

# The Effect of Health Education Using Menshyc Media on Menstrual Hygiene Knowledge Among Elementary School Girls in Cisaga, Ciamis Regency

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## ABSTRACT

*Low levels of menstrual hygiene knowledge are commonly found among adolescent girls due to a lack of information and health education. According to Basic Health Research (Riskesdas, 2016), out of 69.4 million adolescents in Indonesia, 63 million exhibit poor personal hygiene practices, particularly in maintaining reproductive health during menstruation. This study aims to analyze the difference in menstrual hygiene knowledge among female students before and after receiving health education using the Menshyc media. This research employed a quantitative approach with a pre-experimental design (one-group pretest-posttest without a control group). The study population consisted of 115 fifth- and sixth-grade female students from public elementary schools in the Cisaga region. A total of 82 respondents were selected using proportionate stratified random sampling. Data were collected through a structured questionnaire and analyzed using the Wilcoxon signed-rank test. Statistical analysis using the Wilcoxon test showed a significant difference in knowledge levels before and after the intervention, with a p-value of 0.001 ( $p < 0.05$ ). There is a statistically significant difference in menstrual hygiene knowledge among fifth- and sixth-grade female students before and after receiving health education using the Menshyc media at public elementary schools in the Cisaga region, Ciamis Regency.*

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## 1. INTRODUCTION

Based on the results of research by the Indonesian Ministry of Health's Research and Development Agency (Balitbangkes RI, 2018) 72.1% of girls aged 10-19 in West Java Province have already experienced menstruation. Menstruation is defined as the discharge of blood from the vagina that occurs every month during a woman's active reproductive period (Michael et al., 2020). The duration of bleeding during menstruation is generally 2-7 days (Andini, 2023).

Lack of knowledge about menstrual hygiene can result in adolescent girls not maintaining proper hygiene during menstruation. If this is left unchecked, it can trigger an imbalance in pH levels, such as a decrease in acidity, and make them susceptible to infections, including vaginal discharge, vaginitis, and reproductive tract infections (RTIs). One of the ISRs that can occur as a result of improper menstrual hygiene

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behavior is pruritus vulvae. The symptoms of pruritus vulvae that arise are itching in the vulva and female genitalia during menstruation (Cahyani et al., 2022).

Based on data (*World Health Organization*, 2016) reproductive tract infections (RTIs) are most common among adolescents (35%-42%) and young adults (27-33%). In addition to these issues, reproductive health disorders in women are quite common in Indonesia, such as vaginal discharge 15% and fungal infections 5% (Auliani et al., 2021). Based on (Riskesdas, 2016) out of 69.4 million adolescents in Indonesia, 63 million of them have bad personal hygiene habits, such as not maintaining reproductive organ health during menstruation. Low awareness of menstrual hygiene is mostly experienced by adolescent girls due to a lack of information and health education on menstrual hygiene (Fitriani et al., 2024).

Efforts that can be made to improve understanding and knowledge among adolescent girls to prevent infections of the reproductive organs include providing health education. Health education on reproductive health is very important for adolescent girls so that they have accurate knowledge and information about reproductive health. Health education to improve personal hygiene knowledge, especially during menstruation, requires media that allows adolescents to learn in real-life situations.

The learning process can be carried out using cards or *Menshyc*, which stands for menstrual hygiene card, an innovation that aims to be developed through the modification of Index Card Match (ICM) to educate through play and learning. The ICM method is an engaging group learning activity where students match pairs of cards and arrange them into questions and answers, making the learning process enjoyable and creating a lively, non-boring classroom atmosphere. The ICM method enables students to communicate with their peers, thereby fostering cooperation and communication that values the opinions of other students (Prabowo et al., 2020).

Health education models can be supported by media that is appealing to respondents so that students are enthusiastic when participating in learning. Therefore, researchers will conduct health education by applying the ICM method. However, this modification of the ICM method was named *Menshyc* by the researcher. *Menshyc* is a card-based medium containing several questions and answers about menstrual hygiene, or more precisely, hygiene in the genital area of adolescents during menstruation. The advantage of this medium is that it is a simple game that is easy to play and can encourage adolescents to be careful and learn together with their peers (Sulitiani, 2022). This study aims to measure the difference in knowledge levels before and after health education, particularly regarding menstrual hygiene, through the use of the *Menshyc* media.

## 2. RESEARCH METHOD

This study uses a quantitative type with a pre-experimental one-group pre- and post-test design without a control group. According to (Sugiyono, 2022) pre-experimental research with a one-group pre-test-post-test design is a design that involves one sample group that is measured before and after intervention. The design used two measurements a pre-test was conducted first to determine the initial value before the intervention was given, and a post-test was conducted after the intervention was given so that the changes that occurred in the sample could be determined. The population in this study consisted of female students in grades V and VI at Cisaga Public Elementary School 1 and Cisaga Public Elementary School 4, with a total of 115 students. The sample size for this study was calculated using the K3 formula. Comparative-Categorical-Paired-Repeated Measurements-Two Measurements With Formula (Dahlan, 2019) based on P1 obtained from the journal (Azzahra et al., 2024) while P2 was determined by the researcher.

