

## The Effect of Health Education Using Comic Media on Knowledge and Attitude towards Personal Hygiene among Adolescent Girls in Dayah Insan Qur'ani, Sukamakmur District, Aceh Besar Regency

Putri Soleman Sarti<sup>1</sup>, Anita Anita\*<sup>2</sup>, Yusnaini<sup>3</sup>, Iin Fitriani<sup>4</sup>, Magfirah<sup>5</sup>, Nurlaili Ramli<sup>6</sup>

<sup>1,2,3,4,5,6</sup> Department of Midwifery, Politeknik Kesehatan Aceh, Kementerian Kesehatan, Aceh, 23231, Indonesia

### ABSTRACT:

**Introduction:** Proper personal hygiene is essential for adolescent girls' health and well-being. However, many adolescent girls lack knowledge and have negative attitudes towards personal hygiene. Health education using engaging media, such as comics, can be an effective approach to improve knowledge and attitudes in this population.

**Objective:** This study aims to investigate the effect of health education using comic media on the knowledge and attitudes of adolescent girls towards personal hygiene.

**Methods:** This was a quasi-experimental study with a pre-post design. The study involved 75 adolescent girls from Dayah Insan Qur'ani, Sukamakmur District, Aceh Besar Regency. Data on knowledge and attitudes were collected through questionnaires before and after the provision of a health education comic.

**Results:** The results showed that before the comic intervention, the majority of respondents had poor knowledge (64.6%) and negative attitudes (56.9%) towards personal hygiene. After the intervention, the proportion of respondents with poor knowledge decreased to 55.5%, and most (56.9%) had a positive attitude. Statistical analysis indicated a significant effect of the comic-based health education on both knowledge ( $p < 0.05$ ) and attitudes ( $p < 0.05$ ) of the adolescent girls.

**Conclusion:** Health education using comic media is effective in improving the knowledge and attitudes of adolescent girls towards personal hygiene. This suggests that comics can be a valuable educational tool to promote better personal hygiene practices among adolescent girls.

**KEYWORDS:** Health education, Comic media, Knowledge, Attitude, Personal hygiene

### INTRODUCTION

Globally, the issue of personal hygiene remains a significant challenge. Data shows that in 2021, around 2 billion people in the world lacked access to safe drinking water, and 3.6 billion people did not have access to adequate sanitation, while 673 million people still practiced open defecation [1], [2], [3], [4]. Inequalities in access are also evident, with people from low-income backgrounds being 2.5 times more likely to lack access to clean water and sanitation compared to those from high-income backgrounds, and only 72% of girls from the poorest families in developing countries having access to handwashing facilities [4], [5], [6], [7]. Lack of education and awareness also contribute to the problem, with only 3 out of 10 countries in the world having a national policy on personal hygiene education in schools, and only around 19% of people in some developing countries washing their hands with soap after defecation ([3], [8], [9]). Consequently, there are 829,000 deaths from diarrhea each year caused by contaminated water, poor sanitation, and lack of hygiene, as well as 900 million people affected by skin infections [10], [11]. The data on personal hygiene in Indonesia also indicates significant challenges. In 2020, around 88% of the Indonesian population had access to safe drinking water sources, but only 73% had access to adequate sanitation, and 8% or around 21 million people still practiced open defecation [10], [11], [12], [13], [14], [15].

There are disparities in access, with rural areas and low-income groups having much lower access compared to urban areas and high-income groups. Awareness and hygiene behaviors are also still low, with only 47% of school-age children washing their hands properly and only 34% of households having adequate handwashing facilities. As a result of these issues, diarrhea remains a leading cause of death among children under 5 years old in Indonesia, and skin infections like impetigo and scabies are still common, particularly in rural and slum areas [15]. According to the 2017 Indonesian Demographic and Health Survey (IDHS), knowledge about reproductive health among adolescents aged 15-19 years is still low. As many as 61% of adolescent girls had no knowledge

