

Influence of Comics Media in Increasing Student Knowledge About Panu Disease at Public Alementary School 01 Sukoharjo Pati

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Abstract

Pityriasis versicolor, also known as tinea versicolor, is a skin condition that is prevalent in tropical regions with high humidity levels and is brought on by an infection with the fungus *Malassezia sp.* To improve pupil's knowledge of this illness, effective health education is required. The purpose of this study is to examine how comic books can be used as a teaching tool to help students at Public Alementary School 01 Sukoharjo Pati learn more about pityriasis versicolor. A quantitative experimental one group pretest-posttest design was used in this study and a stratified random selection procedure was used to choose a sample of 64 students from classes V and VI. Pretest and posttest questionnaires were used to gather data both before and after comic media instruction was given. Student's knowledge scores significantly ($p < 0.05$) improved after receiving comic education, we examined the data using a paired sample t-test. Student's interest in reading and comprehending health information is also increased by the use of comic books. We found that comic books are a useful teaching tool for improving pupil's comprehension of pityriasis versicolor. Schools and teaching staff should create more engaging and participatory health education strategies for students.

Keywords: Comic media, Health education, Pityriasis versicolor, Student knowledge

INTRODUCTION

The skin disease known as tinea versicolor or pityriasis versicolor is caused by infection with the fungus *Malassezia sp.* It is characterized by patches of skin that are lighter or darker than the surrounding skin. Due to the high heat and humidity in the tropics, pityriasis versicolor is common; the incidence in the tropics can be as high as 40% to 50%.¹ Although Indonesia is a tropical country, epidemiologic data on the incidence of pityriasis versicolor are limited. However, hospital reports suggest that approximately 40% of dermatomycosis patients develop this condition.

Major risk factors include poor personal hygiene, high humidity, immunosuppressive conditions, and the use of unhygienic clothing.² In an effort to increase children's awareness and understanding of this disease, educational media that are interesting and appropriate for children's cognitive development are needed. Comic books are one of the most effective ways to deliver health information because they are visual, easy to understand, and attractive to children.³

METHODS

The one-group pretest-posttest design method was used in this experimental study. The purpose of this design is to investigate how teaching with comic books affects student's understanding of tinea versicolor. This study was conducted at Public Elementary School 01 Sukoharjo Pati from June 2024 to January 2025. The study population consisted of 69 students in grades V and VI of Public Elementary School 01 Sukoharjo Pati.

The Slovin formula was used to determine the minimum sample size of 59 students. In this study a sample of 64 research respondents was obtained. Before sampling, the population was divided into several equal groups (called strata) using stratified random sampling. Questionnaires were used in this study to measure the level of knowledge of students before and after the intervention. The instrument used, namely the questionnaire, has gone through validity and reliability tests.⁴

A pre-test was administered at the beginning of the data collection process, followed by an educational intervention through comic media in the form of a book about tinea versicolor and a post-test. The Liliefors normality test (Kolmogorov-Smirnov) was used to analyze the data, and then the paired samples t-test was used. An alternative test, the Wilcoxon signed rank test, was used when the results did not indicate normal values. If the p-value was less than 0.05, the test results were considered significant.⁵ This study has passed the ethical review of the Health Research Ethics Committee of the Faculty of Medicine, Muhammadiyah University, Semarang with number 058 / EC / KEPK-FK / UNIMUS / 2024.

RESULTS

This study used a One Group Pretest-Posttest design to analyze the effect of comic media in increasing student's knowledge about Pityriasis Versicolor at Public Elementary School 01 Sukoharjo Pati. Of the 69 students in grades V and VI, 64 students met the inclusion criteria and participated in this study, while 5 others could not participate due to illness and absence from school. The results of the distribution of respondents' characteristics are presented in **Table 1**.

The analysis showed that after learning through humor media, student's knowledge score increased. Students obtained an average score of 28.69 on the pretest and 30.89 on the posttest. **Tables 2 and 3** display the findings of the pre-post-test score distribution.

