

The Influence of Comics as a Support for Dental Health Learning in Junior High School Students

Muh Taufiqul Hidayah^{1*}, Sri Hazanah², Nino Adib Chifdillah³.
Politeknik Kesehatan Kementerian Kesehatan Kalimantan Timur
Corresponding Author: Muh Taufiqul Hidayah,
muhtaufiqulhidayah931@gmail.com

ARTICLE INFO

Keywords: Comics, Health, Teeth, Influence, Junior High School

Received : 5, January
Revised : 23, January
Accepted: 25, February

©2025 Hidayah, Hazanah, Chifdillah: This is an open-access article distributed under the terms of the [Creative Commons Atribusi 4.0 Internasional](https://creativecommons.org/licenses/by/4.0/).



ABSTRACT

This study aims to investigate the influence of comics as a learning medium for dental health in junior high school students. The research method uses a pre-experimental design with post-test only. The sample was taken by accidental sampling of 30 students. Data was collected through post-test testing after the comic was given. The results of the Mann-Whitney analysis showed that the p-value was 0.000, indicating a significant difference between the dental health attitude scores after the comic. These results show that there is an influence of comics as a medium for learning dental health in junior high school students. This research can be a reference for teachers and educators in developing innovative learning strategies.

INTRODUCTION

The World Health Organization (WHO, 2018) stated in 2018 that the incidence rate of caries in children was still 60-90%. In countries in Europe, America, and Asia, including Indonesia, 90 percent to 100 percent of children under 18 years old are affected by dental caries. The number of active caries cases in Indonesia increased from 43.4% in 2007 to 53.2% in 2013, or 93 million people, according to (Indonesian Ministry of Health, 2018a). In Indonesia, the Dental Health Profile shows that the DMFT score in 12-year-old children is 2.69. According to research conducted by the Directorate of Dental Health of the Ministry of Health of the Republic of Indonesia, the prevalence of periodontal disease in Indonesia reaches 60% in 8-year-old children and 90% in 14-year-old children. In addition, 46% of the population aged 10 years and older experience periodontal disease, and this prevalence increases with age. This condition is related to poor behavior and knowledge of maintaining poor dental and oral health (Rini Sitanaya, Surya Irayani, Hans Lesmana, 2022).

The School Health Business Program (UKS) is one of the important efforts in increasing health awareness and knowledge among students, teachers, and school staff. One of the important components in UKS is the School Dental Health Business (UKGS), which aims to prevent and overcome dental and oral health problems among students.

UKGS has been implemented since 1951 and is a very relevant program in efforts to prevent dental and oral diseases. This program is designed to maintain and improve students' dental and oral health, as well as provide comprehensive dental and oral health services.

UKGS services include promotive, preventive, curative, and rehabilitative activities, which are intended for school-age students in the school environment. The main goal of UKGS is to create a healthy generation and have high health awareness. UKGS is organized by the government and the private sector, with guidance from health centers through the UKS program. Dental and oral health education is one of the effective efforts to maintain dental and oral health through increasing knowledge about dental and oral health. Dental and oral health counseling aims to increase public awareness and knowledge in maintaining dental and oral health. In addition, counseling also serves as a means of conveying information to change unhealthy behavior into healthy behavior (Triswari & Quinta Zashika, 2019). The results of the study (Virgantari 2020 in the study (Nuraskin et al., 2024)) show that counseling can increase students' knowledge level about dental and oral health. Before counseling, 69.57% of students had good enough knowledge, but after counseling, the figure increased to 91.31% with very good criteria.

A systematic and effective counseling process requires the right media, so that it can increase children's motivation to participate in counseling. In choosing health promotion media, it is necessary to consider the preferences and target age, as well as the ability of the media to have a significant impact and be delivered in an attractive way. Some examples of media that can be used in dental and oral health education in children are leaflets, pocketbooks,

cartoon animation videos, catalogs, comics, and games (Belinda, Nessia Rahma, 2021).

Dental health is an important aspect of body health that is often overlooked, especially by teenagers. Junior high school is a critical transition period where children begin to develop personal habits that will affect their health in the future. Unfortunately, the understanding of the importance of maintaining dental health is still low among adolescents, who often neglect good oral hygiene practices (M.Yusuf, 2023).

