

Comparison of the Effectiveness of Leaflet and Educational Video Media on the Improvement of Antibiotic Knowledge in Simpang Empat Sungai Baru Village

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Abstract

Received: 4 July 2023
Revised: 10 July 2023
Accepted: 28 July 2023

The phenomenon of residents of Simpang Empat Sungai Baru Village with the habit of buying antibiotics at unlicensed stalls and drugstores is still rife. Free use of antibiotics is influenced by several factors, one of which is knowledge. One effort that can be done to increase knowledge is to provide effective education. The selected education is to use leaflets and video media. Knowing the comparison of the effectiveness of leaflet and video media on increasing antibiotic knowledge in Simpang Empat Sungai Baru Village. True experimental research with pretest-posttest control group design. The sampling technique used is purposive sampling. The research sample is 96 respondents. The research instrument used a questionnaire. Data analysis used the Wilcoxon Sign Rank test and the Mann Whitney test. Leaflet and video media are effective in increasing people's knowledge about antibiotics with spss analysis the Wilcoxon test results show a Sig. 0.000 which means a significant effect. However, for a comparison of the effectiveness of leaflet and video media, there was no significant effect obtained from the Mann Whitney test results showing the Sig. 0.207. Leaflet and video media were both effective in increasing antibiotic knowledge in Simpang Empat Sungai Baru Village.

Keywords: antibiotics, effectiveness, leaflets, knowledge, videos

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How to Cite: Nafisa, S., Kurniawati, D., Alawiyah, T., & Mustaqimah, M. (2023). Comparison of the Effectiveness of Leaflet and Educational Video Media on the Improvement of Antibiotic Knowledge in Simpang Empat Sungai Baru Village. *International Journal of Education, Information Technology, and Others*, 6(3), 559-564. <https://doi.org/10.5281/zenodo.10211851>

INTRODUCTION

Infection diseases are known to remain a complex challenge, and a comprehensive plan for management and prevention is needed to control the threat of infectious disease transmission (CDC, 2022). Therefore, scientific advancements are efforts to modify and provide essential aspects of health protection and improve public health, one of which is through antibiotic therapy. Someone who wants to have good health must also have good knowledge, and to improve this good health, sufficient knowledge is needed.

Knowledge can be defined as the ability to remember specific things due to the observation process conducted on a particular object (Nurhidayah et al., 2021). Health education can be carried out through an approach to individuals or communities through knowledge, willingness, and ability, resulting in higher well-

being thereafter (Sharma, 2016). The main goal of health education is a change in health behavior with maximum results, at the community or individual level due to the exposure to the information provided (Nutbeam, 2019).

Health education media is a tool that can be used to carry out health education or health promotion, in line with the intended objectives. Some types of health education media commonly encountered in efforts to increase public knowledge are leaflet and educational video media. Leaflet media emphasizes the visual aspect through the presentation of information based on visual images accompanied by short writing, in the form of medium-sized paper, while educational video media emphasizes a combination of audio and moving visual aspects that convey specific health messages or information.

RESEARCH METHOD

The research method used in this study is the True Experimental method with a pretest-posttest control group design. This research was conducted in Simpang Empat Sungai Baru Village, Jorong District, Tanah Laut Regency. The population used in this study is people aged 20-49 in Hamlet I, covering RT 01-06, who have ever or are currently using antibiotics. The sample used in this study is 96 respondents, and the sampling is in accordance with the inclusion and exclusion criteria determined by the researcher.

The data collection instrument used in this study is a questionnaire to determine the level of public knowledge about antibiotics in Simpang Empat Sungai Baru Village by measuring the respondents' answers. The effectiveness comparison of leaflet and video media in improving public knowledge about antibiotics can be seen from the significance value obtained.

RESULTS AND DISCUSSION

Data Univariate Analysis

Table 1. Antibiotics Ever Used by Respondents

No	Antibiotik	Frequence	Percentage
1	Ampicillin	65	43,33%
2	Amoxicillin	72	48%
3	Tetrasiklin	8	5,33%
4	Cefadroxil	4	2,66%
5	Kloramfenikol	1	0,66%
Total		150	99,98%

Table 2. Respondents' Last Use of Antibiotics

No	Last took antibiotics	Frequency	Percentage
1	1 week	13	13,54%
2	2-3 week	40	41,66%
3	1 Month	7	7,29%
4	2 Month	6	6,25%
5	3 Month	2	2,08%

6	4 Month	2	2,08%
7	A few months ago	14	14,58%
8	Sometimes	1	1,04%
9	1 year	2	2,08%
10	Forgot/ a long time ago	9	9,37%
Total		96	99,97%

Table 3. Public knowledge before education

Knowledge	Group Leaflet (Pretest)	Precentage	Group Video (Pretest)	Percentage
Good	11	22,91%	3	6,25%
Satisfactory	13	27,08%	15	31,25%
Poor	24	50%	30	62,5%
Total	48	99,99%	48	100%

Table 4. Public knowledge after education

Pengetahuan	Kelompok (Posttest)	Leaflet Presentas e	Kelompok (Posttest)	Video Presentas e
Baik	32	66,66%	24	50%
Cukup	8	16,66%	17	35,41%
Kurang	8	16,66%	7	14,58%
Total	48	99,98%	48	100%

Table 5. Wilcoxon test for the leaflet group

Leaflet	Asymp. Sig.
Pretest – Posttest	0,000

Table 6. Wilcoxon test for the video group.

