



## THE INFLUENCE OF HEALTH EDUCATION THROUGH AUDIOVISUAL MEDIA ON THE IMPLEMENTATION OF GYMNASICS EYES ON TEENAGERS AT SMAN XI SURABAYA

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ABSTRACT	Keywords
<p>Using smartphones for hours makes the eyes tired and vision becomes blurred. Eye exercise therapy can improve eye health, with a series of movements carried out by the eye organs so that eye acuity increases. Health education can change unhealthy behavior into healthy behavior, so audiovisual media is needed to support the learning process. The purpose of this study was to prove the effect of health education through audiovisual media on the implementation of eye exercises in adolescents at SMAN XI Surabaya. The research method used was pre-experiment with a one group pre-test post-test design. The population of all grade X students at SMAN XI Surabaya was 426 students. The sampling technique used in this study was simple random sampling so that the sample obtained was 43 students. The instrument in this study was an observation sheet. Based on the results of the chi-square test analysis, the p value = 0.000 and <math>\alpha &lt; 0.05</math> were obtained, so this shows <math>p &lt; \alpha</math> which means that this study shows that there is an effect of health education through audiovisual media on the implementation of eye exercises in adolescents at SMAN XI Surabaya. Providing health education using audiovisual media can provide a lot of stimulus to students, because the audiovisual nature combines sound and images, making it easier for students to do eye exercises independently.</p>	<p><b>health education, audiovisual media, and eye exercises</b></p>

## INTRODUCTION

### 1.1 BACKGROUND

Technology is something that is very closely related to humans today. Through technology, the information window is wide open so that humans can develop in terms of education, economics, creativity and other fields, but we must be careful about its use for children from early childhood to adulthood. Gadget screens emit light called high energy visible or commonly known as blue light which is dangerous for the eyes. There is a risk of problems such as computer vision syndrome, a symptom that arises because the eyes focus too much on the screen, causing an uncomfortable feeling if done for too long a period. Apart from that, prolonged use of gadgets can also cause farsightedness

Good vision is very necessary to support the learning process where vision is one of the pathways for receiving information provided in the learning process. So eye health is very important in supporting the learning process at school (Anisah, 2018). Knowledge is the basis of a person's responses and actions. Knowledge is influenced by seven factors, namely, education, employment, age, interests, experience, culture of the surrounding environment and information. A person's knowledge can be obtained through the information provided (Djajanti et al., 2020). Providing health education is a planned effort to change individual behavior from unhealthy behavior to healthy behavior, so audiovisual media is needed to support the learning process. Audiovisual media is media that combines sound and images to convey content. for example audiovisual media in the form of video, film, television etc. (Fernando Pakpahan et al Andrew, 2020). Eye health must be given more attention, especially for female students. The increasing use of digital devices raises concerns about their eye health. Teenagers are often in front of a laptop or smartphone screen for a longer duration so that their eyes are required to continuously stare at the laptop or smartphone

screen. This causes vision problems such as tired eyes, nearsightedness (Anggraeni, 2019). The factor that causes disruption to eye health is uncontrolled or continuous use of smartphones which will have a fatigue effect on the eye eyes, eyes become dry and even refractive errors will appear, reading at a close distance < 30 cm, consuming less fruit and vegetables. Eye exercise therapy is a series of movements carried out repeatedly by the eye organs to train the eye muscles, thereby reducing visual discomfort. Eye exercises are a technique used to get the eyeballs used to being flexible and moving according to the reach of the eye, as well as making the eye muscles and surrounding areas elastic and strong. This exercise requires contraction of a muscle to build eye muscle strength and needs to be done repeatedly as a form of therapy. Eye exercises can be done in a standing, sitting, lying position, or with your eyes closed Eye exercises can be done by anyone who wants to train their eyes, from children to the elderly, men and women (Asmarani, 2020; (Siti Nur Solikah, Kholifah Hasnah, 2022)

### 1.2 RESEARCH OBJECTIVES

#### 1.2.1 General Objectives

To find out whether there is an influence of Health Education through Audiovisual Media on the Implementation of Eye Exercises among Adolescents at SMAN XI SURABAYA

#### 1.2.2 Specific Objectives

1. Identify the implementation of eye exercises before being given health education through audiovisual media at SMAN XI SURABAYA
2. Identify the implementation of eye exercises after being given health education through audiovisual media at SMAN XI SURABAYA
3. Analyze the influence of health education through audiovisual media on the implementation of eye exercises among teenagers at SMAN XI SURABAYA

### 1.3 Benefits of Research

#### 1.3.1 For Respondents

The results of this research can be used as input so that we can better understand the influence of health education through audiovisual media on the implementation of eye exercises among teenagers at SMAN XI Surabaya.