A comic is a series of images and symbols that are arranged in a certain way to convey information and elicit responses from readers. Comics were chosen as a learning medium because they are very interesting and can help students remember the characters in them easily. Comics have the form of images and characters arranged in such a way that they form a story (Gunawan & Sujarwo, 2022).

Innovative and interesting communication media is needed to educate the younger generation about dental health. Comics are present as one of the potential alternative educational media, able to convey complex information in an interesting, easily digestible, and fun way. Through creative visualization and in-depth narratives, comics can transform seemingly rigid health topics into entertaining but still informative stories (Luthfiana Nur, 2024).

Indonesia, as part of Southeast Asia, faces a fairly high level of dental and oral health problems. Based on Riskesdas data, as many as 57.6% of the Indonesian population experiences dental and oral health problems. The results of Basic Health Research (Riskesdas) in 2018 show that tooth decay is the most common dental health problem in Indonesia, with a proportion of 45.3%. Meanwhile, the most common oral health problem experienced by the Indonesian population is swollen gums and/or ulcers, with a proportion of 14% (Ministry of Health of the Republic of Indonesia, 2018b)

East Kalimantan is one of the provinces with a high proportion of dental and oral health problems, which is 61.5% (Ministry of Health of the Republic of Indonesia, 2018a) This shows that dental and oral health problems in East Kalimantan require special attention. East Kutai Regency is one of the districts located in East Kalimantan Province, with the capital city in Sangatta. Based on Riskesdas data in 2018, the proportion of dental and oral health problems in this district reached 60.35% (Ministry of Health of the Republic of Indonesia, 2018a). Adolescents are also a vulnerable group to dental and oral problems. The results of Riskesdas in 2018 showed that 55.6% of adolescents aged 10-14 years and 51.9% of adolescents aged 15-24 years suffered from dental and oral diseases. This is caused by a lack of knowledge and good behavior in maintaining dental and oral health. Research (Rakhmawati et al., 2020) found that behavior has an important role in maintaining dental and oral health. Therefore, it is necessary to change behavior and poor understanding to form good health behaviors and improve health degrees.

Attitudes are complex psychological constructs that have become the focus of research in various fields of science, including social psychology, sociology, and anthropology. According to the classical theory developed by

experts such as Gordon Allport, attitude is defined as a mental tendency that is learned to respond to an object, situation, or individual in a certain way (Pranajaya et al., 2023).

In the previous study, the research conducted focused more on children of kindergarten and elementary school age only, even though the preliminary study carried out still had many junior high school children who still had dental problems, in the previous study also had research limitations using an experimental design but no one used a one post test design with sampling using accidental sampling and teachers or health workers have not used comics as a medium for learning dental and oral health.

This study aims to explore the extent to which comics can play an effective role as a learning support medium in increasing the understanding and awareness of junior high school children about dental health. Using a comprehensive approach, we will analyze the potential of comics as an educational tool that can change the perception and behavior of adolescents in maintaining their dental health.

THEORITICAL REVIEW

According to (Herawati et al., 2019) Attitude is the readiness or willingness to act, and is not the implementation of a specific motive. Attitude is a person's predisposition or tendency to respond to something.

H0 : There is no influence of comics as a support for learning dental health in junior high school children

H1 : There is an Influence of Comics as a Support for Learning Dental Health in Junior High School Children

