
Y1	The Role of School Health Unit (UKS) Teachers	1. Schedule 2. Result 3. Motivation
Y2	WhatsApp application	1. Booklet 2. Photo 3. Video
Z	Service quality	1. Real 2. Reliability 3. Responsiveness

Measurements

The questionnaire was tested for validity and reliability using 30 respondents on female students of State Senior High School no. 5 Banda Aceh who are no longer included as respondents in the study. Calculation of the validity of question items is done using Pearson product-moment correlation. The questionnaire tested in this study was developed by researchers and has been tested for validity and reliability based on references from references

related to these variables. The health services adolescent reproductive health variable (X1) was developed with reference sources¹⁵. Cancer Screening with BSE (X2) was developed from¹⁶. Community health center nurse monitoring (Puskesmas) (X3)¹⁷ the role of school health business (UKS) (Y1)¹⁸. WhatsApp application (Y2), while service quality (Z). The data collection process was carried out through surveys on female student of State Senior High School No. 5 in Banda

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Aceh and Senior High School No. 1 Sigli Aceh province, Indonesia.

Procedure

This research was conducted between June and August 2019 on female students of State Senior High School in 2 Kota districts in Aceh, Indonesia. The researchers introduced themselves and explained the benefits, objectives, and approval procedures by referring to the informed consent form. Furthermore, researchers gave questionnaires to respondents about health services adolescent reproductive health (X1), Cancer Screening with BSE (X2), community health center nurse monitoring (X3), the role of school health business (Y1), WhatsApp application (Y2) and service quality (Z).

Analysis

Data analysis was carried out by applying structural equation modeling (SEM) using a software named AMOS 22. The SEM analysis model was used because the equation model is a set of statistical techniques that allow testing a series of relatively complex relationships simultaneously¹⁹

Ethical consideration

This research was conducted with an ethics test conducted at the Poltekkes Aceh and received research approval from the Hospital Director. In addition, it has been explained to adolescent who were selected as respondents about the purpose of the study and agreed by respondents on the informed consent.

RESULTS

Demographic Characteristic

Table 2 Demographic Characteristic (n=199)

No	Description	Frequency	Percentage
	Age		
	14 - 15 years	29	14.6
	16 - 18 years	164	82.4
	>18 years	6	3.0
	Living With		
	Family	183	92.0
	Relative	4	2.0
	Renting	12	6.0
	Last education of mother		
	SMP (Junior High School)	68	34.2
	SMU (Senior High School)	93	46.7
	Diploma/Bachelor	38	19.1
	Health check to the health centre/doctor		
	Every year regularly	6	3.0
	If there are complaints	136	68.3
	Never check	57	28.6
	Menstruation cycle		
	Regularly every month	182	91.5
	Regularly every 2 months or more	17	8.5
	Average monthly family income		
	< Rp. 1.350.000,-	123	61.8
	Rp. 1.350.000 - 2.999.999,-	39	19.6
	Rp. 3.000.000 - 3.999.999,-	25	12.6
	Rp. 4.000.000 - 4.999.999,-	8	4.0
	Rp. 5.000.000 - 5.499.999,-	4	2.0
	TOTAL	199	100

