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The effectiveness of peer group health education in improving adolescents' knowledge of menstrual personal hygiene

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Abstract

Adolescents often lack adequate knowledge about personal hygiene during menstruation, which can increase the risk of reproductive health problems. Effective educational strategies, such as the peer group method, are needed to improve adolescents' understanding because information delivered by peers tends to be more easily accepted and understood. This study aimed to determine the differences in adolescents' knowledge before and after receiving health education using the peer group method on personal hygiene during menstruation at SMP Negeri 21 Pontianak. This research employed a quasi-experimental one-group pretest–posttest design involving 34 respondents selected through probability sampling. Data were collected from March 26 to April 3, 2019, using a structured questionnaire. Univariate and bivariate analyses were conducted to examine changes in knowledge levels. The results showed a p-value of 0.001, indicating a statistically significant difference in knowledge before and after the intervention ($p < 0.05$). The findings demonstrate that peer group–based health education is effective in increasing adolescents' knowledge regarding menstrual personal hygiene. Therefore, the peer group method can be considered a beneficial approach for reproductive health education among young women at SMP Negeri 21 Pontianak.

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INTRODUCTION

Adolescence is a critical period of human development characterized by rapid biological, psychological, and intellectual changes (Dahl, 2004; Hazen, Schlozman, & Beresin, 2008; Konrad, Firk, & Uhlhaas, 2013; Kapur, 2015; Özdemir, Utkuarp, & Palloş, 2016). For adolescent girls, one of the most significant biological milestones is menarche, the onset of the first menstrual cycle, which marks reproductive maturity. Menstruation itself is a physiological process involving the discharge of blood from the vagina due to the shedding of the uterine lining when the ovum is not fertilized (Andina, 2023; Andini, 2023; Rosner, Samardzic, & Sarao, 2024; Thiyagarajan, Basit, & Jeanmonod, 2024). During this transitional phase, secondary sexual characteristics also develop, such as breast enlargement, widening of the pelvis, and the appearance of hair in the armpits and pubic area.

As these biological changes occur, adequate knowledge of reproductive health particularly personal hygiene during menstruation is essential. Proper genital hygiene plays a key role in preventing health problems such as infections and menstrual disturbances (Girigoswami et al., 2024; Jana, 2024). Personal hygiene is defined as the actions taken to maintain cleanliness and health for physical and psychological well-being (Stewart, Judd, & Wheeler, 2022; Kapur, 2023). Poor menstrual hygiene can lead to conditions such as vaginal discharge, urinary tract infections (UTIs), and even an increased risk of uterine cancer. WHO (2007) reports that 75% of women worldwide experience vaginal discharge at least once in their lifetime, and Indonesian data also highlight unhealthy hygiene behaviors among adolescents that contribute to microbial growth and genital complaints (Widyaningrum and Wahtini, 2015). Additionally, Indonesia's tropical climate exacerbates moisture and sweating, increasing bacterial and fungal growth that contributes to itching, odor, and infection.

Variation in adolescents' knowledge levels is also influenced by social factors, including peer groups. Peer groups play a pivotal role in shaping behaviors and values, as adolescents often adopt norms learned from their peers. The peer group method has advantages because sensitive reproductive health information can be communicated more comfortably and effectively using age-appropriate language. Studies by Anusree (2014), Suriani (2014), and Siti Rofi'ah (2017) demonstrate that knowledge of menstrual and reproductive hygiene among adolescent girls is still relatively low, but can be improved through peer-based health education.

Although existing studies confirm the effectiveness of peer group education, there remains a research gap: few studies have explored the use of peer group methods specifically for improving menstrual personal hygiene knowledge in public school settings located in tropical regions such as Pontianak. Preliminary findings at SMP Negeri 21 Pontianak revealed that all respondents (100%) exhibited poor menstrual hygiene practices, including insufficient frequency of pad changing and complaints such as genital itching and yellowish discharge. While the school has received health education from the Saigon Tanjung Raya II Community Health Center, the peer group approach has never been implemented. The novelty of this study lies in applying a peer group health education intervention in a public school context where such methods have not previously been used to address menstrual hygiene issues.

In alignment with the Indonesian Ministry of Health Decree No. 369/Menkes/SK/III/2007, midwives are mandated to provide reproductive health education, including the prevention of infections and menstrual hygiene problems. The aim to determine the difference in knowledge among adolescent girls before and after receiving peer group health education on personal hygiene during menstruation at SMP Negeri 21 Pontianak.