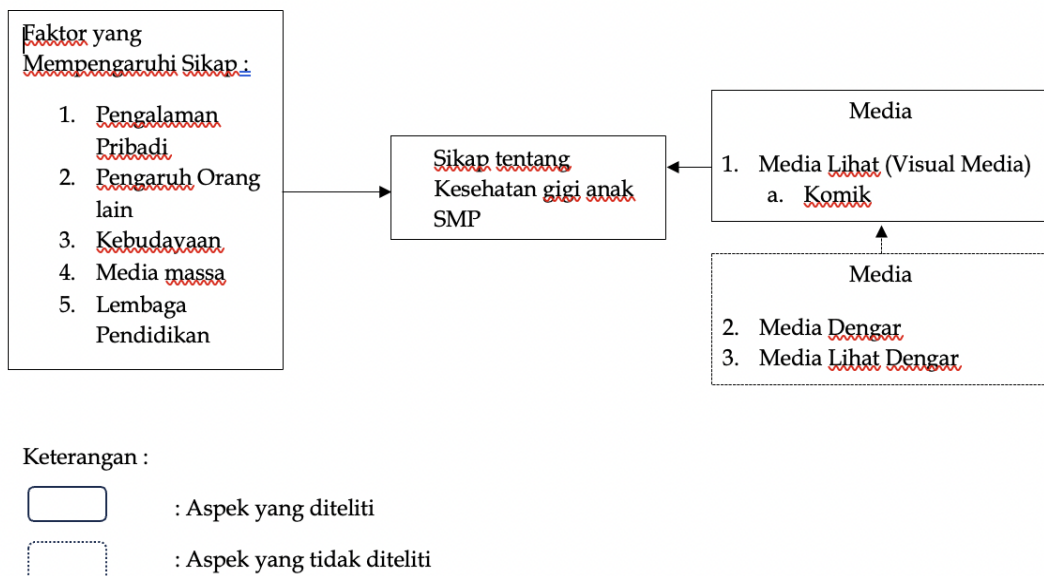


Figure 1. Theoretical Framework (Modification (Azwar, 2012), (Mawan et al., 2017), (Prastowo, 2014)).

METHODOLOGY

This type of research is pre-experimental with posttest only design and uses accidental sampling. Accidental sampling is a technique for determining samples based on chance, that is, any patient/student who happens to meet the researcher can be used as a sample, if it is considered that the person who happens to meet is suitable as a data source. (Daengs et al., 2022) The sample in this study is 30 students. The sample determination uses the Slovin formula with a population of 32 students. The analysis in this study uses the Mann Whitney test because this study is a study that is not paired or only gives a post test to the research respondents and there is no control group.

The research was conducted at SMP Negeri 1 Rantau Pulung. The data collected in this study consisted of primary data and secondary data. Primary data was obtained through filling out questionnaires by grade VIII students, while secondary data was obtained from the Principal of SMPN 1 Rantau Pulung regarding the number of students who became the research population. Data processing was carried out using statistical calculations according to the type of data obtained, such as descriptive analysis to identify the characteristics of respondents and statistical analysis to test the influence of comics as a support for dental health in junior high school children. The results of data processing will be used to answer the formulation of problems and research objectives that have been set

RESEARCH RESULTS

Univariate Analysis

Univariate analysis is a statistical method used to analyze and describe the characteristics of one variable separately, without considering the relationship with other variables. This analysis aims to understand the distribution, structure and characteristics of the single variable data (Sarwono & Handayani, 2021).

Table 1. Frequency Distribution of Respondents by Gender

Usia	Frequency	Percentage %
13	7	23,3
14	19	63,3
15	4	13,3
Gender	Frequency	Percentage %
Man	16	53,33
Woman	14	46,67
Total	30	100

The data in table 1 shows that the age of 14 is more dominant with the number of 19 people (63.3%), the age of 13 years as many as 7 people (23.3%) and the age of 15 years as many as 4 people (13.3%).

The proportion of male respondents (53.33%) was higher than that of women (46.67%), showing differences in gender distribution. The difference in proportion of 6.66% shows that male respondents are more dominant in this sample. A relatively balanced distribution of the sexes (difference of less than 10%) allows for comparative analysis of characteristics and behaviors between the two groups. The gender representation in this sample is quite representative for populations with similar characteristics.

Bivariate Analysis

Identify Respondents' Attitudes

Table 2. Identify Respondents' Attitudes

Attitude about Gilut Health	Test Post-test
Mean	78.83
Median	80.00
Minimum	55.00
maximum	95.00

The Average Positive Attitude Mean 78.83, shows that in general respondents have a positive attitude towards the topic being researched. The Median Attitude Consistency of 80.00 which is higher than the mean indicates that most respondents have a consistent and positive attitude. Variation in Attitude, The range of values between the minimum of 55.00 and the maximum of 95.00 indicates that there is a variation in attitude among the respondents. The potential for improvement of a minimum value of 55.00 indicates that there are still respondents who have a negative or less positive attitude, so it is necessary to make improvements or interventions.