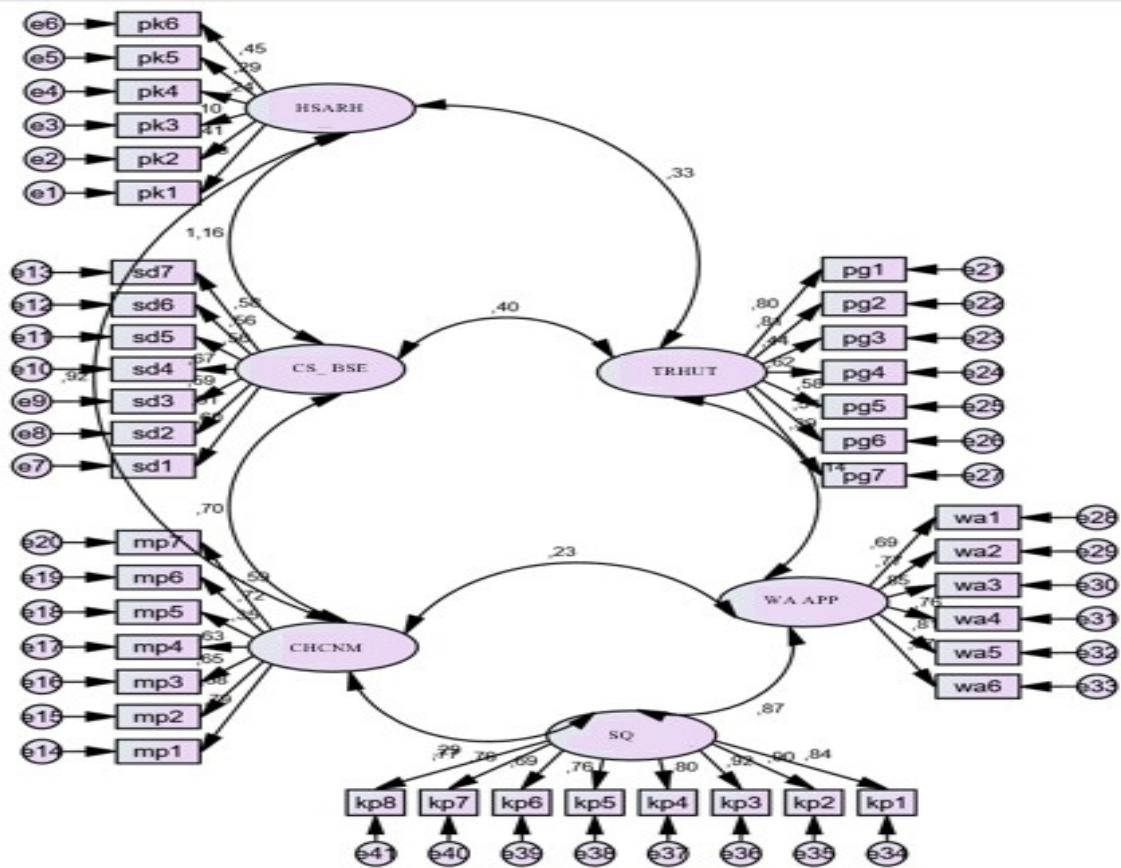
In Table 2, it can be seen that the highest age group of respondents at the age level of 16-18 years old was 112 people or 82,4.% of the total respondents. Other characteristics of respondent, which are respondents who live with their family are the largest group of respondents; they are 92%. Judging from the level of education of the respondent's mother, the largest proportion is high school education, which are 46.7%. Regarding information about health checks, respondents only do the check up if there were some complaints with the highest percentage, which are 68.3%. Regarding the menstrual cycle experienced by respondents, it showed regularly every month, which are 91.5% and the

most family income is in the category < Rp. 1,350,000, which is 61.8%.

Confirmatory Factor Analysis

The object of research that becomes eksogeneous variable is reproductive health services for adolescents, BSE measures and monitoring health center endogeneous while the endogeneous variable is the role of UKS teachers, WhatsApp application and service quality. This study also offered the path diagram as shown in the following. Concerning to dimensions observed on latent exogen and endogen variables are amounted to 41 dimensions.

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Explanation

Fig.1 Confirmatory Factor Analysis
 HSARH : Health Services adolescent reproductive health
 CS_BSE : Cancer Screening with BSE
 CHCNM : Community Health Center Nurse Monitoring (Puskesmas)
 TRHUT : The Role of School Health Unit (UKS) Teachers
 WA_APP : WhatsApp application
 SQ : Service quality

Based on Figure 1, It can be explained that the influence of each variable, namely adolescent health care services, Breast Self Examination, monitoring of health center nurses and the role of UKS teachers on the

WA application and also the indirect influence on the quality of health services through wa through the WA application. The test of the full feasibility of the SEM model was tested using Chi square, GFI (Goodness Of Fit Indeks), AGFI (Adjusted Goodness Fit Of Index), CFI (Comparative Fit Index), TLI (*Tucker Lewis Index*), CMIN/DF and RMSEA (Root Mean Square Error of Approximation) within the expected value range, as in Table 3 .