In this study, the inclusion criteria included fifth and sixth grade female students aged 10-13 years who were willing to participate as respondents, had experienced menstruation, were willing to fill out questionnaires, and were willing to participate in a series of interventions. Meanwhile, the exclusion criteria in this study included female students who were absent from school during the study and those who refused to participate during the study period.

The sampling technique used in this study is Proportionate Stratified Random Sampling. According to (Sugiyono, 2022), the proportionate stratified random sampling technique is used for populations with diverse members.

The purpose of this sampling technique is that the researcher assumes that the population in this study has different characteristics. The sample taken in this study consisted of 82 elementary school female students.

## 3. RESULT AND DISCUSSION

### 1. Result

#### a. Univariate Analysis

Table 1. shows the characteristics of respondents classified by age group, including the number and percentage in each category.

**Table 1. Characteristics of respondents based on age**

Age	Frequency	Percent
11 Tahun	33	40,2%
12 Tahun	40	48,8%
13 Tahun	9	11%

Based on the table above, it is known that the most common characteristic of respondents is 12 years old with a total of 40 respondents (48.8%) meanwhile, 33 respondents (40.2%) were 11 years old, and 9 respondents (11%) were 13 years old.

Table 2. presents an overview of the level of knowledge of female students in grades V and VI regarding menstrual hygiene before and after being given an intervention in the form of health education using *Menshyc* media.

**Table 2. Overview of adolescents' knowledge levels before and after intervention with *Menshyc* media**

Health Education <i>Menshyc</i>	Level of knowledge				Total
	Before		After		
	Total (n=82)				
<b>Good</b>	16	19,5%	47	57,3%	76,8%
<b>Enough</b>	24	29,3%	35	42,3%	71,6%
<b>Less</b>	42	51,2%	0,0	0,0%	51,2%

Based on Table 2, the level of knowledge among adolescents before the *Menshyc* media intervention was mostly less, with 42 respondents (51,2%) having a less level of knowledge. Meanwhile, after the *Menshyc* media intervention, the level of knowledge among adolescents was mostly good, with 47 respondents (57.3%) having a good level of knowledge.

#### b. Bivariat Analysis

The difference in respondent's knowledge levels before and after receiving health education using *Menshyc* media is shown in Table 3. which contains the results of the analysis to assess changes in knowledge levels based on the categories of good, enough, and less.

**Table 3. Results Differences in knowledge levels before and after health education using the *Menshyc* media**

Health education <i>menshyc</i>		After			P-value
		Good	Enough	Total	
<b>Before</b>	<b>Good</b>	16(100.0%)	0 (0.0%)	16(100.0%)	<0,001
	<b>Enough</b>	23(95.8%)	1 (4.2%)	24(100.0%)	
	<b>Less</b>	8 (19.0%)	34(81.0%)	42(100.0%)	
<b>Total</b>		47(57.3%)	35(42.7%)	82(100.0%)	

Based on Table 3. above, it is known that there was an increase in knowledge, where the level of knowledge before and after health education was good for 16 respondents (100.0%), the level of knowledge in the enough category became good for 23 respondents (95.8%), and the level of knowledge in the less category mostly became enough for 34 respondents (81.0%). The results of the Wilcoxon test showed a p-value <0.001, indicating a significant difference in the level of knowledge before and after health education using the *Menshyc* media.

## 2. Discussion

### 1) Characteristics of respondents based on age

The most common age characteristic of respondents in this study was 12 years old, with 40 respondents (48.8%). This may influence the results of the knowledge level in this study,

because early adolescence (10-13 years old) is a period of transition from childhood to adolescence, during which cognitive, emotional, and social development undergo significant changes. According to (Anggraini et al., 2022) early adolescence marks the beginning of cognitive development, meaning that individuals are capable of abstract and logical thinking, such as understanding health concepts, particularly those related to menstrual hygiene, making it an appropriate age to receive new information.

This is because at an early age, adolescents have already experienced or understood menstruation directly, so they are enthusiastic and more interested and involved in interactive learning using Menshyc media. Other factors can increase real knowledge after receiving health education with Menshyc media. This study is in line with (Azzahra et al., 2024) which states that as individuals age, they tend to better understand new things, which then influence their way of thinking.

Teenagers aged 10–13 should maintain the health of their reproductive organs, particularly with regard to menstrual hygiene. If someone is unable to maintain proper menstrual hygiene, it can lead to reproductive health issues. One such issue that can arise from improper menstrual hygiene practices is vulvae pruritus. Knowledge acquired early on can shape healthy lifestyle behaviour, including maintaining proper menstrual hygiene to prevent infections and bacterial growth related to reproductive health (Lisa et al., 2020).