METHOD

This study is a quasi-experiment with a one-group pretest-posttest design. The study was conducted from March 27 to April 5, 2019, at SMP Negeri 21 Pontianak. The population in this study consisted of all female adolescents in grades VII and VIII at SMP Negeri 21 Pontianak, totaling 296 people. Sampling was conducted using probability sampling, specifically proportionate stratified random sampling, based on the inclusion criteria of , namely seventh and eighth grade female students, female students who have experienced menstruation, parents/guardians willing to have their daughters become respondents by filling out a respondent consent form, female students who have not received information about personal hygiene during menstruation, while the exclusion criteria were female students who were absent and female students who canceled their willingness to become research respondents. Based on these criteria, a sample of 34 respondents was obtained. This study was conducted by measuring changes in adolescent girls' knowledge about personal hygiene during menstruation before and after the peer group activity. The research instrument sshad been tested for validity and reliability, and data analysis used the Wilcoxon test.

RESULTS AND DISCUSSION

Table 1. Overview of Adolescent Girls' Knowledge Before and After Receiving Health Education Using the Peer Group Method at SMP Negeri 21 Pontianak in 2019.

Knowledge	N	Mean	SD	Median	Min-Max
Before	34	6.12	1.094	6.00	4-8
After	34	8.41	0.925	8.00	6-10

The results show that the mean value of respondents' knowledge before being given the peer group method was 6.00 with a minimum value of 4 and a maximum value of 8. Meanwhile, the respondents' knowledge after being given health education using the peer group method was 8.00 with a minimum value of 6 and a maximum value of 10. The normality test using the Shapiro-Wilk test showed that both data sets were not normally distributed.

Table 2. Differences in Knowledge of Adolescent Girls Before and After Receiving Health Education Using the Peer Group Method at SMP Negeri 21 Pontianak in 2019

Method	Before		After		Improvement	p-value
	Median	Min-Max	Median	Min-Max		
Peer Group	6.0	4	8	6-10	2.0	0.001

Table 2 shows that the p-value = 0.001 ($p \leq 0.05$), indicating a significant difference in the knowledge of adolescent girls before and after receiving peer group health education. There was an increase of 2.00 in knowledge scores following the intervention. This finding is consistent with the study conducted by Siti Rofi'ah (2017) entitled "The Effectiveness of Peer Group Health Education on the Level of Knowledge and Attitudes Towards Personal Hygiene During Menstruation at SMP IT Ihsanul Fikri," which reported that the peer group method effectively improved adolescents' knowledge and attitudes regarding menstrual hygiene, with a p-value = 0.000 ($p < 0.005$).

Based on the total questionnaire scores, the greatest improvements in knowledge were observed in questions 1, 4, 7, and 8 among respondents numbered 14, 17, 21, and 30. Meanwhile, the smallest improvements were found in questions 6 and 9 among respondents numbered 4 and 5. These results demonstrate variation in how adolescents absorb different components of menstrual hygiene information.

Another study by Suriani (2014) similarly found that peer groups significantly influence the increase in adolescent knowledge ($p = 0.001$). The peer group method enhances the

delivery of health education by allowing presenters and participants to communicate using language and expressions that are age-appropriate and easy to understand. Through this process, adolescents can progress from not knowing to knowing, supported by meaningful interaction within their peer environment.

Peer groups serve as a natural social setting where adolescents gather, exchange thoughts, and share personal experiences, whether positive or negative. They provide an atmosphere of trust and mutual support, despite occasional competition arising from differing interests (Utami & Isnaeni, 2016). In health education, the peer group approach offers the advantage of two-way communication, enabling adolescents to express opinions, ask questions, and discuss the materials freely. This interaction broadens their understanding and helps reinforce the information presented.

The effectiveness of the peer group method in this study was also evident from the active engagement and visible curiosity shown by the respondents during the educational sessions. This supports Machfoedz and Suryani (2009) theory that knowledge is acquired through the senses, and the more sensory pathways involved in receiving information, the clearer and stronger the knowledge obtained.

Although this study demonstrated a significant improvement in knowledge after peer group health education, it has certain limitations. The absence of a control group restricts the ability to compare outcomes with an untreated group, and other factors that may influence knowledge such as prior exposure to information, family environment, or media were not controlled. Future studies should consider these variables to strengthen the validity of the findings.

CONCLUSION

The findings of this study indicate that adolescents' knowledge about personal hygiene during menstruation increased after receiving health education through the peer group method. The peer group approach was shown to be effective in enhancing students' understanding of menstrual hygiene. Based on these results, it is recommended that teachers at SMP Negeri 21 Pontianak incorporate the peer group method into learning activities to further improve students' knowledge and strengthen health education practices in schools.

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