Respondent Attitude Analysis

Table 3. Respondent Attitude Analysis

Attitude	Categories		p-value	Information
	Good	Not good		
<i>Post test</i>	18	12	.000	There is an Influence

The majority of respondents had an attitude with a good category of 18 respondents and a sufficient category of 12 respondents. The table above shows that there are no respondents with a bad attitude and there is a significant difference between the attitudes of respondents with good and moderately good categories with a p-value of 0.000.

DISCUSSION

The characteristics of respondents who suffer from caries are described based on age, gender, The age of the respondents is calculated from the date of birth to the time the study was conducted (Hazanah, 2022).

The results showed that most of the respondents were 14 years old, which was 19 people (63.3%). This age is included in the middle adolescence, where adolescents begin to develop new cognitive capacities and need peers (Suryana, 2022).

Gender is one of the sociodemographic factors that affect knowledge and behavior (Chifdillah & Hazanah, 2020). The results of this study show that the respondents consisted of 16 men (53.33%) and 14 women (46.67%).

The results of the identification of respondents' attitudes in table 2 show that in general respondents have a positive attitude, but there are variations in attitudes among respondents. Therefore, it is necessary to make improvements or interventions to increase the positive attitude of respondents.

The results of this study were obtained from table 3, namely that comics as a support for learning dental health are able to improve students' attitudes at the junior high school level. The analysis of *the Mann Whitney test* yielded a *p-value* of 0.000. This shows statistically there is a significant influence in other words H_0 is rejected and H_a is accepted.

This is in line with research conducted by (Luthfiana Nur, 2024) showing that comics have been proven to have more value than other learning media. In addition to presenting comics that are different from other reading media, comics also have their own attractions

The study revealed that comics can be an effective educational tool because they are able to convey complex information in an interesting and easy-to-digest way for children and adolescents. Comics have the ability to combine visual and narrative elements, which significantly increases the reader's capture and interest.

Furthermore, research (Jumriani et al., 2022) in the field of dental health education demonstrates that interactive visual media can increase children's knowledge and attitudes towards dental health. They found that media that use storytelling approaches, such as comics, are particularly effective in explaining abstract and complex health concepts. and also the use of audiovisual media can increase knowledge about dental and oral health in school-age children.

The psychological aspect of the use of comics in health education is also the focus of research (Sukarini et al., 2023) her study revealed that comics are able to reduce children's anxiety levels about potentially frightening health information, such as medical procedures or disease prevention. Through engaging characterizations and entertaining stories, comics can turn negative perceptions into positive learning experiences.

A comprehensive study by (Rusyadi et al., 2020) compared various dental health education media in adolescents. The results of his research show that comics have advantages over conventional methods such as lectures or leaflets. Comics have been shown to be more effective in increasing information retention Motivating behavior change and creating enjoyable learning experiences

This study also supports these findings. (Fajriyah, n.d.) In his study, it was shown that graphic media with strong narratives can significantly improve health understanding in the adolescent population.

Nonetheless, some studies have also noted the importance of quality comic design. (Pramesti et al., 2020) emphasized that health comics must pay attention to aspects such as the accuracy of medical information, visual clarity, and language suitability for certain age groups. comic strips that contain educational values that are useful for health literacy education according to the level of education. Based on the visualization and readability (sentences) in it, it shows that comic strips can be used as a health literacy education medium that can be integrated in Indonesian language learning, both at the elementary and secondary levels.

Based on this literature review, it can be concluded that comics have a very promising potential as a medium to support dental health learning in junior high school students. Future research can further explore optimal comic design and measure the long-term impact of the use of this medium in health education.

CONCLUSIONS AND RECOMMENDATIONS

There was a significant difference between the attitude of respondents with the Good and Poor categories ($P = 0.000$). This difference shows that comics are able to support attitudes among junior high school students. The Good category has a more positive attitude compared to the Less Good category.

