

THE EFFECT OF USING AUDIO VISUAL AND BOOKLET AS EDUCATIONAL MEDIA TO IMPROVE KNOWLEDGE OF NON-COMMUNICABLE DISEASE PREVENTION AMONG ADOLESCENTS AT ADOLESCENT POSYANDU IN LHOKSEUMAWA CITY

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ABSTRACT

The increasing prevalence of non-communicable diseases (NCDs) has caused Indonesia to face a double burden of both communicable and non-communicable diseases. Parenting styles, physical activity patterns, and dietary habits—such as high-calorie, low-fiber, high-salt, high-sugar, and high-fat diets—combined with a preference for junk food, lack of physical activity, stress, and inadequate rest, contribute to the rise of NCDs in Indonesian society. This study aims to determine the effect of using audiovisual media and booklets as educational tools to improve knowledge about NCD prevention among adolescents at youth health posts (Posyandu Remaja) in Lhokseumawe. This research employed a quasi- experimental design with a pretest and posttest nonequivalent control group approach. The population consisted of all adolescents in the Lhokseumawe area. The sample, comprising 300 adolescents residing in Lhokseumawe, was selected using purposive random sampling. The instruments used were a knowledge questionnaire about NCD prevention, delivered through video for the experimental group and a booklet for the control group. Data were collected directly at the youth health posts. After conducting a homogeneity test of posttest knowledge levels in both groups, an Independent Sample T-Test was performed. The results showed a significant increase in knowledge levels before and after the educational intervention on NCD prevention among adolescents at the youth health posts in Lhokseumawe.

Keywords: *Audiovisual, Booklet, Education, Non-Communicable Diseases, Adolescent*

INTRODUCTION

Non-communicable diseases (NCDs) are a significant health challenge in Indonesia, with their prevalence increasing annually, both regionally and globally. In 2019, approximately 75% of global deaths were caused by NCDs, with 80% occurring in low- and middle-income countries. The majority of these deaths were due to cardiovascular disease (35%), cancer (12%), chronic respiratory diseases (6%), and other NCDs (15%) (BPS, 2023). Overall, two main factors influence the health status and quality of life of the community: direct and indirect factors. Direct factors include treatment, medication adherence, and the implementation of clean and healthy living habits. Indirect factors, as outlined by Notoatmojo (2020), include the use of health services, lifestyle, health promotion, and the environment. Easily accessible NCD prevention efforts, particularly for adolescents, are indirect factors such as the use of health services. **Adolescent Posyandu**, or integrated health posts, located in villages, are a prime example. However, awareness and utilization of these services by adolescents remain low, as evidenced by their low attendance at Posyandu activities. In Lhokseumawe City, the majority of the population is aged 15- 27, a demographic for whom health promotion and prevention are crucial. The current health status of adolescents in Lhokseumawe is concerning, with unhealthy lifestyles prevalent. Many adolescents spend their time at cafes, consuming foods high in sugar and junk food. Lhokseumawe City has four districts—Banda Sakti, Muara Satu, Muara Dua, and Blang Mangat—all of which have established Adolescent Posyandu. A preliminary interview with 10 adolescents in Lhokseumawe revealed that seven of them were unaware of NCD prevention. They also admitted to unhealthy habits such as frequenting cafes, drinking sugary and carbonated beverages, and staying up late at night. Based on this background, this study investigates the effectiveness of using audio-visual and booklet media as educational tools to increase the knowledge of adolescents about NCD prevention at Adolescent Posyandu in Lhokseumawe City.

METHODS

This study used a **quasi-experimental research method** with a non-equivalent control group design, in which both the experimental and control groups were given a pretest and a posttest. A **purposive random sampling** technique was used to select a sample of 300 adolescents residing in Lhokseumawe City, with 150 respondents in the experimental group and 150 in the control group. The research instrument was a questionnaire assessing knowledge about NCDs. The experimental group received education through video media, while the control group received it through a booklet. Data were collected directly at the Adolescent Posyandu.

RESULTS AND DISCUSSION

Results

1. Respondent Characteristics

Tabel 1. Distribution of Respondent Characteristics

Karakteristik Responden	Jumlah	Persentase (%)
Umur		
13– 16 tahun	175	58,6
17-19 tahun	125	41,7
Jenis Kelamin		
Laki-laki	132	44,0
Perempuan	168	56,0
Kelas		
VII-IX	137	45,6
X-XII	163	54,4
Jumlah	300	100

Based on Table 1, the majority of respondents were aged 13–16 years (175 people, 58.6%), female (168 people, 56.0%), and in grades X–XII (163 people, 54.4%).