Video	Asymp. Sig.
Pretest – Posttest	0,000

Table 7. Mann-Whitney test for effectiveness comparison

Leaflet	Asymp. Sig.
Pretest – Posttest	0,000

Univariate Analysis

1. Antibiotics Ever Used and Respondent's Last Use of Antibiotics.

a. Antibiotics Ever Used by Respondents.

Based on the results in Table 1, it shows that the most frequently used antibiotic by respondents is Amoxicillin, accounting for (48%).

b. Respondent's Last Use of Antibiotics

According to Table 2, the most common recent use of antibiotics by respondents occurred 2-3 weeks ago, accounting for (41.66%).

c. Public Knowledge of Antibiotics Before Education

Based on Table 3, it can be observed that there is still a lack of knowledge among the public. In both the leaflet and video groups, the highest percentage falls under the "poor" category, with 50% in the leaflet group and 62.5% in the video group.

Knowledge of antibiotic use by the residents of Simpang Empat Sungai Baru in this study was measured using a questionnaire with 13 questions related to 9 indicators based on the Rational Drug Use Module (Ministry of Health, Indonesia, 2011). These indicators include appropriate dosage, appropriate indications for diseases, correct dosage, correct time interval for use, correct duration of administration, awareness of antibiotic side effects, accurate information, proper drug dispensing, and effectiveness with assured quality. The questionnaire provided multiple-choice answers with a scoring system of 0-1. A score of 1 was given for a correct answer, and a score of 0 for an incorrect answer.

Based on the results obtained from the 13 statements in the antibiotic use questionnaire, each respondent's score was calculated using the formula (Fatimah et al., 2020):

$$\% \text{ The Statement was answered correctly} = \frac{\text{The statement was answered correctly}}{\text{Score}} \times 100\%$$

d. Public Knowledge on Antibiotics After Education

Based on Table 4, it can be observed that after providing education through leaflets and video media, there is an effective improvement in public knowledge. The post-test results for the leaflet and video groups show an increase in the percentage of those in the "good" category. In the leaflet group, the percentage increased from 22.91% to 66.66%, while in the video group, it increased from 6.25% to 50%.

The second questionnaire or post-test results were obtained by assessing knowledge about antibiotics in the Simpang Empat Sungai Baru Village. This assessment was divided into two questionnaires: one for the leaflet group and one for the video group, both of which had received education through leaflets and videos. Both questionnaires used the same set of questions during the pre-test, comprising 13 items related to 9 indicators. This was conducted before the education, and after 15 days of receiving education through leaflets and videos.

The results revealed an increase in antibiotic knowledge for the leaflet group in the "good" category, with the number of individuals increasing from 11 to 32, maintaining at 8 for the "sufficient" category, and decreasing from 24 to 8 for the "insufficient" category. As for the video group, the data showed an increase in the "good" category from 3 to 24 individuals, a slight increase from 15 to 17 individuals in the "sufficient" category, and a decrease from 30 to 7 individuals in the "insufficient" category.

2. Bivariate Analysis

In this study, statistical testing was conducted using SPSS version 26 with 2 tests: a test to examine the influence of education on the improvement of antibiotic knowledge before and after the provision of education through leaflet and

video media, using the Wilcoxon test, and a test to compare the effectiveness of leaflet and video media using the Mann-Whitney test. The results are as follows:

1. Education through Leaflet and Video on Antibiotic Knowledge

The effectiveness of education on the improvement of antibiotic knowledge in this study was assessed using the Wilcoxon Sign Rank test. This test is chosen because the variable under consideration has non-parametric and ordinal data, requiring the use of ordinal regression statistics. Based on the statistical test, the significance value for both leaflet and video groups is 0.000, which is smaller than 0.05. Therefore, it can be concluded that there is a significant influence between the two variables being compared. If the significance value is >0.05 , it would be concluded that there is no significant influence between the two variables (Notoatmodjo, 2010). Consequently, it can be concluded that education through the provision of leaflet and video media effectively increases the knowledge of the residents of Simpang Empat Sungai Baru Village regarding antibiotics.

2. Comparison of the Effectiveness of Leaflet and Video Media

Mann-Whitney test, analyzed in this study, is an independent test (education) for leaflet and video groups to examine posttest results in both groups. The Mann-Whitney test was conducted to compare the effectiveness between the leaflet and video groups. The result of this test, with an Asymp. Sig value of 0.207 (>0.05), indicates no significant difference in improvement between the leaflet and video groups. Therefore, it can be concluded that the provision of education through leaflet and video media is equally effective in increasing the knowledge of the residents of Simpang Empat Sungai Baru Village regarding antibiotics.

CONCLUSION

Based on the research conducted in Simpang Empat Sungai Baru Village, data from the pretest-posttest of the leaflet group and the video group were subjected to Wilcoxon test with Asymp. Sig value < 0.05 , indicating a significant effect. According to the research data, the Asymp. Sig value is 0.000, which is smaller than 0.05, leading to the conclusion of a significant impact. As for the comparison between the two media to determine which one is more effective, the Mann Whitney test was applied with Asymp. Sig < 0.05 , showing a significant effect. The test results revealed an Asymp. Sig value of 0.207, which is greater than 0.05, indicating no significant difference in improvement between the leaflet group and the video group. Therefore, it can be concluded that educating through both leaflet and video media is equally effective in enhancing the knowledge of the residents of Simpang Empat Sungai Baru Village regarding antibiotics.

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