Independent variables had a significant influence on respondents' attitudes. Further analysis is needed to identify the factors that affect attitudes. These results can be used as a basis for developing programs or interventions.

The next recommendation needs further research with a larger sample, the need for control variables that affect attitudes, and developing comics with more varied content.

FURTHER STUDY

This study is an initial study to get more concrete results Here are some suggestions for further research: Analysis of Factors Affecting Respondents' Attitudes, Follow-up Study Development of Respondent Attitude Prediction Models Based on Independent Variables Evaluation of the Effectiveness of Interventions on Changes in Respondents' Attitudes Comparative Study of Respondents' Attitudes Between Experimental and Control Groups Qualitative Analysis of Respondents' Experiences in Forming Attitudes. Experimental studies with pre-test and post-test designs. Logistic regression analysis to identify factors that influence attitudes. Identify the factors that affect respondents' attitudes. Develop a prediction model for respondents' attitudes. Increase the effectiveness of interventions in changing respondents' attitudes.

ACKNOWLEDGMENTS

With this, I would like to express my deepest gratitude to all parties who have assisted in the completion of the research, especially to the respondents, supervisors, and research team who have supported this research. and also

thank you to the parties who supported and contributed during the research process.

REFERENCES

- Belinda, Nessia Rahma, L. S. S. (2021). *Media Edukasi Dalam Pendidikan Kesehatan Gigi dan Mulut Pada Anak-Anak*. 3(Vol.3.No 1 (2021): Januari 2024). <https://journal.rekarta.co.id/index.php/jrip/issue/view/17>
- Chifdillah, N., & Hazanah, S. (2020). Perbedaan Pengaruh Pendidikan Kesehatan dengan Media Audiovisual dan Media Visual Terhadap Pengetahuan Mahasiswa Tentang Covid-19. *Mahakam Midwifery Journal*, 6(1), 14-27. <http://ejournalbidan.poltekkes-kaltim.ac.id/ojs/index.php/midwifery/article/view/163>
- Daengs, A., Istanti, E., & Kristiawati, I. (2022). Peran Timelimes Dalam Meningkatkan Customer Satisfaction, Customer Loyalty Pt. Jne. *Jurnal Baruna Horizon*, 5(1), 1-7. <https://doi.org/10.52310/jbhorizon.v5i1.71>
- Fajriyah, I. N. (n.d.). *EFEKTIVITAS PEMBERIAN INFORMASI MELALUI MEDIA CERITA BERGAMBAR*.
- Gunawan, P., & Sujarwo. (2022). Pemanfaatan Komik Sebagai Media Pembelajaran Sejarah dalam Meningkatkan Motivasi dan Hasil Belajar Siswa. *Journal of History Education and Historiography*, 6(1), 2022.
- Hazanah, S. (2022). Effective Use of Media About Sex Education on Adolescent Attitudes in Preventing Unwanted Pregnancy. *Indonesian Journal of Multidisciplinary Science*, 2(3), 2078-2085. <https://doi.org/10.55324/ijoms.v2i3.297>
- Herawati, C., Kristanti, I., Selviana, M., & Novita, T. (2019). Peran Promosi Kesehatan Terhadap Perbaikan Pengetahuan, Sikap, Dan Perilaku Membuang Sampah Pada Siswa Sekolah Menengah Atas. *Dimasejati: Jurnal Pengabdian Kepada Masyarakat*, 1(1), 40-51. <https://doi.org/10.24235/dimasejati.v1i1.5397>
- Jumriani, J., Asriawal, A., Basrah, A. F., & Pariati, P. (2022). Penggunaan Media Penyuluhan Audio Visual Dalam Meningkatkan Pengetahuan Tentang Kesehatan Gigi dan Mulut Pada Anak Sekolah Dasar Kelas V SD Negeri Maccini 2 Kota Makassar. *Media Kesehatan Gigi: Politeknik Kesehatan Makassar*, 21(1), 54-66.
- Kementerian Kesehatan RI. (2018a). Laporan Riskesdas Provinsi Kalimantan Timur 2018. *Lembaga Penerbit Badan Litbang Kesehatan*, 304.
- Kementerian Kesehatan RI. (2018b). Salam Sehat ! Semoga fakta yang disajikan dalam buku ini , bermanfaat untuk perbaikan perencanaan pembangunan kesehatan. *Laporan Riskesdas Nasional 2018*, 120.
- Luthfiana Nur. (2024). Pengaruh Komik sebagai Media Promosi Kesehatan terhadap Peningkatan Pengetahuan Siswa Sekolah Dasar. *Antigen : Jurnal Kesehatan Masyarakat Dan Ilmu Gizi*, 2(2), 153-164. <https://doi.org/10.57213/antigen.v2i2.316>
- M.Yusuf. (2023). Psikologi Perkembangan. *Humanitas*, 3.
- Nuraskin, C. A., Salfiyadi, T., Rahayu, E. S., Mardiah, A., & Yusnaini, R. (2024). *Edukasi Dalam Pemeliharaan Kesehatan Gigi Dan Mulut Pada Murid SDN 60 Kota Banda Aceh Education In Maintenance Of Dental And Oral Health For*