With normal data distribution (Kolmogorov-Smirnov normality test result > 0.05), the paired sample t-test is used to test the data. The results of the paired sample t-test show a p-value of 0.000 (< 0.05), which indicates that humor media has a significant impact on student's knowledge growth. The purpose of the paired sample t-test is to determine whether the knowledge before and after the training is different.⁴ **Table 4** shows the results of the paired sample t-test.

The objective of this study was to ascertain the efficacy of comic books as a teaching aid to facilitate student comprehension of pityriasis versicolor. The findings of the research indicate that the level of knowledge of the students increased significantly after receiving teaching through the comedic media.

The preliminary findings indicated that many of the students exhibited a fundamental comprehension of personal hygiene. However, certain detrimental practices persisted, including the utilization of bar soap in alternate applications and the employment of towels in moist conditions. Following the administration of an educational intervention utilizing comic media, the posttest results indicated an enhancement in comprehension of various components of personal hygiene pertaining to the prevention of pityriasis versicolor.

DISCUSSION

Paired sample t-tests were used to analyze the data, and the results indicated a significant difference between the pretest and posttest scores ($p < 0.05$). This case study demonstrates the efficacy of integrating comic books as a pedagogical tool to enhance student's comprehension of pityriasis versicolor. This result aligns with the findings of La Ode Reskiaddin *et al.* (2022), who determined that students' attitudes and comprehension of food safety and personal hygiene were enhanced through the utilization of comic media.⁶

Jean Piaget's theory of cognitive development, which posits that children between the ages of 10 and 12

are at the concrete operational stage, where they begin to comprehend concepts logically and link new information to their experiences, can be employed to elucidate the increase in students' knowledge following the receipt of education. The integration of captivating images and engaging storytelling in comic media has the potential to offer students a distinctive learning experience, thereby enhancing their comprehension of the subject matter.⁷

Moreover, the efficacy of comic media as an educational tool aligns with the findings of research conducted by Vio Nita (2023), which indicates that children exhibit a greater interest in learning health topics through visual media compared to conventional methods. Consequently, the utilization of comics in health education in elementary schools can serve as an effective alternative learning method.⁸ Nevertheless, this study is not without its limitations. For instance, it did not explore other external factors that may affect student's knowledge, such as the influence of family and social environment. Consequently, subsequent research can be conducted by expanding the scope of the variables studied, as well as by comparing the effectiveness of comic media with other educational media, such as animated videos or interactive modules.

The findings of the research support the hypothesis that comic books can function as an effective pedagogical instrument to enhance student's knowledge and comprehension of pityriasis versicolor. Furthermore, the research suggests that comic books can play a pivotal role in promoting initiatives aimed at encouraging elementary school students to adopt healthier and more hygienic lifestyles.⁹

CONCLUSION

This study posits that the utilization of comic books as an educational instrument has been instrumental in enhancing student comprehension of pityriasis versicolor, also known as tinea versicolor. The analysis revealed notable variations between the pre-intervention and post-intervention periods.

The findings indicated that the average knowledge score of students increased after receiving learning through the comedic medium. Consequently, the utilization of comic books as a pedagogical instrument can serve as an engaging and accessible medium for primary school students to acquire knowledge about health.

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SUPPLEMENT

Table 1. Respondent Characteristics

Respondent Characteristics	Amount (n)	Percent (%)
Age		
10 Years	14	21,9
11 Years	23	35,9
12 Years	24	37,5
13 Years	3	4,7
Gender		
Male	32	50
Female	32	50
Class		
V (Five)	31	48,4
VI (Six)	33	51,6

