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Peer Group WhatsApp Can Enhances Knowledge And Attitude About Sanitary Pads in Adolescent Girls

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ABSTRAK

Introduction: Currently, many women still do not know what kind of pads are safe to use. Errors in choice and use of pads can hurt reproductive health. **Purpose**: Knowing the influence of peer group education WhatsApp (PGEW) on promoting knowledge and attitude (KA) about sanitary pads. **Methods**: The type of research is a quasi-experiment pre-and post-test with a control group; the samples are 30 people in each group; the sampling technique is consecutive sampling; Data of (KA) have been collected by filling out questionnaires, and research has been conducted for 3–4 months Education in the intervention group is done via WhatsApp, while education in the control group is done via a module. The statistical test used T-Independent test. **Results**: There was an increase in the average knowledge of 10.26 from (67.44-77.69, p-value <0.001), and there was an increase in the average attitude of 4.18 from (50.48-54.65, p-value 0.024). Independent T-tests showed that there was a difference in average knowledge around 7.436 (p-value 0.014< α 0.05) and there is a difference in average attitude around 8.360 (p-value 0.027< α 0.05). **Conclusion**: The PGEW method is effectively used to improve the (KA) of adolescents about sanitary pads.

INTRODUCTION

Adolescent have lack of accuracy in the management of the use of menstrual pads and bad behavior during menstruation (Rahmatika, 2010). It cause that girls get not comprehensive information at school about hygiene menstruation prior and difficult to manage menstruation hygienically includes menstrual pad hygiene, genital and personal hygiene (Muna, 2023); (Wihdaturrahmah & Chuemchit, 2023). Study of menstrual hygiene behavior among female adolescents in Tangerang Indonesia showed that 21.3% had poor and 48,9% had moderate knowledge of menstruation hygiene, only 17.4% had a positive attitude toward menstrual hygiene, and 47.7% had poor menstrual practices (Wihdaturrahmah & Chuemchit, 2023).

Hygiene related to practice during menstruation is very important (Arora et al., 2013) and sanitary menstrual pads are an important component of menstrual hygiene (Sommer et al., 2024). Every adolescent girls should know the characteristics of the pads, which are clean and healthy, and also how to use them appropriately

((Rosmina et al., 2018). If the practice is non-hygiene during the menstrual cycle will increase susceptibility to reproductive tract infections, pelvic inflammatory diseases, endometritis, cancer risk and other complications (Arora et al., 2013; Wihdaturrahmah & Chuemchit, 2023; (Sinaga et al., 2017;).

Today, unavoidable disposable menstrual pads are preferred by adolescents because it is easier to use and easier to dispose of (Sulianti & Arafah, 2019). Unfortunately, the menstrual pads are not all safe to use for health. Based on the results of laboratory tests on the disposable pads and panty liner, it was found that nine well-known brands of pads containing chlorine dioxin with very high levels reached 6-55 ppm chlorine, exceeding the maximum limit that is safe to use, which is 5 ppm (YLKI, 2015). Menteri Kesehatan Republik Indonesia banned the use of chlorine in the bleaching process of dressing material for chlorine gas, which can produce dioxins and carcinogenic compounds that may pose a risk of endometritis and cervical cancer (Sinaga et al., 2017; Sulianti & Arafah, 2019). The research by team experts stated menstrual pads include the synthetic pads that are often circulated on the market, contain materials is very dangerous to health. Even the base material is not 100% pure cotton but consists of a mixture of wood powder and chlorinated garment waste (Elmert, 2012; Desvi, 2019).

The knowledge and attitudes influenced the behavior of selecting and using sanitary pads is crucial for young adolescent (Doda et al., 2021; Notoatmodjo, 2012). Currently, there are still many women who do not know which types of pads are safe to use. The UNICEF research results show that 99% of women in urban areas use disposable menstrual pads, and only 5.5% use re-usable menstrual pads. Moreover, only 9.6% of women in rural areas use re-usable menstrual pads. A 2015 UNICEF study conducted at 16 schools in four provinces with 1402 participants in Indonesia stated that many girls were less exposed to directly information about sanitary pad accurately (Sinaga et al., 2017). Studi's Pane (2018) stated that 96.7% of adolescents stated to choose and use disposable pads but they did not know how to check menstrual pads safely (Rosmina,2017). The results of the preliminary study conducted on 10 female students found that 100% of the students stated that they used disposable pads because it practiced, not washed, and without knowing how to check for good sanitary pads. All of them changed the pads only twice a day; only 30% of them bring and change menstrual pads to school.