#### 1.3.2 For educational institutions at SMAN XI Surabaya

To increase the experience and knowledge of SMAN XI students on how to care for their eyes to avoid eye disorders, namely by doing eye exercises.

#### 1.3.3 For Further Researchers

The results of this research can be used as reference material for future researchers in choosing learning methods to improve students' skills.

### LITERATURE REVIEW

#### 2.1 Concept of Health Education.

Health education is a planned effort to change individual, group or community behavior from unhealthy behavior to healthy behavior. In this educational process the desired changes are of course based on the assumption that good behavioral changes start from good knowledge. Therefore, the use of the five senses in capturing information is absolutely necessary, and the more you use the five senses, the clearer the knowledge obtained will be. This is where the role of media in health education is as a tool or teaching aid used by health educators in delivering educational or teaching materials.

##### 2.1.2 Objectives of Health Education

Health education according to (Wisyawati, 2020) has the aim of:

- 1) Establishing health as something that is very important in social life
- 2) Helping someone to be able to either independently or in a group by holding activities to achieve healthy life goals.

Motivate the development and appropriate use of health education to improve health status.

#### 2.1.3 Health Education Strategy

Health education strategies are the methods chosen to deliver material in a health education environment including the nature, scope and sequence of activities that can provide learning experiences to clients. Health education strategies are not only limited to activity procedures, but also include health education materials or packages.

#### 2.1.4 Health Education Methods

According to (Ministry of Health, 2016) health education methods are divided into:

##### 1. Individual education method

This individual method is used to develop behavior or develop someone who is starting to be interested in making a change in behavior

##### 2. Group education method

The method depends on the size of the target group and the formal education of the target.

##### 3. Methods of mass education

This method conveys health messages aimed at the general public (does not differentiate between age, gender, occupation, socio-economic status and so on).

#### 2.2 Concept of Audiovisual Media

Media is a teaching aid to achieve learning goals effectively and efficiently. In order to create effective media in the learning process (Septi, 2021).

##### 2.2.1 Audio Visual Media

Audiovisual media is a media combination of audio and visuals created by self-creating slides combined with audio cassettes. Audio visuals play an important role in the educational process, especially when used by teachers and students. Audiovisual media provides a lot of stimulus to students, because of its audiovisual or sound-image nature. Audio visuals enrich the learning environment, foster exploration, experimentation and discovery, and encourage students to develop conversations and express their thoughts (Fernando Pakpahand et al Andrew, 2020).

##### 2.2.2 Characteristics of Audiovisual Media

The characteristics of Audio Visual media are that it has sound elements and image elements.

This type of media has better capabilities, because it includes both types of media, namely audio and during the learning process, film projector machines, tape recorders and wide visual projectors.

#### 2.2.3 Types of AudioVisual Media

According to (Asrul, 2020) audio visual media is divided into 2:

- 1) Pure Audio Visual, that is, both sound elements and image elements come from one source such as television, video cassettes, sound films
- 2) Audio visual is not pure, that is, the sound elements and image elements come from different sources such as sound frame films.

### 2.3 CONCEPT OF EYE EXERCISES

#### 2.3.1 Definition of Eye Exercises

Eye exercises are a way to train the eyes to stay healthy which can reduce or eliminate eye diseases, prevent the appearance of tumors behind the eyes and in the pituitary gland, eliminate circles and swelling under the eyes or eliminate eye bags, reduce wrinkles around the eyes, makes the eye muscles and surrounding areas elastic and strong, and sharpens vision (Derry, 2015)

#### 2.3.2 Benefits of Eye Exercises

The benefits of eye exercises according to (Sterno, 2019) include:

1. Reduce or eliminate eye diseases
2. Prevents the appearance of tumors behind the eyes and in the pituitary gland (pituitary)
3. Remove circles and puffiness under the eyes or remove eye bags
4. Reduces wrinkles around the eyes
5. Makes the eye muscles and surrounding areas elastic and strong
6. Sharpens vision

### 2.4 CONCEPT OF ADOLESCENCE

Adolescence is a period of development of dependent attitudes toward parents towards independence, sexual interests, self-reflection, and attention to aesthetic values and moral issues (Shoffa, 2021).