As for the 6 variables as shown above, there are indicators that are tested for the relationship in the development of this model, which is as in table 3 below:

Table 3. Variables and indicators

No	Variables	Indicators
1	Health Services Adolescent reproductive health	pk1. Regular breast examinations at the health center 3 times/year pk2. Perform breast examination if there are complaints pk3. There is a breast lump size > 0.5 cm and have never checked at pk4. There is no lump in the breast when check up pk5. Breast disorders disturb emotions pk6. After being examined, there is a desire for further treatment
2	Cancer Screening with BSE	sd1. BSE checks are carried out twice a month sd2. Check up before & after menstruation sd3. Breast examination is done while bathing sd4. Position of the examination is done standing and sleeping sd5. Examination by touching slowly sd6. Results of the examination are submitted to the UKSteacher sd7. Discuss with UKS teachers about Follow-up Plan
3	Community Health Center Nurse Monitoring (Puskesmas)	mp1. Puskesmas nurses scheduled at least one visit to SMA/month mp2. The examination result data was recorded from UKS teacher mp3. Re-check students who need follow-up mp4. The activity was carried out simultaneously with the UKS day at school MP5. Doctor's examination is carried out if necessary mp6. The nurse records the results to be reported to the Puskesmas mp7. The data is used for further program planning.

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4	The Role of School Health Unit (UKS) Teachers	Pg1. The teacher prepares one activity/month PG2. Training materials are given according to needs PG3. Teenagers report the results of the examination with WA pg4. Teacher motivates through WA to check their own breasts pg5. Teens ask if there are difficulties using WA pg6. The teacher called the girls who did not report pg7. Teenagers are comfortable reporting with WA to Puskesmas nurse
5	WhatsApp application	wa1. The BSE booklet is clearly conveyed on WA wa2. Every step of the BSE examination arranged systematically wa3. Photo inspection is easy to do wa4. Photo of each inspection movement are clear wa5. Interesting BSE videos wa6. The video is in accordance with the booklet material
6	Service quality	kp1. Adolescents said they were satisfied with the Health service Kp2. 80% of teenagers do BSE examination kp3. Service runs smoothly kp4. Reliable teenagers do BSE examination kp5. Reliable nurse monitors UKS data at school kp6. The teacher likes to use the WA application for health kp7. The teacher readily sends data to the nurse kp8. Nurses are sensitive to the teacher's questions

Confirmatory factor analysis of research variable construct (SEM)

Analysis of the data used in this study is Structural Equation Modeling (SEM) by first testing its dimensions with Confirmatory Factor Analysis. The research model consisted of 41 dimensions or indicators and the causality relationship between the hypothesized variables was tested.

The result shows that the model used can be accepted with the level of significance 0.072 which means that it is a good structural equation. The measuring index of GFI, CFI, CMIN/DF and RMSEA are also in the expected range.

Table 4. Goodness of Fit

Goodness of Fit Index	Cut off Value	Result of analysis	Evaluation Model
Degree of Freedom (DF)	Positive (+)	Positive (+)	Good
χ^2 (Chi-Square)	Small probability	205,758	Good
Significant Probability	$\geq 0,05$	0,055	Good
CMIN/DF	$\leq 2,00$	1,707	Good
GFI	$\geq 0,90$	0,957	Good
AGFI	$\geq 0,90$	0,956	Good
PGFI	$\geq 0,90$	0,907	Good
NFI	$\geq 0,90$	0,997	Good
TLI	$\geq 0,90$	0,995	Good
CFI	$\geq 0,90$	0,964	Good
PNFI	0,60 – 0,90	0,633	Good
RMSEA	0,05 – 0 08	0,074	Good