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at all about reproductive health, and 21% did not know how to maintain their reproductive organs. The hygiene practices of adolescent girls are also still very poor, with 63.9% of the causes being a lack of knowledge and information about personal hygiene. Consequently, the prevalence of diseases such as urinary tract infections (75%), vaginal discharge (60%), and cervical cancer (around 15,000 cases per year) remains high. In the Dayah Insan Qur'ani, Sukamakmur District, Aceh Besar Regency, a preliminary study found that only 2 out of 7 adolescent girls had a good understanding of personal hygiene. Most of them still had limited knowledge and poor personal hygiene practices, such as only changing their underwear when bathing (twice a day) and not drying their genitals after urinating or defecating. To address this issue, efforts to improve the knowledge and attitudes of adolescent girls about personal hygiene should focus on health education. Health education can be conducted using attractive media, such as comics, to better convey the information and make it more easily understood by adolescent girls. Previous research has shown the positive impact of health education using comic media on improving knowledge and personal hygiene behavior among adolescents. Therefore, this study aims to determine the effect of health education using comic media on the knowledge and attitudes of personal hygiene among adolescent girls at the Dayah Insan Qur'ani, Sukamakmur District, Aceh Besar Regency.

## METHODS

The research method used in this study is Quasi Experimental with a One Group Pretest-Posttest Design. This design involves observing the same dependent variable twice, before the experiment (pretest) and after the experiment (posttest). The purpose of this research is to determine the effect of health education using comic media on the knowledge and personal hygiene behavior of adolescent girls at Dayah Insan Qur'ani. The study was conducted at Dayah Insan Qur'ani in Sukamakmur District, Aceh Regency on July 28-29, 2023. The population in this study consisted of all adolescent girls at Dayah Insan Qur'ani, Sukamakmur District, Aceh Regency in 2023. The total population was 182 adolescent girls. To determine the sample size, the researcher used the Slovin formula. The Slovin formula is used to calculate the minimum sample size from a known population. The Slovin formula is as follows:

$$n = N / (1 + N * d^2)$$

Where:

n = sample size

N = population size

d = desired level of error (in this study, 10% or 0.1 is used)

Using the formula, the result is:

$$n = 182 / (1 + 182 * 0.1^2)$$

$$n = 182 / (1 + 182 * 0.01)$$

$$n = 182 / 2.82$$

$$n = 64.5$$

Since the sample size cannot be a fraction, it is rounded to 65 adolescent girls. Therefore, the sample size in this study is 65 adolescent girls at Dayah Insan Qur'ani, Sukamakmur District, Aceh Regency. In this study, the data used consists of primary data and secondary data. Primary data was obtained by providing health education directly to the respondents, namely adolescent girls at Dayah Insan Qur'ani. Meanwhile, secondary data was collected from Dayah Insan Qur'ani, Sukamakmur District, Aceh Regency, as well as from relevant literature studies. The data collection techniques used were questionnaires and health education using comic media. In this study, the research procedure consists of two main stages, namely the preparation stage and the implementation stage. In the preparation stage, administrative processes were carried out to obtain research permits and collect data on the number of adolescent girls at Dayah Insan Qur'ani. Then, in the implementation stage, the researcher used the quasi-experimental method, starting with a pretest, followed by intervention in the form of health education using comic media, and ended with a posttest to evaluate the effectiveness of the intervention. In this study, the data processing stages consist of four steps: editing (data checking), coding (code sheet creation), transferring (data transfer to the master table), and tabulating (data table creation). Furthermore, data analysis was conducted univariately to calculate the frequency distribution and percentage of each variable, as well as bivariate analysis to determine the relationship between independent and dependent variables. The normality of the data was tested using the Shapiro-Wilk test if the sample size was less than 50, or the Kolmogorov-Smirnov test if the sample size was more than 50. Decision-making was based on the p-value, where if the p-value  $\leq 0.05$ , there is a significant relationship between variables.