#### 2.4.1 Phases of Adolescence

visual media. Learning through audio-visual is clearly characterized by the use of hardware

According to (Maryam B, 2021) adolescent phase:

1. Adolescence as a Transition Period
2. Adolescence as Change
3. Adolescence as a Problematic Age
4. Adolescence as a Period of Searching for Identity
5. Adolescence is an Age that Causes Fear
6. Adolescence is an unrealistic period
7. Adolescence as the Threshold of Adulthood

## RESEARCH METHODS

The research design used in this research is pre-experimental. This design is to determine the relationship/influence using one/two sample groups before treatment and after treatment, this study does not have a comparison group (control). This research uses a one group pretest posttest design approach. The population in this study were all class X students at SMAN XI Surabaya totaling 426 students. The type of sampling used in this study was simple random sampling.

Taken according to certain procedures so that it can represent the population (Tarjo, 2019). Sampling for research according to (Arikunto, 2010), if the subjects are less than 100 people, all of them should be taken, if the subjects are large or more than 200 people, 10-15% or 20-25% or more can be taken.

### 3.1 VARIABLES IN THIS RESEARCH

The independent variable in this research is health education through audiovisual media

The dependent variable in this research is the implementation of eye exercises

### 3.2 Data Analysis

Analysis using the Chi Square Test

## RESULTS AND DISCUSSION

### 4.1 General Data

Table 4. 1 Frequency Distribution of Respondents Based on Gender at SMAN XI Surabaya

No	Gender	Frekuensi	Presentase (%)
1.	Male	19	44,2
2.	Female	24	55,8
	Amaunt	43	100

Primary data source 2024

Based on table 4.1, it shows that the majority of respondents were female, 24 students (55.8%)

Table 4. 2 Frequency Distribution of Respondents Based on Age at SMAN XI Surabaya

No	AGE	Frekuensi	Presentase (%)
1.	14 – 15 Year	10	23,2
2.	16 – 17 Year	33	76,8
	AMOUNT	43	100

Primary data source 2024

Based on table 4.2, it shows that the majority of respondents were 16-17 years old, 33 respondents (76.8%)

Table 4. 3 Frequency Distribution of Respondents Based on Having Received Information About Eye Exercises at SMAN XI Surabaya

No	Have you ever received information	Frekuensi	Presentase (%)
1.	Already	19	44,2
2.	Not yet	24	55,8
	Amount	43	100

Primary data source 2024

Based on table 4.3 above, it was found that only 19 respondents (44.2%) had received information about eye exercises.

#### SPECIAL DATA

Table 4. 4 Frequency distribution of eye exercises via audiovisual media before providing health education to students at SMAN XI Surabaya

No	Pretest	Frekuensi	Presentase (%)
1	Not enough	40	93,03
2	more	3	6,97
	Amount	43	100

Primary data source 2024

Based on table 4.4, it shows that the majority of eye exercises before being given health education through audiovisual media were in the poor category with 40 respondents (93.03%).

Table 4. 5 Frequency distribution of eye exercises via audiovisual media after being given health education to students at SMAN XI Surabaya.

No	Posttest	Frekuensi	Presentase (%)
1	Not enough	2	4,65
2	More	41	95,36
	Amount	43	100

Primary data source 2024

Based on table 4.5, it shows that most of the eye exercises were carried out after given health education were in the good category as many as 41 respondents (95.36%)

Table 4. 6 Effects of Health Education through Audiovisual Media on the Implementation of Eye Exercises among Adolescents at SMAN XI Surabaya

No	category	Pre test		Post test		Improvement
		F	%	F	%	
1.	Not Enough	40	93,03%	2	4,65%	
2.	more	3	6,97%	41	95,35%	88,38%
	Amount	43	100%	43	100%	
Uji Chi square test				pvalue = 0,000		

## DISCUSSION

Based on table 4.5, it shows that the level of implementation of eye exercises after being given health education was in the good category as many as 41 respondents (95.35%) and in the poor category 2 respondents (4.65%). It can be concluded that the implementation of eye exercises increased after being given health education. This is supported by research results according to (Djajanti et al., 2020) that a person's knowledge can increase by providing information through health education or health education. The use of smartphones to deliver health education is quite effective in increasing health knowledge and attitudes in adolescents (Sudiarto et al., 2019)

The research results obtained after being given health education through audiovisual media regarding the implementation of eye exercises using an observation sheet instrument consisting of 8 stages of eye exercises show that the majority of respondents can do eye exercises well in accordance with the SOP, only a few respondents may have difficulty in doing eye exercises. perform eye exercises according to the SOP. Health education through audiovisual media can influence a person's actions regarding maintaining eye health by doing eye exercises, which are delivered information contains messages that can direct someone to improve a healthy lifestyle (Nurmala, 2018). The presence of new information about something can provide new knowledge for students so that skills are formed about something (Jenita, 2021). Health