- Students Of SDN 60 Banda Aceh*. 3(1), 18–25.
- Pramesti, U. D., Sunendar, D., & Damayanti, V. S. (2020). Komik Strip Sebagai Media Pendidikan Literasi Kesehatan Dalam Pembelajaran Bahasa Indonesia Pada Masa Pandemi Covid-19. *Bahterasia: Jurnal Ilmiah Pendidikan Bahasa Dan Sastra Indonesia*, 1(2), 45–54. <http://jurnal.umsu.ac.id/index.php/BAHTERASIA/article/view/5135>
- Pranajaya, S. A., Astuti, S. W., Nurhidayatullah, D., Pramudito, A. A., Multahada, E., Rachman, N., Afriany, F., Ramadhani, A. M., & Simarmata, N. (2023). *Psikologi Sosial: Konsep Dan Implementasi*.
- Rakhmawati, N. S., Budiono, I., & Rustiana, E. R. (2020). Determinan Perilaku Pemeliharaan Kesehatan Gigi dan Mulut pada Remaja. *Prosiding Seminar Nasional Pascasarjana (PROSNAMPAS)*, 3(1), 414–419.
- Rini Sitanaya, Surya Irayani, Hans Lesmana, R. (2022). Pengaruh Pengetahuan Kesehatan Gigi Mulut sebagai Faktor Predisposisi Kejadian Karies pada anak usia Sekolah Dasar di UPTD SD Negeri 74 Kabupaten Barru. *Infrared and Laser Engineering*, 51(9), 20210984. <https://doi.org/10.3788/irla20210984>
- Rusyadi, M. A., Said, F., & Ulfah, R. (2020). Perbedaan Penyuluhan Menggunakan Media Komik Dan Media Pameran Terhadap Pengetahuan Tentang Gigi Berlubang Pada Murid *Jurnal Terapis ...*, 1–6. <http://www.jurnal-terapisgigimulut.com/index.php/kepgibjm/article/view/9>
- Sarwono, A. E., & Handayani, A. (2021). Metode Kuantitatif. In *Metode Kuantitatif* (Issue 1940310019).
- Sukarini, N. K., Putu, N., Astuti, W., Nyandra, M., Studi, P., Masyarakat, K., & Pura, U. D. (2023). *The Effectiveness of Applying of Healthy Comic Innovations on the Level of Anxiety in Children in the Cilinaya Room of Mangusada Regional Hospital Badung Regency*. 02(02), 193–198.
- Suryana, E. (2022). *Magister Pendidikan Agama Islam, Tarbiyah dan Keguruan, Universitas Islam Negeri (UIN)*. 8(3), 1917–1928.
- Triswari, D., & Quinta Zashika, R. A. (2019). The Effect of Audiovisual Dissemination on Students 13 - 14 Years Old to Oral Hygiene Status. *Journal of Indonesian Dental Association*, 2(2), 43. <https://doi.org/10.32793/jida.v2i2.405>
- WHO. (2018). *Oral Health*. <https://www.who.int/news-room/factsheets/detail/oral-health>