

## The effectiveness of Islamic comic media in increasing the attitude of healthy breakfast among students

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### ABSTRACT

**Background:** As much as 73.4% of children aged  $\geq 5$  years in Indonesia have breakfast with the low nutritional quality of food consumption, as evidenced by the prevalence of 95.5% of children's less consumption of vegetables and fruits. Breakfast habits affect fiber and micronutrient levels. Communication and nutritional information can increase accuracy in breakfast behavior from childhood. Effective and efficient media are needed. So far, the media for children has prioritized illustrations without paying attention to the cultivation of moral values.

**Objectives:** This study aimed to determine the effect of Islamic comic media on improving healthy breakfast attitudes among students.

**Materials and Methods:** The research design was a quasi-experimental type. Subjects were taken by a simple random sampling method. Ninety-six students were divided into three groups. Group A was given nutrition education using Islamic comic media about health breakfast ( $n = 32$ ). Group B was given nutrition education using Islamic comic strip media about health ( $n = 32$ ). Group C was a control group ( $n = 32$ ). The study used two types of nutrition promotion media: comics and comic strips, which are stories about healthy eating in Islam. The time for nutrition education intervention through comics and comic strips is  $2x \pm 35$  minutes. The pretest was  $\pm 25$  minutes with  $\pm 10$  minutes explaining the instructions for filling out the questionnaire. The posttest was  $\pm 25$  minutes with a discussion for  $\pm 10$  minutes—nutritional attitudes related to health breakfast by answering a validated questionnaire. We used the Lickert scale to categorized nutritional attitudes. Statistical test was done by Wilcoxon and Mann Whitney test.

**Results:** The distribution of nutrition attitudes of respondents increased after the provision of Islamic comics, both comics and comic strips about breakfast. The nutritional attitudes increased significantly in the Islamic comic media group ( $p = 0.000$ ) and the Islamic comic strip media group ( $p = 0.000$ ), from 78.75 to 92.96 and 78.61 to 92.88, respectively.

**Conclusions:** There was a relationship between counseling and Islamic comic media regarding healthy breakfast towards the nutritional attitude of elementary school-age students.

**Keywords:** Nutritional attitude; Islamic comics; Breakfast

### BACKGROUND

In developing countries, the prevalence of obesity in children is known to have increased by 60% since 1980.<sup>1</sup> The habit of not having breakfast causes the child to experience hypoglycemia, dizziness, trembling, fatigue and difficulty concentrating.<sup>2</sup> Breakfast also affects appetite control, satiety, and energy expenditure, and weight management.<sup>3</sup> Long-term impact, resulting in nutritional status, decreasing health and stamina of children, and hindering the improvement of the nation's human resources in Indonesia. It is known that 69.6% of Indonesian children have not had breakfast according to the recommended balanced nutrition guidelines and 73.4% have breakfast with the nutritional quality of food consumption is low. The consumption of various foods greatly affects nutritional status.<sup>4</sup>

Breakfast has a positive influence on cognitive and academic outcomes.<sup>5</sup> Breakfast is important for elementary school age were a period of high brain productivity in absorbing various lessons.<sup>6</sup> The habit of not having breakfast also affects fiber and micronutrient levels. Children who regularly eat a healthy breakfast with vegetables and fruit have higher levels of fiber and micronutrients.<sup>7</sup> Low consumption of fruits and vegetables can result from a lack of motivation.<sup>8</sup>

Habits and appropriateness of children's breakfast can be formed with nutritional education.<sup>9</sup> Nutritional education with a medium can accelerate understanding, resulting in motivation according to the message received.<sup>10</sup> Therefore, an educational process needs to be supported by appropriate media.<sup>11</sup> Elementary school-aged students are more interested

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in media and picture books or cartoons than media and books that contain only writing.<sup>12</sup> Cartoon media has been shown to increase children's fruit or vegetable intake.<sup>13</sup>