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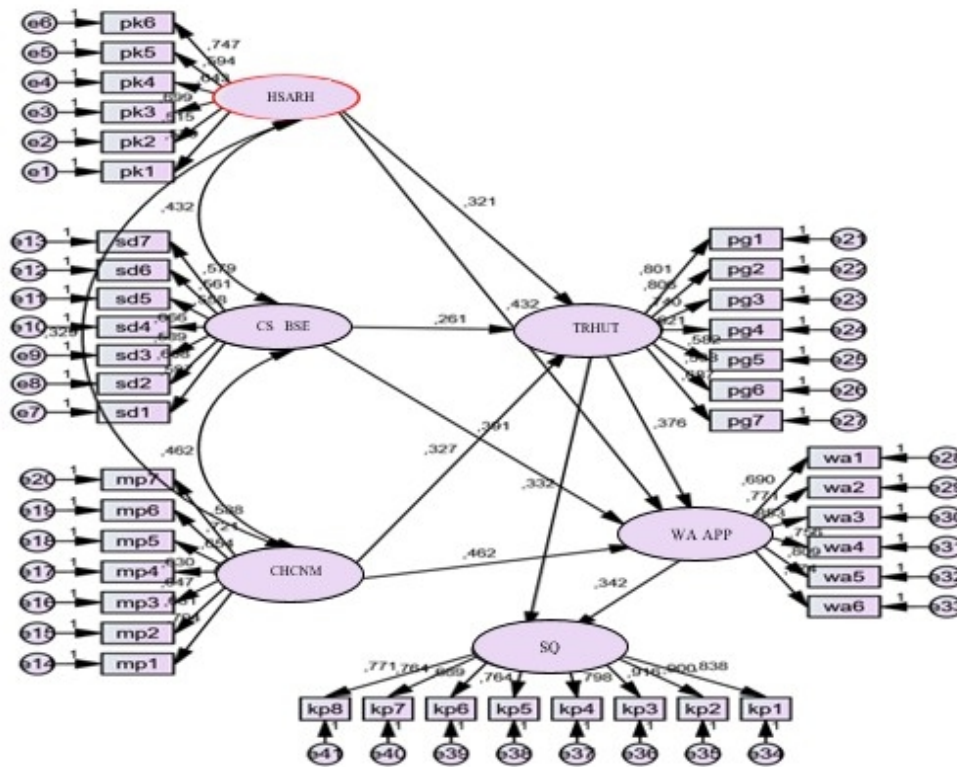


fig 2 Confirmatory Full Model

Explanation

- HSARH : Health Services adolescent reproductive health
- CS_BSE : Cancer Screening with BSE
- CHCNM : Community Health Center Nurse Monitoring (Puskesmas)
- TRHUT : The Role of School Health Unit (UKS) Teachers
- WA APP : WhatsApp application
- SQ : Service quality

These results indicate that the model used can be accepted with a significance level of 0.000 indicating a good structural equation model. The measurement indexes of Goodness of Fit Index (GFI), Comparative Fit Index (CFI), The Minimum Sample Discrepancy Function (CMIN/DF) and The Root Mean Square Error of Approximation (RMSEA are in the range of expected values).

DISCUSSION

The Influence of adolescent reproductive health service towards the role of UKS teachers

The estimation parameter for testing the effect of adolescent Kespro health services towards the role of UKS teachers shows a probability value of 0.000. The extent of the influence of youth health care services on the role of UKS teachers is 0.321 or 32.1%. Thus, it can be concluded that health services for adolescent reproductive health are affected by the role of UKS teachers. A similar study performed by the National Breast and Cervical Cancer Early Detection Program (NBCCEDP) conducting early detection of cervical and breast cancer to 1.8 million American women who were screened from 1991-2007. There were 82.4% women screened in the age range 40- 64 years. The results found that most (98%) women were diagnosed with pre-cancerous conditions^{2 0}. Another study found that only 20.0% of respondents considered that painless lumps as an early sign of breast

cancer and only 40.9% considered pain as an early sign of the disease. The results of the logistic regression test on patient counseling showed that the increase in knowledge about breast cancer among nurses create the opportunity for them to teach the knowledge to patients increased significantly by 7.5% (95% CI = 1.27 - 1.125). In addition, there was also a significant relationship between knowledge of how to detect early breast cancer and BSE practice²¹.