One educational method to increase knowledge that is suitable for adolescents is peer grouping (Nul Hakim & Widiastuti, 2013). Research of Soedarsono & Wulan (2017) stated teenagers are more concerned with the role of peer groups in social media and one of the most effective for peer learning is WhatsApp. Saraswati's research (2019) shows that education using the WhatsApp is more effective increase more knowledge and attitudes compared to leaflets. Research on increasing knowledge and attitudes about sanitary pads by social media WhatsApp has still not been studied in Indonesia, especially in Bengkulu. Besides that, this research is very relevant to the current situation because since the COVID-19 pandemic, teenagers are spending more time at home using gadgets and learning process via daring. Based on this phenomenon, the researcher was interested in conducting research to determine the effect of peer group education (PEG) through WhatsApp and learning via modules on promoting knowledge and attitudes (KA) about using sanitary menstrual pads in adolescent junior high school.

METHODS

The research design used was a quasi-experiment with a pre-posttest design with a control group. The study lasted for 3-4 months at the time of the COVID-19 pandemic that began in February to May 2020 after getting approval from the Health Research Ethics Committee, Politeknik Kesehatan Kementerian Kesehatan Bengkulu with number KEPK/007/01/2020. The population were all seventh grade female adolescent (FA) who had menstruation at several Junior High School (JHS) in Bengkulu City. This study involved 60 FA. The election of the four junior high schools is purposive, considering the similarities in their characteristics (location, school status, and curriculum). Randomly, two JHS was in peer group education WhatsApp (PGEW), and two JHS was assigned to LM (learning by modules). Each school randomly selected seventh grade students and we choosed 15 FA each school. The sampling technique used was systematic random sampling. The sample criteria in this study were regular menstruation each month, a minimum of menstruation twice, no abnormal intra uterine bleeding, have application WhatsApp in android handphone and the ability to read and write.

Researcher make two groups, each group having 15 female students and selection of leaders who will guide learning activities and discussions in groups. The choice of leader was done with many considerations such as being able to communicate fluently, able to inform the material and massage well, having good intellectual ability. After have chosen a leader, the leader is given training for 2 days, and the evaluated on their cognitive abilities and skills. Then the leader group shared materials by group WhatsApps every day. The first day: materials about the anatomy and physiology of woman reproduction, menstruation concepts, at second days : material about the menstrual pad and using menstrual pads. The third day : practice how to use it, checking, washing, and put the menstrual pads in the garbage bags appropriately. Learning media that have been used are Power Point slides, modules, images, file, and videos. For the member control group must read the module for 2 weeks at home, and the researcher monitors the respondents read the material of module every week.

Data collection used a written test via Google form to evaluate knowledge and attitudes (KA). The tools used in the study were questions to evaluate KA. The first step starting with the pre-test to measure (KA) and the post-test to evaluate the effect of the intervention on KA, and the post-test uses the same questions. After all participants had received material learning on sanitary pads and menstrual hygiene through WhatsApp, a post-test was administered. Pre-test and post-test sample between group have done at different time. Changes in KA state are measured by the difference between pre-post scores average. Knowledge is female students' understanding of types of menstrual pads, using menstrual pad, hygiene menstrual and how to check good menstrual pads and how to wash and clean pads and put in a garbage bags. Knowledge is measured using 26 written questions form adopted by Rosmina (2017). The researcher tested the validity of the KA questionnaire. The validity test of knowledge is r correlation is ≥ 0,361 (0,367–0.727), and the reliability test is Cronbach's alpha is ≥ 0,875 (realible). Measurements were once times in the pre-test and post-test. Correct answers get a value of 1, and wrong answers get 0.

Attitude is the FA's response and acceptance of hygiene sanitary pad. The attitude was measured with 10 written questions using a favorable and unfavorable statement. In a favorable statement, a value of 1 if ("agree") and 0 if ("disagree"). The assessment is the opposite of the unfavorable statement. It was adopted by Pane (2018. The researcher has tested the validity of the attitude questionnaire. The result

of the validity test of the attitude questionnaire is r correlation ≥ 0,361 (0,408–0.756), and the reliability test is Cronbach's alpha ≥ 0,875 (realible). Measurements were made once in the pre-test and once times in the post-test. After data being checked for completeness, edited, and coded, data is entered into statistical software. Then do univariate and bivariate analysis to assess the effect of the intervention. Before the bivariate test applied, we do a normality test to analyze the data distribution. The Pair-T test was applied to know differences in variable values (KA) before and after the intervention and the Independent T-test was used for differences in variable values (KA) between two of intervention (PGEW and LM). The analysis was performed at a 95% confidence level (α = 0.05).