Media is very important in the educational process. This is because a medium can increase motivation and enthusiasm for learning psychologically.<sup>14</sup> Someone who has good nutritional knowledge, then dominantly has a good nutritional attitude too. Student learning intentions can be shaped by using learning comics. Meanwhile, in comic media, besides being preferred by students, it is also proven to be effective in increasing students' knowledge. The effectiveness of comics as a learning medium was proven positive with a significant increase in the level of knowledge in the experimental group.<sup>15</sup> A significant increase also occurred in the attitude of the experimental group. Students' interest in learning media in the form of audiovisuals illustrates good acceptance.<sup>16</sup> Educational media for children nowadays put forward good illustrations without paying attention to the cultivation of moral values.<sup>17</sup> The learning media should not only prioritize changes in knowledge but also contain moral values.<sup>18</sup> Cultivation of noble morals through comic book characters also plays an important role, because children like to imitate and look after.<sup>19</sup> This study aims to analyze the influence of Islamic comic media on healthy breakfast on elementary school students' attitudes.

## MATERIALS AND METHODS

This study used a quasi-experimental design. Location of research at Public Madrasah Ibtidaiyah (MIN) 1 Teluk Lingga, East Kutai district, East Kalimantan, Indonesia. This study was carried out in December 2018 - February 2019, which was adjusted to the active schedule of students of MIN 1 Teluk Lingga, Sangata City, East Kutai district, East Kalimantan, Indonesia. The school criteria taken were Islamic elementary (Madrasah Ibtidaiyah / SDIT), had A accreditation by the official madrasah accreditation organizing body, and had never received counseling or nutritional education. MIN 1 Teluk Lingga is a school that meets the above criteria with the largest student population.

The population in this study were all students of MIN 1 Teluk Lingga, as many as 647 students. Consists of 21 classes with various levels. The inclusion criteria for the selection of research subjects were subjects who had never received nutritional education about healthy breakfast, were willing to take part in the research until it was finished, and were aged 10-12 years. Sampling calculation using the

Slovin formula to obtain a sample size of 96 students, then formed 3 groups, namely, group A given nutritional education with Islamic comic media about healthy breakfast (n = 32), group B was given nutritional education using Islamic comic strip media about healthy breakfast and group C was a control group (n = 32).

The variables studied included elementary school students' attitudes regarding healthy breakfast before and after the comic education intervention using a questionnaire that had been tested for validation. The questionnaire totaled 16 attitude statements. Lickert used to determine the level of a person's attitude by providing "agree" and "disagree" statements.<sup>20</sup> Attitude data was categorized as good if the answer is 76% -100% correct, categorized sufficient if the answer is correct 51% -76%, and categorized as less if the answer is correct 25-50%.<sup>21</sup>

This study used two types of nutrition promotion media, in the form of comics and comic strips, which are stories about healthy breakfast according to Islamic eating habits. The main characters used are elementary school-age children with additional characters in the form of mothers and teachers at school. Characters are designed with noble morals with a good speech to provide good role models for respondents.

The types of images used in both media were 2D animation based on Graphical User Interfaces (GUIs). The tools used in the media are the Samsung Galaxy Tab A.8.0 Tablet and the rubber nib Stylus Pen with applications such as Medibang Pro and Adobe Photoshop. The comic was later printed on A4 ivory paper.

This research was conducted in five stages which were carried out for five consecutive days. The first stage was pretest data collection on the three groups carried out on the first day. The second stage was carried out with nutrition education intervention in group 1 using comic strip media and in group 2 using comic strip media which was conducted on the second day. The third stage was posttest data collection from the three groups with the same questions in the three groups which were carried out on the third day. The fourth stage was the repetition of the second stage, while the fifth stage was the repetition of the third stage.

The time for nutrition education intervention through comics and comic strips was  $2x \pm 35$  minutes. The pretest was carried out for  $\pm 25$  minutes with  $\pm 10$  minutes of explaining the instructions for filling out the questionnaire. Posttest was carried out for  $\pm 25$  minutes with a discussion for  $\pm 10$  minutes.