Adolescents welfare services by involving teachers at school are inspired by the increasing number of teenagers using the WA application in daily activities, both formal and informal. Health monitoring activities on teenage breasts involving homeroom teachers and UKS are fun activities for students, teachers and nurses. This activity is carried out in coordination between the health center and school institutions. BSE examination activities are carried out by teenagers at home, while monitoring is carried out by nurses only on adolescents who have complaints at school. These complaints include a lump in the breast and a history of irregular menstruation which aims to carry out further treatment at the Puskesmas or hospital. Kondisi itu menunjukkan gangguan psikologis pada student seperti stress, kondisi yang mengakibatkan reaksi seseorang baik secara fisik maupun emosional (mental/psikis) apabila ada perubahan dari lingkungan yang mengharuskan seseorang menyesuaikan diri^{22,23,24,25}. Bahkan jika terjadi berangsur lama kondisi ini dapat mengakibatkan gangguan jiwa^{26,27,28,29} seperti self esteemnya terganggu yaitu low self esteem yang merupakan penilaian negative terhadap dirinya sendiri^{30,31}.

For high school adolescents who became respondents, the results were generally still in the normal category, but there were things that disturbed the reproductive system such as: irregular menstruation (one menstrual period/2 months, number of menstrual days < 3 days and pre-menstrual pain). Those who experience menstrual

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irregularities caused by unstable hormones need supervision for regular breast examinations. According to the students, the BSE activities socialized through WA create a sense of hesitation for them in doing self-examination, but after there are questions and answers through WA, they felt comfortable doing BSE.

The Effect of BSE towards the role of UKS teachers

The estimation parameter for testing the effect of BSE towards the role of UKS teachers shows a value with a probability of 0.000. The extent of the influence of BSE towards the role of UKS teachers was 0.261 or 26.1%. This indicates that BSE will have a real impact on the role of UKS teachers to participate in periodic independent breast examinations by adolescents. The results of other studies stated that breast cancer is a major threat to the health of women in Taiwan, including adolescents. Breast self-examination (BSE) lead to a reduction in mortality from breast cancer. This examination is recommended by some Department of Health in the world. The results of these studies found that a sense of security in women become important motivator to follow the inspection BSE regularly. Furthermore, motivation was explained as the second factor for the participants to conduct BSE. Motivation, opportunity, clarification of confusion, maintaining health, and monitoring of disease, are related to breast cancer risk perception and related to BSE^{32,33}

BSE examination activities in adolescents at schools involving homeroom teachers and UKS teachers provide a sense of security and comfort to adolescents, because teachers are the closest person to adolescents after their parents at home. In addition, teachers become more concerned with their students if it is known that something abnormal is found in their breasts. The UKS program usually only involve general activities in health (personal hygiene, healthy eating and healthy behavior). Having BSE subject during learning activities at school is compulsory, important, and easy to understand by students when the activities are supported by teachers at school. The way teenagers practice BSE is influenced by personal and social factors. Understanding of the disease, assessing different risks, how to make health decisions also affect BSE examination. The results of other studies suggest that to get a better understanding of breast health, it is not only limited by recommendations from the health team, but it also requires a social approach and community health-based programs and in special groups and general education institutions including SMA (senior high school). The development of BSE examination activities in schools involving Puskesmas requires further collaboration between the Ministry of Education and Culture (schools), the Ministry of Health (Puskesmas) and of course parents to support this activity. The results of short interviews with adolescents conclude that they really like these activities, because they are more independent, avoid embarrassment when seen by others and they can save time because they don't need to go to the hospital or Puskesmas.

Monitoring Effect of Puskesmas nurses towards the role of UKS teachers.