RESULT

The data was analyzed, such as characteristic demographics and menstruation, which can be seen in the following table:

Table 1 Demographic Information and homogeneity test

Variables	Group		P value
	PGEW	LM	
	mean (SD) or %	mean (SD) or %	
Age	12.63 (0.669)	12.67 (0.547)	0.833*
Father's Education			
Low	1 (3.3%)	4 (13.3%)	
Intermediate	18 (60.0%)	19 (63.3%)	0.285**
High	11 (36.7%)	7 (23.3%)	
Mother's Education			
Low	1 (3.3%)	5 (16.7%)	0.117**
Intermediate	19 (63.3%)	21(70%)	
High	0 (33.3)	4 (13.3%)	
Parent's Income	7.630 (2.976)	4.360 (2.888)	0.723*

**T test independent, ** chi square test P value ≥ α 0.05*

Table 1 illustrates the average age of 12-year-old respondents in both groups. Most of the fathers (60%) and mothers (63,3%) in the PGEW and fathers (63.3%) and mother (70%) have intermediate education. The highest parent's income in the PGE group was 7.63 million in both group. The result of homogeneity test is p value >α 0,05 that means is characteristic of variable between groups is homogen or equal.

Table 2 Characteristics of Menstruation and homogenity test

Variables	Group		P value
	PGEW	LM	
	mean (SD) or %	mean (SD) or %	
Menarche's Age	11.57 (0.935)	11.63 (0.718)	0.758*
Length of Menstruation	6.20 (0.900)	6.33 (0.802)	0.367*
Menstrual Cycle	31.10 (3.336)	29.70 (3.239)	0.105*
Change Menstrual Pads	2.87 (0.629)	2.70 (0.794)	0.371*

**T test independent, P value ≥ α 0.05*

Table 2 shows the history of first menstruation (menarche) in both groups at the mean age of 11 years old (normal), and the average menstrual length of the respondents was 6 days (normal) in both groups. Respondents in the PGEW had a mean menstrual normal cycle of 31 days and in the LM group of 29 days (normal

cycle). Menstrual pad changing was done 2-3 times a day on average in both groups. All of the respondents were using ready-made sanitary pads or disposable pads. The result of homogeneity test is p value >α 0,05 that means is characteristic of menstruation between groups is homogen or equal.

Table 3 Description of Knowledge about Sanitary Pads

Variable	Group	
	PGEW	LM
	mean (SD) or %	mean (SD) or %
Get information not only from teacher or parents		
Yes	23 (76.67)	25 (83.3)
No	7 (23.33)	5 (16.7)
Handwash and vulva hygiene	73.33	68.89
Type and Function of Pads	85.83	90.83
Consideration to Choice of Pad	56.67	61.33
Risk of using menstrual pads	54.67	54.67
Change of menstrual pads	76.11	72.22
How to storing and disposing waste	78.33	85.00

Table 3 shows that from all respondents, the source of information about sanitary pads (80%) is not only parents or teachers; the average knowledge of handwashing and vaginal hygiene is (68.89; 73.33); the type and function of pads is good (85.83; 90.83); consideration of the choice of pads is still low (56.67; 61.33); the risk of disposable pads is still low (54.67); the change of menstrual pads is sufficient (72.22; 76.11); and storing and disposing of menstrual pads is good (78.33; 85.0).

Table 4 Description of Attitudes about Sanitary Pads

Variables	Agre/not agree	Group	
		PGEW	LM
		mean (SD) or %	mean (SD) or %
Use pads that contain clorine	Yes	1 (0.33)	2 (0.67)
	No	29 (96,67)	28 (93.33)
Use pads with free chlorine	Yes	29 (96,67)	29 (96,67)
	No	1 (0.33)	1 (0.33)
Use pads that contain no gel	Yes	7 (23.33 ()	13 (39.33)
	No	23 (76,67)	17 (56.67)
Frequency change of pads : 4-5 time/day	Yes	18 (60.00)	20 (66.67)
	No	12 (40.00)	10 (33.33)
Change of pads every 4-6 hour	Yes	19 (63.33)	21 (66.67)
	No	11 (16.67)	9 (33.33)
Use pads that have BPOM permission	Yes	29 (96,67)	25 (83,33)
	No	1 (0.33)	5 (16,67)
Use disposable pads	Yes	20 (66.67)	22 (73.33)
	No	10 (33.33)	8 (26.67)
Knowing chlorine in pads from social media	Yes	10 (33.33)	18 (60.0)
	No	20 (66.67)	12 (40.0)
Must check if pads are safe	Yes	24 (80.0)	18 (60.0)
	No	6 (20.0)	12 (40.0)
Low quality pads can cause vaginal itching	Yes	25 (83.33)	26 (86.67)
	No	5 (16.67)	4 (13.33)