2) Respondents' level of knowledge before and after the intervention using the Menshyc media

The results of the study show a comparison of the respondents' knowledge levels, namely that there is a significant difference in the respondents' knowledge levels before and after the intervention was given, which means that this study is meaningful because there was an increase in knowledge levels after the intervention was given using Menshyc media.

This aligns with the research conducted by (Sutjiato, 2022), which found that nearly all respondents (45 respondents) had insufficient knowledge before the intervention, with 15 respondents (33.3%) falling into this category. However, after the intervention, the post-test results showed that 25 respondents (55.6%) had good knowledge.

Another supporting study (Tri Peni et al., 2023) showed that nearly all respondents had adequate knowledge levels before receiving health education, with 45 respondents (83.3%), and nearly all respondents had good knowledge levels after receiving health education, with 43 respondents (79.6%). Based on these results, it can be concluded that there is a significant difference in the level of knowledge before and after the intervention on reproductive health among respondents.

According to (Notoatmodjo, 2014), individual knowledge is influenced by two factors, including internal factors such as age, education, information/mass media, and experience, while external factors include socio-cultural and economic factors as well as the environment. Differences in the level of knowledge among individuals can be caused by various informal sources of information such as mass media, digital media, the internet, and information obtained from parents. The more positive information an individual obtains, the greater the likelihood that the individual will form a positive attitude.

A person's knowledge tends to increase after receiving various information. This is evidenced by statistical results showing an increase in knowledge when respondents are given health education or information about menstrual hygiene. Based on the results of this study, the researcher assumes that the increase in the respondents' knowledge levels before and after the intervention was due to the provision of information, which was well understood by the respondents.

3) Differences in knowledge levels before and after health education using the Menshyc media

Based on the Wilcoxon test results listed above, it was found that there was a difference in the level of knowledge about menstrual hygiene before and after health education using the Menshyc media, with a p-value of 0.001, which means  $<0.05$ , so  $H_a$  was accepted. Respondents' knowledge will improve with the provision of health education. This change occurs due to an improvement in knowledge levels from inadequate to adequate.

Appropriate health education can enhance adolescent girls' knowledge about menstrual hygiene. Therefore, health education materials should be presented in an engaging manner and using appropriate media or methods to ensure effectiveness for the recipients. The success of health education is influenced by the quality of the materials and media used to convey the message effectively. The better the information received, the broader the individual's knowledge and insight (Asniar et al., 2020).

According to (Notoatmodjo, 2014), respondents' knowledge can be improved through the delivery of information. The delivery of information is influenced by the media and methods

used, which can have a significant impact on individuals. Some of the media that can be used to convey information or health education include print media (booklets, leaflets, posters, flyers, and flip charts), electronic media (television, audio-visual, and radio), and outdoor media (billboards, banners, and large-screen televisions containing messages and slogans (Jatmika et al., 2019).

Health education in this study was conducted using the Index Card Match (ICM) method. This method is one way to reduce the difficulty researchers face in delivering material, thereby increasing enthusiasm and enjoyment during learning and creating an active learning environment. However, the researcher modified the ICM method and named it Menshyc. Menshyc is a card-based educational tool containing questions and answers about menstrual hygiene, specifically focusing on maintaining cleanliness in the genital area during menstruation. Its purpose is to enhance knowledge and understanding of the importance of maintaining hygiene during menstruation and to teach proper and effective menstrual hygiene practices.

This study is in line with previous research on health education using index card matching about menstrual hygiene management conducted by (Ananda et al., 2023), which showed a difference in knowledge levels before and after the intervention with a p-value of 0.000 ( $<0.05$ ). According to the study by (Ngestiningrum, 2017), statistical analysis revealed that the index card match method significantly improved adolescents' knowledge about personal hygiene during menstruation, with a significance level of 0.002. Another study supported by (Latifah & Linggardini, 2023) suggests that the Educational Domino Card Game on Personal Hygiene Management During Menstruation has been proven to increase elementary school children's knowledge about personal hygiene management during menstruation.

Researcher assume that providing health education using Menshyc media can increase female adolescents' knowledge about the importance of maintaining reproductive organ hygiene during menstruation. This is because the information is provided directly and systematically, the material is explained using clear, easy-to-understand language, and attractive illustrations are used to help adolescents understand aspects of menstrual hygiene, such as the appropriate frequency for changing sanitary pads, the correct way to dispose of sanitary pads, and other related aspects.

#### 4. CONCLUSION

Based on the results of data analysis and discussion, it can be concluded that:

- 1) The most common age group among respondents was 12 years old, with 40 female students (48.8%).
- 2) The level of knowledge among female adolescents regarding menstrual hygiene before receiving health education using the Menshyc media was 51.2%, categorized as less.
- 3) The level of knowledge among female adolescents about menstrual hygiene after receiving health education using the Menshyc media was 57.3%, which is categorized as good.
- 4) There was a difference in the level of knowledge among female adolescents before and after receiving health education using the Menshyc media, with a p-value  $<0.001$ .

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