The estimation parameter for testing the monitoring effect of community health center (Puskesmas) nurses on the role of UKS teachers shows a probability value of 0.000. The extent of the influence of monitoring by puskesmas nurses on the role of UKS teachers is 0.327 or 32.7%. Monitoring that is carried out periodically by the local health center has an influence towards the

role of UKS teachers in providing reproductive health services for girls. The implementation of BSE requires support from various parties, including nurses at the Puskesmas. Long-term support for adolescent to conduct a self-care to prevent breast cancer needs special attention because this method is the easiest and fastest way to detect the symptoms and signs of breast cancer. This monitoring is much needed than surveillance in the hospital and it increases patient adherence to self-care³⁴. The BSE program that is given to adolescents is very helpful for the Puskesmas and UKS programs organized by the school. The implementation of BSE socialization through WA facilitated by Puskesmas nurses and UKS teachers gave positive impact to students to independently protect their organs from various risks, including infection, tumor or cancer. Even though there were questions from students in the group who asked repeatedly every time they encountered problems in the examination and clarified the results of the examination, the UKS nurses and teachers had to answer patiently. In general, the implementation of BSE checks can be carried out by students with guidance.

The Influence of Adolescent Reproductive Health Services towards WA Application

The estimation parameter for testing the effect of adolescent health care services towards the WA application shows a probability value of 0.000. In this study, the extent of the influence of adolescent health care services on the WA application was 0.432 or 43.2%. Health services for adolescent health care have an effect on the implementation of WA applications for young women in high school in Aceh and have a positive real effect in order to improve the application of good WA applications for adolescents. The test of the influence of adolescent reproductive health services on the WA application obtained the second largest effect on this model test. Even though there are obstacles; students are not allowed to bring their cellphones to school, but this examination can be done in the afternoon and on holidays. The influence is around 43.2% which can have a positive effect on other UKS activities in schools. When it is related to socio-demographic factors, the majority of adolescents are 16-18 years old, 164 people (82.4%) and living with their parents as many as 183 people (92%), even though there are 93 parents whose average education is high school (46.7%) and may not understand about BSE. However, this activity is very useful for teenagers in school. The results of previous research showed that there is a high fear of cancer in respondents (62%), and other studies, showed only 31-52%. Sociodemographic factors, medical factors, low levels of social function and psychological factors also influence the willingness to do BSE which is not good. The results of the study illustrate that fear is a significant problem among cancer patients in the younger age group for consultation with the medical team. Nurses can provide information to adolescents about breast health services, especially for early detection through BSE^{33,34}. Several publications have suggested that the quality of health care received by patients in the world does not always match the ideal care. In a survey of 30 health conditions ranging from osteoarthritis to breast cancer, it was found that patient services and expectations were mismatched. Another survey found that the average American receives about half (54.9%) of the recommended medical treatment process that he or she receives at a medical service³⁵

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Guidelines for BSE services are very important for adolescents so that they can be done regularly every month. The booklets and videos socialized by nurses through WA are an interesting medium, which can be stored and can be used repeatedly. As we know, adolescents are still unstable in their behavior, so the use of knowledge socialization through WA while at the same time avoiding adolescents from the negative use of social media are excellent idea. BSE materials can be used as a means of utilizing technology in learning and preventing breast cancer. Health services through the WA application are simple, can be stored for a long time, save money and time and are effective and efficient in the message (1 message can be received by all members). The use of WA at the same time strengthens our assumption that WA can be used in positive and useful things, including youth welfare services.

The Effect of BSE towards WA Application on Adolescents

The estimated parameter for testing the effect of BSE on WA application shows a probability value of 0.000. In the test on this variable, the extent of the influence of BSE on WA application is 0.391 or 39.1%. It is believed that BSE has an effect on WA application group among high school teenage girls in Aceh.

The results of testing the effect of the WA application on BSE were positive and the success was 39.1%. This was shown by the participation of students in the presence of researchers and other UKS activities. Students actively ask questions during socialization activities in WA in the afternoon and evening and plans to come to Puskesmas for those who have complaints about menstrual disorders. Currently, breast cancer is one of the most frequently detected cancers and is the leading cause of death in women worldwide. Based on the National Cancer Registry in Asian countries, the average breast cancer incidence rate is 21.3 per 100,000 population in Jordan, 21.4 per 100,000 in Iran, 24.1 per 100,000 in Turkey and 52 per 100,000 population in Japan and South Korea. While in Malaysia, breast cancer is the most common cancer and the leading cause of cancer death among women. According to the National Cancer Registry, there are 3525 cases of female breast cancer registered in Malaysia, and 1 in every 19