Table 4 shows the attitude of all female students about using pads that contain chlorine in both groups: not agree (85%), using pads without chlorine is not agree (96.7%), using pads that contain no gel is 33.3%, changing menstrual pads was done 2-3 times a day on average in both groups (63.3%) is agree, changing pads every 4-6 hours/day is agree (51.7%), using pads with permission is agree (90%), using disposable pads is agree (70%), knowing pads contain chlorine from social media is agree (46.7%), must check if pads are safe to use is agree (63.3%), low quality pads can cause vaginal itching is agree (85%).

Table 5. Differences in pre-post and posttest statistical tests between the two groups, T-Paired's test results

Intervention	Variable	Pre-test Mean (SD)	Post-test Mean (SD)	P value
PGEW	Knowledge	67. 44 (10.386)	77. 69 (8.94)	0.000
	Attitude	50.48 (9.899)	54.65 (5.026)	0.024
LM	Knowledge	69.36 (7.920)	72.18 (9.40)	0.190
	Attitude	49.52 (10.248)	45.34 (11.543)	0.716

SD, deviation standart

Table 5 illustrates that after being given the PGE the mean value of baseline knowledge in the PGEW increase from (67.46-77.69), and in the LM group is from (69.36-72.18). The dependent t-test showed the p-value in PGEW group 0.000 (p value 0,000 ≤ α 0.05), which means that there is a difference in the average knowledge before and after the PGEW but in the LM group showed p value (0.190>α 0.05) which means that there is not a difference in the average knowledge before and after learning a module.

After being given the PGE, there was a change in the mean value of attitudes in the PGEW group from (50.48-54,65) and in the LM group decrease from (49.52-45,34). After being given the PGE, there was a change in the mean value of attitudes. The dependent t-test showed a p-value in the PGEW, namely 0.024 (p value 0,024 ≤ α = 0.05), which means that there is a difference in the average attitude before and after the intervention. But in the LM group showed p value (0.206>α 0.05) which means that there is not a difference in the mean attitude before and after learning a module.

Table 6 T-Independent's test results.

Intervention	Variable	Mean (SD)	Mean different	P value
PGEW	Knowledge	10.26 (11,172)	7.436	0.014
	Attitude	4.18 (9.584)		
LM	Knowledge	2.82 (11.513)	8.360	0.027
	Attitude	-4.18 (17,725)		

SD, deviation standart

Table 6 illustrates that after PGEW, the difference in the mean value of knowledge was only 10.26, and the mean in the LM group was only 2.82. The results of the independent t-test showed, a p-value of 0.014 (p value 0,014 ≤ α 0.05). It means that there is a significant effect of PGEW on increasing the knowledge. The difference increasing in the average value of attitude after being given PGEW is 4.18, and in the LM group experienced a decrease of -4.18. The results of the independent

t-test show a p-value 0,027 ≤ α 0.05). So, it means that PGEW has a significant effect on increasing the mean of adolescent's attitude about using sanitary pads.

DISCUSSION

The effect of the PGEW method can improve female student knowledge is better than the LM group. Knowledge is acquired when a person performs a sensory touch on an object. In this case, we can be understood that a person will acquire knowledge after he sees or observes and hears the material shared in WhatsApp (Notoatmodjo, 2013). PGEW makes respondents actively use their eyes and ears in read, observe and listening material learning and discuss actively. Coordination of the two senses increased respondents' knowledge in hygiene menstrual pad compared to the LM method.

PGE by WhatsApp, where the leader sent several materials learning about menstruation pad in various forms, that students can get learning materials in the form of pictures, videos, text, and varied forms repeatedly there by increasing understanding. There are various types of materials that make female students not bored studying learning materials and possibly increases interest in learning more. Besides that, WhatsApp can also be used for communication between female students, motivation, and the sharing materials. Through WhatsApp group, leaders and participants can ask questions, answer questions, or discuss in a more relaxed manner anytime without having to focus on the teacher, such as when teaching in class, which often causes students to feel afraid of making mistakes and embarrassed (Latif et al., 2019) .