2. Univariate Analysis

Table 2. Distribution of NCD Prevention Education Among Adolescents at Adolescent Posyandu in Lhokseumawe City

Edukasi	Jumlah	(%)
Tidak	144	48,0
Ya	156	52,0
Jumlah	300	100

The results show that the majority of adolescents (156 people, 52.0%) had received education about NCDs at the Adolescent Posyandu in Lhokseumawe City.

3. Bivariate Analysis

Table 3. Analysis of the Effect of Using Audio-Visual and Booklet Media for NCD Prevention Education

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PRETES	,50	300	,501	,029
	POSTES	,81	300	,390	,023

		Paired Differences				
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference	
					Lower	Upper
Pair	PRETES POSTES	-,310	,732	,042	-,393	-,227

The results show that the use of audio-visual and booklet media for NCD prevention education led to a knowledge increase of **0.31**, from **0.50** in the pretest to **0.81** in the posttest. The Paired Samples T-Test yielded a **p-value of 0.000**, indicating a statistically significant change in knowledge levels before and after the intervention.

Discussion

1. Respondent Characteristics

As shown in Table 4.1, the majority of respondents were between the ages of 13 and 16, a crucial developmental stage for forming healthy behaviors. At this age, adolescents are capable of complex thought and can consider long-term health risks, yet they are still highly influenced by their environment, including educational media (Santrock, 2012). This finding is consistent with research by Herlina et al. (2020), which stated that adolescents aged 13–17 are the most responsive to health education interventions. The higher participation of female respondents also aligns with Wulandari & Yuliana (2021), who found that females tend to show greater concern for health and disease prevention.

2. Univariate Analysis

The univariate analysis (Table 4.2) shows that the majority of respondents (52%) had received some form of NCD prevention education at the Adolescent Posyandu. This indicates that health education activities are already underway in Lhokseumawe City, although nearly half of the respondents (48%) had not yet received such education. These findings highlight the importance of health education as a key strategy for reducing NCD risks from a young age. According to the Indonesian Ministry of Health (2023), many NCDs, such as diabetes and heart disease, originate from unhealthy habits formed during adolescence. Therefore, the Adolescent Posyandu can serve as a strategic platform for delivering this education. Research by Kurniawati & Hartono (2019) also found that adolescents who receive regular education have better knowledge and preventive behaviors regarding NCDs.

3. Bivariate Analysis

The bivariate analysis revealed a significant difference between the pretest and posttest scores. The mean knowledge score increased from 0.50 to 0.81, with a mean difference of 0.31. The Paired Samples T-Test confirmed this difference as statistically significant with a p-value of 0.000 ($p < 0.05$). This improvement demonstrates that audio-visual and booklet media have a positive and significant impact on increasing adolescent knowledge of NCD prevention. These media effectively convey information in a clear, engaging, and easily understandable manner, particularly since audio-visual content

engages both auditory and visual learning styles. The booklet serves as a tangible reference that can be reviewed at any time.

These findings align with Mahmudah et al. (2025), who noted that audio-visual-based education improves student comprehension more effectively than conventional methods. Similarly, Musabikah et al. (2023) showed that using booklets significantly increased knowledge of NCD risk factors among adolescents. The ability to take booklets home and reread them allows for long-term memory retention.

Drawing from Piaget's theory of cognitive development, adolescents are in the formal operational stage, where they can think abstractly and logically. Therefore, providing education through visual and text-based formats is highly suitable, as it enhances understanding and stimulates critical thinking about the importance of maintaining health. Azizah et al. (2021) also found that animated videos significantly increased knowledge scores, reinforcing the strategic role of educational media in adolescent health promotion. Media that are engaging and easy to remember are crucial for topics that may be less familiar to teenagers.

CONCLUSION

The findings revealed a significant improvement in knowledge levels among adolescents after receiving educational interventions on NCD prevention. It is recommended that healthcare providers and related institutions implement routine and systematic health education for adolescents using attractive and age-appropriate media such as educational videos, booklets, animations, and infographics.

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