Malaysian women has a chance of developing breast cancer during their lifetime. Early detection of breast cancer can reduce morbidity and mortality for women³⁶

WhatsApp application is currently widely used by every community group in a positive form such as worker groups and official organizations. The use is tailored to the needs of its members, such as formal education groups, religious groups and other groups that require fast sharing of knowledge and information and can be used by large numbers of members. The delivery of BSE information through WA is proven by the results of the analysis to be effective and beneficial for adolescents. This result can be strengthened by other variables such as teachers, nurses and programs implemented by schools for continuous guidance on BSE activities.

The effect of Puskesmas nurses monitoring towards WA application for adolescents

The test of effect of Puskesmas nurses monitoring towards WA application shows a probability value of 0.000, the extent of influence of monitoring of Puskesmas nurses monitoring towards WA application is

0.462 or 46.2%. These results mean that monitoring of Puskesmas nurses will have an effect on the implementation of the WA application group among high school adolescents in Aceh. The effect of monitoring Puskesmas nurses towards WA application results is 46.2% and is the biggest influence of this test. Monitoring nurses in adolescent reproductive health services using WA can help the performance of nurses at Puskesmas because nurses can monitor everything that is asked by teenagers in the WA group regarding BSE. In addition, the nurse and the teacher can motivate and clarify the actions and results found after the examination at home. The results of a similar study on nurses' knowledge regarding cancer in Pakistan found that 35% of nurses had good knowledge about cancer risk factors. Nurses who graduates from private nursing schools (aOR = 4.23, 95% CI: 2.93, 6.10), nurses who caring for breast cancer patients (aOR = 1.41, 95% CI: 1.00,

1.99) , those who had received breast self-examination (aOR = 1.56, 95% CI: 1.08, 2.26) or those who had examined the patient's breasts (aOR = 1.87, 95% CI: 1.34

2, 61) are more likely to have good knowledge³⁷ Nurses who have knowledge about BSE and early detection of cancer are believed to pay more attention to delivering material well to adolescents. BSE information carried out with media such as WA will make it easier for nurses to monitor programs carried out on adolescents. On the other hand, adolescents who have been given material at least every weekend are reminded to do BSE after 7 days of menstruation. Motivation is still given by the teachers and nurses in the group so that students can remember a good schedule for doing BSE at home. Nurse monitoring of the correctness and timeliness of BSE has a significant effect compared to other variables. When we see from the education of the mother (parents) of students who has average education of high school (46.7%), the role of nurses in motivating students to do BSE is very important. Mothers who have the same education as their daughters will have an impact that the BSE program is poorly understood to care for breasts independently. The lack of support system from parents can replace by the support from the presence of nurses providing comfort and motivation for students to do it regularly on BSE.

The Influence of UKS Teachers Role Towards the WA Application

The estimated parameter for testing the effect of UKS teacher role towards WA application shows a probability value of 0,000. The extent of the influence of UKS teachers role towards WA application is 0.376 or 37.6%. Thus it can be explained that the UKS program has an effect on the WA application. The results of this test were supported by the researchers' observations on the role of the teacher in interacting with students who acted as friends that greatly support the success of BSE at home. Teachers' comments, motivation and clarification in WA are firm yet nurture students to obey these activities. Apart from BSE, students were also provided with information about health during the UKS program such as healthy food, personal hygiene including washing hands and brushing teeth. The results of the study were similar in 137 patients who had cancer. The average consultation time was 6 months and median time to diagnosis was 1 month. The delay in diagnosis in that study was attributed to personal reasons 70.1% and medical reasons in 13.9% patients. A number of factors are thought to cause delay in diagnosis, which are:

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symptoms are not taken seriously, traditional therapy and fear of cancer diagnosis. The use of traditional methods was significantly associated with rural residence and far from primary health centers ($p = 0.000$). Paradoxically, family perceptions of breast cancer were significantly higher than fear of cancer diagnosis and/or treatment of late diagnosis ($p < 0.001$). The risk of disease was significantly higher at > 6 months' delay in rural women ($P = 0.035$) and those living far from specialized care centers ($P = 0.001$)³⁸

Delaying is a very serious problem because delay in diagnosis is associated with a complex interaction between several factors and with an advanced stage of the disease. Therefore the need to increase breast cancer information by promoting early detection through BSE is one of the measures to find and prevent breast cancer found in advanced stage conditions in the community, including adolescents.