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## RESULTS

### Description of the Research Location

The Dayah Insan Qur'ani YPUQ Aneuk Batee was established on March 2, 2014, located on the Medan-Banda Aceh Km 12.5 road, Baitul Adhim Mosque Complex, Aneuk Batee Village, Suka Makmur District, Aceh Besar Regency. Since its establishment in 2014 until now, Dayah Insan Qur'ani has been led by Ustadz Muzakkir Zulkifli, S. Ag. The Dayah Insan Qur'ani YPUQ Aneuk Batee is present as an integrated Islamic educational institution that integrates religious education, science, and humanities as well as the development of talents and interests in the dayah learning curriculum. The national education curriculum, the modern Gontor Islamic boarding school, and the salafi Islamic boarding school are integrated in such a way as to shape the personality of students who are intellectuals with a Qur'anic character.

### Respondent's Age

**Table 1. Frequency Distribution of Respondent Characteristics at Dayah Insan Qur'ani, Sukamakmur District, Aceh Besar Regency**

No	Age	f	%
1	13 year	17	26,2
2	14 year	48	73,8
	Total	65	100

Based on Table 1, the data shows that out of 65 respondents, 48 people (73.8%) are 14 years old.

### Univariate Analysis

**Table 2. Distribution of Knowledge Before and After Providing Comics at Dayah Insan Qur'ani, Sukamakmur District, Aceh Besar Regency**

No	Knowledge	Group Before		Group after	
		f	%	f	%
1	Not enough	42	64,6	36	55,5
2	Good	23	35,4	29	44,6
	Total	65	100	65	100

Based on Table 2, the data shows that out of 65 respondents, the majority had poor knowledge before the provision of comics, with 42 respondents (64.6%). Meanwhile, out of 65 respondents after the provision of comics, only 36 respondents (55.5%) had poor knowledge.

**Table 3. Distribution of Attitudes Before and After Providing Comics at Dayah Insan Qur'ani, Sukamakmur District, Aceh Besar Regency**

No	Attitudes	Group Before		Group After	
		f	%	f	%
1	Negative	37	56,9	28	43,1
2	Positive	28	43,1	37	56,9
	Total	65	100	65	100

Based on Table 3, the data shows that out of 65 respondents, the majority had negative attitudes before the provision of comics, with 37 respondents (56.9%). Meanwhile, out of 65 respondents after the provision of comics, the majority had positive attitudes, with 37 respondents (56.9%).

## NORMALITY TEST RESULTS

**Table 4. Data Normality Test**

Group	Shapiro-Wilk		
	Statistic	Df	P Value
Prior Knowledge	0,200	65	0,000

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Knowledge After	Attitude	0,162	65	0,000
Before		0,152	65	0,001
Post-Attitude		0,155	65	0,001

Based on Table 4, it can be seen that the normality test results are not normally distributed ( $p < 0.05$ ), with knowledge before the provision of comics having a p-value of 0.000, and after 0.000, and attitude before having a p-value of 0.001 and after 0.001. Therefore, the statistical test used is the Wilcoxon test.

**Bivariate Analysis**

Effect of Providing Comics on Knowledge

Table 5 Effect of Providing Comics on Knowledge at Dayah Insan Qur'ani, Sukamakmur District, Aceh Besar Regency

Wilcoxon Signed Ranks Test

Ranks

N		Mean Rank	Sum of Ranks
Posttest Knowledge - Pretest Knowledge	Negative Ranks	2 <sup>a</sup>	6.00
	Positive Ranks	52 <sup>b</sup>	28.33
	Ties	11 <sup>c</sup>	
	Total	65	
Posttest Attitude - Pretest Attitude	Negative Ranks	0 <sup>d</sup>	.00
	Positive Ranks	59 <sup>e</sup>	30.00
	Ties	6 <sup>f</sup>	
	Total	65	

- a. Posttest Knowledge < Pretest Knowledge
- b. Posttest Knowledge > Pretest Knowledge
- c. Posttest knowledge = Pretest knowledge
- d. Posttest Attitude < Pretest Attitude
- e. Posttest Attitude > Pretest Attitude
- f. Posttest attitude = Pretest attitude

**Test Statistics<sup>a</sup>**

Posttest Knowledge - Knowledge pretest		Attitude Posttest - Attitude Pretest
Z	-6.320 <sup>b</sup>	-6.683 <sup>b</sup>
Asymp. Sig. (2-tailed)	.000	.000

- a. Wilcoxon Signed Ranks Test
- b. Based on negative ranks.