Primary data source 2024

Based on the results of statistical testing using the chi square test using SPSS, the significance  $\alpha=0.05$  was obtained and the result was  $\rho$  Value = 0.000, which means  $\rho < 0.05$ , namely  $H_0$  is rejected and  $H_1$  is accepted, which means there is an influence of health education through audiovisual media on implementation. eye exercises for teenagers at SMAN XI Surabaya. education can influence the attitudes of other people, whether individuals, groups or society, so that someone is able to take actions related to health. In general, health education is an effort to change healthy living behavior based on self-awareness in individuals, groups and communities to maintain and improve health. Health education is said to be successful if the higher the behavioral changes carried out by



educational targets (individuals, groups or communities) in carrying out actions or skills in accordance with the goals set by educational actors (Martina, 2021).

Based on the results of the research, the researchers explained that providing health education through audiovisual media was able to increase students' actions regarding the implementation of eye exercises. Providing health education through audiovisual media about Implementing eye exercises is a process of delivering health education by researchers to students in order to maintain eye health.

Based on the research results, it shows that after being given health education, respondents' actions increased with a good percentage of 3 respondents (6.97%) and 40 respondents (93.03%) and after being given health education it became good for 41 respondents (95.35%) and 2 respondents (4.65%) were in the poor category. This data explains that there was an increase before being given health education and after being given health education through audiovisual media in the implementation of eye exercises. Based on table 4.6 above, it shows that the results of statistical testing using the chi square test using SPSS obtained a significance of  $\alpha=0.05$  and obtained the result  $p\text{ Value}=0.000$ , which means  $p<0.05$ , it is concluded that  $H_0$  is rejected and  $H_1$  is accepted, which means that there is an influence of health education through audiovisual media on the implementation of eye exercises among teenagers at SMAN . There were 2 respondents in the poor category because the respondents did not pay enough attention when the speaker explained it and the respondents did not concentrate enough when health education was carried out in class. Based on the results of statistical tests, it is known that health education can improve students' actions in doing eye exercises. This is supported by the theory (Asriwati, 2019) that providing information through health education is an effort to improving action, the action comes

from knowing through sensing a particular object, then understanding and applying the ability to use the material that has been studied. The increase in skills is due to the use of media and interesting ways of conveying information. The advantage of this media is that it is more interesting and more effective to use because it involves image elements and sound elements. This can make students interested in health education delivered by researchers. In accordance with theory (Ermiaati et al, 2022) health education through audiovisual media is one means of increasing students' and students' understanding and knowledge regarding eye health by doing eye exercises. Health education is very important to provide students with a basic understanding of eye health so that it is hoped that it can minimize the incidence of myopia. Health education aims to change individual, group or community behavior from unhealthy behavior to healthy behavior (Nurmala, 2018).

From the research conducted by the researcher, it was found that if the respondent did not have good actions regarding the implementation of eye exercises, then the researcher assumed that it would be difficult to realize an act or action that would be carried out. The existence of health education can change respondents' actions related to health. This shows that providing health education through audiovisual media has an effect because the media used is accompanied by sound and images, making it easier for respondents to do eye exercises.

## CONCLUSION

Based on the results of research and discussion regarding the influence of health education through audiovisual media on the implementation of eye exercises among teenagers at SMAN The result is  $P\text{ Value}=0.000$ , which means  $P\text{ Value}<0.05$ , which means there is an influence of health education through audiovisual media on the implementation of eye exercises in

adolescents. Providing health education can improve students' ability to do eye exercises because the delivery of health education uses appropriate media interesting so that it provides a lot of stimulus to students, because the nature of audiovisual media is that it combines sound and images, making it easier for students to do eye exercises independently.

## SUGGESTION

### 1. For Respondents

It is hoped that respondents who take part in health education can apply the material that has been obtained from health education through audiovisual media regarding the implementation of eye exercises that have been given by researchers so that respondents can carry out eye exercises independently as an effort to maintain eye health.

### 2. For High Schools

High schools should create eye health education programs and regular eye examinations for students in collaboration with local health institutions. It is best to put up eye exercise posters in each class and make eye exercise therapy activities a mandatory and routine activity with assistance from the class teacher or members of the PMR (Youth Red Cross) on certain days.

### 3. For Further Researchers

It is hoped that for future researchers, this material regarding eye exercises will be very interesting and important in maintaining eye health, however, there are still many who do not know about eye exercise therapy. It is hoped that future researchers will be able to choose research sites that focus on children so that children can maintain eye health from an early age. Next in terms of

The research technique is expected to provide a control group in the research so that they can compare better results, as a basis for providing health education to adolescents regarding the implementation of eye exercises

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