The influence of UKS teachers Role towards the quality of Reproductive Health Service through WA

The test of effect of UKS teacher role towards WA application shows a probability value of 0,000. In this study, the extent of effect of UKS teachers role on the quality of reproductive health services through WA application was 0.332 or 33.2%. The role of the UKS teacher allows each activity to be prepared and managed as needed by the teacher. UKS teachers collaborate with each class and academic teacher so that students can attend all of the BSE socialization activities. The socialization of breast cancer needs to be done early, because breast cancer is the most common cancer in women and many cases due to late diagnosis. The incidence rate is about 1.67 million new cancer cases each year. Invasive treatment and physical symptoms have a huge impact on the well-being of the patient. During active anticancer treatment, 33% of breast cancer patients suffered from psychological distress, 15% of patients experienced stress after treatment and were in the re-entry phase for further treatment, and another 15% remained depressed for several years. Thus, the psychological consequences of cancer and/or its treatment appear to be lasting. Therefore early prevention with the BSE examination method is the most appropriate way rather than treating a disease that frightens every woman³⁹

The involvement of school teachers in breast self-examination (BSE) is an additional new experience for teachers. It's just that activities need to be planned during free class hours according to the agreement of the principal and Puskesmas. BSE activities need to be divided into each class in an organized manner, so that teenagers can gain knowledge and skills after watching the video. Adolescents need support from their respective class teachers to do BSE after the 10th day of menstruation, record and report to the UKS teacher if complaints are found after the examination.

The Effect of the WA Application on the Quality of the Kespro Service

The estimation parameter for testing the effect of the WA application on the quality of Kespro service through the WA application shows a probability value of 0.000. The effect of the WA application on the quality of the Kespro service through the WA application is 0.342 or 34.2%. The results of this study have an implication that WA application services among young women have an impact on improving the quality of health care services. This is because it is easier for female teenagers to use the WA

application to conduct consultations or seek information from the WA group regarding health. Breast cancer is the most common cancer for women both in developed and developing countries. The incidence of breast cancer in Karachi, Pakistan was 69.1 per 100,000 with breast cancer presentation at stage III and IV common ($\geq 50\%$). The success of early detection is related to existing health education in women about breast cancer. Nurses are a special group whose characteristics are most suitable for disseminating breast cancer information to women. Nurses are people who have been equipped with knowledge and their role as educators is needed for individuals, families and communities^{21,40}

Extension activities can be carried out in UKS activities, which have a link between the Puskesmas and UKS programs. Socialization of BSE in schools can be carried out officially and in a planned manner monitored by UKS teachers and Puskesmas nurses. To deliver the material repeatedly, it has been done with WA in an official group. In the group, there is a person in charge who can control any obstacles faced by students, such as teacher assistants, homeroom teachers and appointed administrative staff.

CONCLUSION

The results found in the adolescent health service variables, that services can be modified using WA media, involving monitoring nurses and UKS teachers to improve service quality. Breast Self Examination (BSE) can be carried out not only involving health workers, but involving those who closest to adolescents such as teachers and parents and it is also one of the way to increase early detection of breast cancer in adolescents. In research activities showed that BSE is something fun and students are motivated to do it. This can be interpreted that the service can be carried out in a place other than the health center or hospital that can be reached widely and has good results. The activities of expanding the UKS program can be implemented to ideally improve the quality of services to adolescents. It is not only general matters, but also adjusted to the needs and public health statistics. If we pay attention at the high rate of breast cancer in Indonesia, this program is one of the way to detect it early with adolescents, so that after marriage they already have provisions on breast care.

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