Based on the data in Table 5, it is known that the negative ranks value (decreased knowledge after the provision of comics) is 2, the positive rank value is 52 (increased knowledge after the provision of comics), and the ties value is 11 (knowledge remained the same after the provision of comics) with a p value of 0.000 ( $p < 0.05$ ), meaning that there is an effect of the provision of comics on the knowledge of adolescent girls about personal hygiene. For the attitude variable, the data shows that the negative ranks value is 0 (attitude decreased after the provision of comics), the positive rank value is 59 (attitude improved after the provision of comics), and the ties value is 6 (attitude remained the same after the provision of comics) with a p value of 0.000 ( $p < 0.05$ ), indicating that there is an effect of the provision of comics on the attitude of adolescent girls towards personal hygiene.

**DISCUSSION**

The research results show that the negative ranks value (decreased knowledge after providing comics) is 2, the positive ranks value is 52 (increased knowledge after providing comics), and the ties value is 11 (knowledge remained the same after providing comics) with a p-value of 0.000, meaning there is an effect of providing comics on adolescent girls' knowledge about personal hygiene. One effective way to increase adolescent girls' knowledge about personal hygiene is through comic media [16], [17]. Comics are one of the health education media called visual media. According to oddo 2019, comics are used to express ideas with images combined with text or other visual information[18]. This can attract the attention of adolescent girls to read and learn the information

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presented [19], [20]. Previous research has shown that providing comics can increase adolescent girls' knowledge about personal hygiene. This is because the comic media explains all aspects of personal hygiene through an interesting story, as well as being equipped with easily understandable pictures and explanations. In addition, comics can be read repeatedly, so the learning process becomes more effective [18], [19], [20], [21]. However, the lack of knowledge among adolescent girls about personal hygiene can also be caused by the limited information they receive. In the Dayah environment, for example, the use of communication tools such as mobile phones and laptops is not allowed, so access to information is limited. In addition, adolescents only receive information from limited textbooks with a limited curriculum. The research results show that the negative ranks value is 0 (attitude decreased after providing comics), the positive ranks value is 59 (attitude increased after providing comics), and the ties value is 6 (attitude remained the same after providing comics) with a p-value of 0.000, meaning there is an effect of providing comics on the attitudes of adolescent girls towards personal hygiene. Based on the researcher's assumption, providing comics about personal hygiene has indeed been proven effective in increasing knowledge and changing the attitudes of adolescent girls. After reading the comics, adolescent girls receive important information that maintaining personal hygiene and health is very important for every woman. The change in attitude that occurred was due to the comics being able to convey health messages in an attractive and easily understandable way for adolescents. Through the stories and images presented, adolescent girls can easily absorb information related to the importance of personal hygiene. Regarding the timing of the posttest implementation, which was conducted 1 day after the pretest, this can be understood given the limited research time. Nevertheless, the research results can provide an initial overview of the effectiveness of using comics in increasing knowledge and changing the attitudes of adolescent girls about personal hygiene. To obtain more comprehensive results, further research can consider measuring attitudes over a longer period, such as 1 week or 1 month after the intervention. This can provide more accurate information about how long the attitude changes can be sustained. Overall, the findings of this study indicate that comics can be an effective educational medium for increasing knowledge and changing the attitudes of adolescent girls regarding the importance of maintaining personal hygiene. The use of attractive and easily understood visual media has been shown to encourage adolescent girls to pay attention to and apply good personal hygiene practices in their daily lives.

### **CONCLUSIONS**

The research results show that the provision of comics has a significant effect on increasing knowledge and positive attitude changes of adolescent girls about personal hygiene. Before the provision of comics, the majority of respondents had less knowledge (64.6%) and negative attitudes (56.9%) towards personal hygiene. However, after the provision of comics, the number of respondents with less knowledge decreased to 55.5%, and most (56.9%) had a positive attitude. Comics are effective as an educational medium to improve understanding and encourage behavior change in adolescent girls in maintaining cleanliness and personal health.

### **CONFLICT OF INTEREST**

The authors declare that there is no conflict of interest.

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