Table 2. Respondent's Pretest Score

No	Question	a (1)		Answer				Mean	Standard Deviation
		n	%	b (2)		c (3)			
		n	%	n	%	n	%		
1.	Berapa sekali anda mandi dalam waktu satu hari?	0	0	54	84,4	10	15,6	2,16	0,366
2.	Bagaimana cara anda mandi?	0	0	3	4,7	61	95,3	2,95	0,213
3.	Bagaimana kebiasaan anda dalam penggunaan sabun saat mandi?	38	59,4	2	3,1	24	37,5	1,78	0,967
4.	Apakah anda dalam waktu satu bulan terakhir mengalami keluhan gatal-gatal?	2	3,1	33	51,6	29	45,3	2,42	0,558
5.	Apakah anda dalam satu bulan terakhir mengalami keluhan adanya bercak-bercak di kulit tubuh anda?	4	6,3	8	12,5	52	81,3	2,57	0,563
6.	Apakah anda dalam satu bulan terakhir mengalami keluhan tanda-tanda kulit-kulit yang mengelupas (contohnya seperti sisik kering)?	5	7,8	15	23,4	44	68,8	2,61	0,633
7.	Bagaimana cara anda mencuci tangan?	1	1,6	2	3,1	61	95,3	2,94	0,302
8.	Apakah anda menyikat kuku-kuku anda saat mandi dengan menggunakan sabun?	37	57,8	15	23,4	12	18,8	1,61	0,789

9.	Berapa kali anda dalam waktu satu hari mengganti pakaian?	0	0	0	0	64	100	3,00	0,000
10.	Apakah anda setelah berkeringat, mengganti pakaian anda?	17	26,6	31	48,4	16	25	1,98	0,724
11.	Bagaimana anda meletakkan handuk anda yang telah anda pakai setelah mandi?	3	4,7	23	35,9	38	59,4	2,55	0,589
12.	Bagaimana keadaan handuk anda ketika anda pakai untuk mandi?	19	29,7	30	46,9	15	23,4	1,94	0,732

Table 3. Respondent's Post-test Score

No	Question	Answer						Mean	Standard Deviation
		a (1)		b (2)		c (3)			
		n	%	n	%	n	%		
1.	Berapa sekali anda mandi dalam waktu satu hari?	0	0	58	87,5	8	12,5	2,13	0,333
2.	Bagaimana cara anda mandi?	0	0	0	0	64	100	3,00	0,000
3.	Bagaimana kebiasaan anda dalam penggunaan sabun saat mandi?	23	35,9	0	0	41	64,1	2,28	0,967
4.	Apakah anda dalam waktu satu bulan terakhir mengalami keluhan gatal-gatal?	16	25	17	26,6	31	48,4	2,23	0,831
5.	Apakah anda dalam satu bulan terakhir mengalami keluhan adanya bercak-bercak di kulit tubuh anda?	13	20,3	2	3,1	49	76,6	2,56	0,814
6.	Apakah anda dalam satu bulan terakhir mengalami keluhan tanda-tanda kulit-kulit yang mengelupas (contohnya seperti sisik kering)?	6	9,4	10	15,6	48	75	2,66	0,648
7.	Bagaimana cara anda mencuci tangan?	0	0	3	4,7	61	95,3	2,95	0,213
8.	Apakah anda menyikat kuku-kuku anda saat mandi dengan menggunakan sabun?	13	20,3	13	20,3	38	59,4	2,39	0,809
9.	Berapa kali anda dalam waktu satu hari mengganti pakaian?	0	0	0	0	64	100	3,00	0,000

10.	Apakah anda setelah berkeringat, mengganti pakaian anda?	9	14,1	14	21,9	41	64,1	2,50	0,735
11.	Bagaimana anda meletakkan handuk anda yang telah anda pakai setelah mandi?	0	0	2	3,1	62	96,9	2,97	0,175
12.	Bagaimana keadaan handuk anda ketika anda pakai untuk mandi?	16	25	18	28,1	30	46,9	2,22	0,826

Table 4. The Differences Mean Score Result

	N	Mean	<i>P Value</i>
<i>Pretest</i>	64	28,69	0,000
<i>Post test</i>	64	30,89	