According to Latif et al. (2019), stated WhatsApp as an important tool to enhance learning in medical education and can promote interactions between students, and it share with better and quicker knowledge transferring as well as group discussion to get a conclusion for better understanding. It can share knowledge and asking queries also helped shy or over-conscious students immensely and even helped in the improvement of their overall communicative skills and has facilitated learning at ease, anytime and anywhere. Answers and rationale provided by group discussion are immensely helpful in adding knowledge without spending much time looking for various reference books and other sources (Latif et al., 2019). The method of education through WhatsApp also provides an interactive discussion space between the leader and female student. WhatsApp also has an information feature to see whether other people have read messages or not, making it easier to control the presence of respondents during the discussion (Saraswati, 2019).

Several studies have reported the peer education through WhatsApp increase students' knowledge. This result is similar (Astutiningrum et al., 2021) about effect peer education (PE) online by WhatsApp and health education on knowledge and attitude hygiene menstrual in senior high school female adolescent in Kroya, which found that PE through WhatsApp effectively improved knowledge of hygiene menstrual. The difference is seen in the average increase in knowledge in the education through WhatsApp group by 3,45 from (7,22 to 10,69), and the control group only by 2,41 from (5,53 to 7,94).

The effect of the PGEW method (Table 3) shows that PGEW can improve female student attitudes by around 4,18, from 50,48 to 54,65. Meanwhile, the LM decreased by around -4,18, from 49,52 to 45,34. Individual attitudes are influenced by someone who considers them important. People who are usually considered important to adolescents are parents, peers, close friends, and teachers. Compared

to parents, adolescents prefer peers (Azwar, 2013). The cause of the increase in the mean attitude) in the PGE was the use of people who are considered important (peers). Thus, adolescents feel the same and have an effect on someone's attitude (Azwar, 2013). Besides that, in early adolescence, a person's knowledge is more influenced by their peers than by their family (Wong et al., 2008). PG are often used to change a person's behavior by modifying knowledge, attitudes, beliefs, or behaviors because adolescence is a phase when everything is more comfortable to tell friends, especially menstrual problems, so attitudes can increase (Noviana, 2017).

The difference in the increase in the average value of attitudes before and after PGE WhatsApp. It means that there is an significant effect of PGE WhatsApp on attitude of junior high school adolescents. A positive attitude towards adolescent girls shows good behavior when using menstrual sanitary pads (Rosmina, 2018). A positive attitude toward the use of menstrual pads is inseparable from the level of knowledge about menstrual pads because the formation of a person's behavior begins with a stimulus in the form of material. Consequently, the stimulus produces new knowledge, which will cause a response in the form of attitude (Notoatmodjo, 2013; Rosmina, 2017). Attitudes are influenced by mass media, like social media. New information about menstrual pads provides a new cognitive foundation for the formation of attitudes about menstrual pads. The suggestive messages carried by such information, when strong enough, will provide an effective basis for judging something so that a certain direction of attitude is formed (Azwar, 2013).

Several studies have reported the PE through WhatsApp method to increase students' affective. This result in line with research (Astutiningrum et al., 2021) about effect PE online by WhatsApp and health education on KA to hygiene menstrual in female adolescent in Kroya, which found that PE through WhatsApp effectively improved attitude of hygiene menstrual. The difference is seen in the average increase in attitude in the education by WhatsApp by 3,73 from (38,53 to 42,25), and the control group only by 2,58 from (37,11 to 39,69). The research (Nugroho et al., 2019) stated education by WhatsApp effectively promote self-care dysmenorrhea in senior high school female adolescent in Bengkulu City. The difference is seen in the average increase in self-care dysmenorrhea in the education WhatsApp by 16.37, and the control group only by 3.40.

CONCLUSSION

Many female adolescents have sufficient knowledge and attitude about menstrual pads. Media social WhatsApp is an good application that can be used by female adolescents and is effective to share information and learning materials of menstruation. The PGEW has an effect on increasing the KA about sanitary pads compare to module for female adolescents in Bengkulu City. The PEGW can be used as a learning method to discuss about menstruation in the junior high school. Study also recommend to compare learning methods to on KA and practice menstrual hygiene products such as face to face counseling, jigsaw and others.

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