The analysis used the Wilcoxon test with Mann-Whitney post hoc because the data was not normal. The Wilcoxon test aims to determine whether there is a significant difference between the attitude values before and after the provision of comic strip media, comic strips, and without giving media to each treatment group. Furthermore, the Mann-Whitney

post hoc test was conducted to determine which intervention or treatment was the most effective. This study was endorsed by the health research ethics committee of Dr. Moewardi Hospital, Faculty of Medicine, Sebelas Maret University with number 395 / III / HREC / 2019



Figure 1. Comic cover

The nutrition promotion media created were Islamic comics in the form of comics and comic strips, with the title “Sarapan Sehat, yuk!” (Let’s have healthy breakfast!), The first edition. The place of manufacture was in Sangata on December 30<sup>th</sup>, 2018. The total page consists of 9 pages for comics. The language used is Indonesian. The story setting is Home and School. The main characters of this comic are Ali and Aisyah, while the additional characters are Budi, Umi, and Bu Guru. Summary of story: Every morning, Umi always told Ali and Aisyah to have breakfast, but they didn't know why they had to have

breakfast every morning. One day at school, their friend Budi fainted during a ceremony because he wasn't having breakfast. After being explained by the teacher, Ali and Aisyah knew the benefits of breakfast. Since then, Ali and Aisyah always had breakfast happily and also helped Umi cook breakfast. Comic bonus: the 'Kata Nabi' comic about the prohibition of denouncing food and blowing hot food. Reference comics: Comic “Ayo Sarapan Sehat” (Come have a healthy breakfast), by PERGIZI, and comic "Sarapan, yuk!" (Let’s have breakfast) by the POMPI club (BPOM).



Figure 2. Islamic Comic Characters and Storylines

The main characters used are elementary school-age children with additional characters in the form of mothers and teachers at school. Parents are the first and foremost educators, whose roles are role models and provide the best care and education for children. Characters are designed with noble morals with a good speech to provide good role models for respondents.

On the first day, the pretest questions were distributed to the research group at different lesson hours. The pretest time lasted for 35 minutes, the first 10 minutes, the researcher used to explain the aims and objectives of the study by filling out the questionnaire instructions. The time to answer the pretest questions was 25 minutes. The nutrition promotion media provision intervention was given the next day.

Nutrition promotion media were given in 2 days with 2 hours of subjects per day. The time used was 70 minutes. On the first day, students were asked to listen to several students who led the story (storytelling) in front of the class and matched the conversation with the comic that each student had held. This was done to add an audio function that

makes it easier to remember during the presentation of the material. Because comics are printed media that do not have an audio function. Then, the researcher asked three students to retell the essence of the story they understood by bringing their respective comics.

The researcher asked each student to read their comics without being guided by anyone at the second meeting. This is to train the critical feeling that students have in understanding the implicit message in the story presented. The researcher gave 30 minutes to read the comic and asked the students to read it twice to strengthen students' understanding of the story content. At the end of the meeting, the researcher asked three students to give their opinion about the message conveyed by comics and provide the essence of the story, this time without bringing comic media.

## RESULTS

Based on the data analysis carried out, the distribution of respondents age and gender characteristics was described in the following table:

**Table 1. Distribution of Respondents Age and Gender Characteristics**

Variable	A%	B%	C%	Total%
<b>Age</b>				
10	65.7	34.3	53.1	51
11	34.3	65.7	46.9	49
<b>Gender</b>				
Male	50	50	43.7	48
Female	50	50	56.3	52

Note: A = The group that was given nutrition education using Islamic comic media about healthy breakfast (n = 32); B = The group that was given nutrition education using Islamic comic strip media about healthy breakfast (n = 32); C = Control group (n = 32).

## Differences in Attitude Values Between Research Groups

The data was not normally distributed related to the results of the distribution on the normality test of the mean data difference between the pretest and

posttest attitude values. Furthermore, the analysis was carried out with the Wilcoxon test with the Mann Whitney post hoc test, to determine which groups had differences. The results showed that between groups A and B the result was  $p = 0.000 (<0.05)$ .

**Table 2. Attitudes of Respondents Before and After Intervention**

Pengukuran	n	Mean	Median (Minimum-Maximum)	p Value
A Before the Intervention	32	78.75	90.62 (50.00-100.00)	0.000
After the Intervention	32	92.96	95.31 (76.56-100.00)	
B Before the Intervention	32	78,61	88.81 (50.00-100.00)	0.000
After the Intervention	32	92,88	95.31 (68.75-100.00)	
C Before the Intervention	32	80,46	85.15 (48.43-98.43)	0.148
After the Intervention	32	82,46	84.37 (50.00-100.00)	

## DISCUSSION

Based on the results obtained, it can be seen that there were differences in attitude scores in groups A and B compared to group C which is the control group. This result was in line with previous research conducted by Widayanti et al. which states that there was a significant increase in attitude scores ( $<0.05$ ) in elementary school students who were given nutrition promotion media in the form of comics.<sup>22</sup> This result was also supported by previous research conducted by Jefri and Kharis (2017) in which there was a significant increase in attitude levels ( $> 0.05$ ) in elementary school students who were given promotional media in the form of comic strips.<sup>[6]</sup> In line with the research of Ridha et al. (2009) stated that comics have a strong influence on social information processing to create changes in attitudes.<sup>23</sup>

The main role of comics in instruction is their ability to create interest in students. The effectiveness of comics as a learning medium was proven positive with an increase in the level of knowledge that significantly shaped attitudes in the experimental group.<sup>15</sup> Students' interest in learning media in the form of audiovisuals illustrates good acceptance.<sup>16</sup> Comic media and comic strips have several main functions as follows: 1) Attention function, which attracts and directs students' attention to concentrate on the content of the lesson related to the visual meaning displayed; 2) The compensatory function, visual media that provides context for understanding the text, helps students who are weak in reading to organize information in the text and recall and understand the content of the lesson that is presented with text or presented verbally;<sup>24</sup> 3) Affective function, where visual images or symbols can evoke emotions and attitudes of students, for example, information relating to social or racial issues;<sup>25</sup> 4) Cognitive function, where visual symbols or images facilitate the achievement of goals to understand and remember the information contained in images.<sup>26</sup>

Based on the results of the mean difference between the pre and post-education attitude values in group A was 14.21 with a pretest value of 78.75 increasing to 92.96 and the mean difference between the pre and post-education attitude values in group B was 14.27 with a value of 78.61 increasing to 92.88. The results of the Mann Whitney test in groups A and B were  $p = 0.000$ . It can be concluded that there was a significant increase in attitudes after the provision of nutrition promotion media in the form of Islamic comic strips and comic strips in groups A and B. In group C, the difference in the mean value of attitude increased by 2.0 but based on the Wilcoxon test there

was no increase in attitude in group C, which is the control group.

Changes in the attitude value of the experimental group that increased significantly also reflected an increase in the learning achievement of respondents. Motivation to learn is the point the respondent's result is obtained by each individual as a level of ability expressed in the form of cumulative values or numbers. The importance of increasing the respondent's nutritional attitude after giving the media is an indication that the moral values of the characters conveyed in Islamic comics have succeeded in giving a significant effect in increasing the respondent's attitude.<sup>27</sup> This is based on the nature of the respondents who are children of primary school age who like to imitate and nurture.<sup>27</sup> Factors that influence attitude formation include the amount of information a person has.<sup>28</sup> The more attractive the educational media used, the higher the increase in knowledge that shapes the respondent's attitude.<sup>29</sup>

## CONCLUSIONS

The respondent's attitude increased after counseling by providing Islamic comic media about healthy breakfast. There was an effect of the provision of Islamic comic media and Islamic comic strips regarding healthy breakfast on increasing attitudes.

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