

CHAPTER I

INTRODUCTION

1.1 Background

Smoking has become a very common habit in society, including among adolescents. It is very difficult to stop smoking, even though people are aware of the dangers of smoking. There has been a lot of abuse of smoking among adolescents such as students (Linggi, Madu, Daben, & Tandi, 2023). The Ministry of Health conducted the 2023 Indonesia Health Survey (SKI) Data, the results of which show that the number of active smokers is estimated to reach 70 million people, with 7.4% of them smoking aged 10-18 years. Children and adolescents are the group with the most significant increase in the number of smokers. Based on data from the Global Youth Tobacco Survey (GYTS) in 2019, the prevalence of smokers in school children aged 13-15 years increased from 18.3% (2016) to 19.2% (2019). The number of young smokers is rising, and so is their risk of respiratory problems (Lorensia, Muntu, Suryadinata, & Septiani, 2021).

Smoking is a habit that can be very harmful to the health of our bodies and lives, especially to our respiratory system. Our respiratory system starts at the nose and goes through the upper airways to the surface of the lungs called the alveoli, where gas exchange takes place. Cigarette smoke enters the mouth, passes through the upper airways and ends up in the alveoli. The deeper the smoke goes, the more gases from the smoke are absorbed and the particles become trapped in the airways and alveoli. Smokers are at increased risk of serious diseases, including diseases of the mouth and other respiratory tracts, due to excessive exposure to carcinogens and toxins from cigarette smoke in these areas (Centers for Disease Control and Prevention (US) et al., 2010).

Some previous research has shown the effect of smoking on the respiratory system. The study shows that smoking is a key cause of chronic bronchitis in adolescent (Saracen, 2017). In addition, a research determine differences in lung function and levels of physical activity between smokers and non-smokers

demonstrate result students who smoked had more respiratory problem than those who did not (Lorensia et al., 2021). The effect of smoking habits on respiratory muscle in young adults, research shown smoking is associated with decreased respiratory muscle strength, reduced lung volume, as well as airflow obstruction. This research shows that the more a person smokes, the higher the risk of damage to lung function (Hasan, Rakkah, & Attaur-rasool, 2013). This means that there is a need for increased educational activities on the harmful effects of smoking and for the active implementation of anti-smoking campaigns at school. Improving students' health literacy is one activity that can reduce these adverse effects.

Students' health literacy plays an important role in supporting the achievement of Sustainable Development Goal (SDG) 3, which aims to ensure healthy lives and promote well-being for all people of all ages. Health literacy is the ability to access, understand and use health information to make informed health decisions (Nutbeam, 2015). SDG 3 aims to ensure healthy lives and promote well-being with various targets such as reducing maternal and child mortality, ending epidemics of communicable and non-communicable diseases, improving mental health and well-being, and achieving universal health coverage (Budhathoki et al., 2017; Christie & Ratzan, 2019).

Students with good health literacy tend to have good health outcomes; students can make better decisions about their health, such as choosing healthy foods, following immunisation schedules, and understanding the importance of mental health (Vamos, Okan, Sentell, & Rootman, 2020). Health literacy also helps students become more aware of health issues in society, enabling them to participate in school and community health programmes, which in turn supports government efforts to achieve the SDG targets (SHYAM). To support this, schools can implement health literacy education through integrated curricula, education and training programmes, and use digital technology to disseminate relevant health information (Christie & Ratzan, 2019; Vamos et al., 2020). As well as having an impact on individual health, improving students' health literacy is critical to achieving SDG 3, which aims to create a healthier and wealthier society. In this 21st century, health literacy is a crucial ability for society.

According to Paakkari et al., (2018) the foundations of health literacy and behavior, which contribute to the common good, are established during childhood within the school environment. This formative period is critical as children spend a substantial amount of their developmental years in schools, where they are exposed to a wide range of health-related information and practices. Schools act as important venues for imparting knowledge about health, nutrition, and safety, thus shaping students' attitudes and behaviours towards their well-being. Schools play an essential role in reducing inequalities among students by promoting health and well-being in public educational spaces. Research shows that children from disadvantaged backgrounds often encounter higher health risks and have limited access to health information and resources.

Research has shown that health literacy is integral to fostering positive health behaviours and outcomes among children and adolescents. A systematic review by Jafari et al., (2021) revealed that students with higher levels of health literacy are more likely to engage in beneficial behaviours such as regular physical activity and proper nutrition, and are less likely to engage in risky behaviours like smoking and substance abuse. Meanwhile, low health literacy in children is associated with negative health outcomes, including increased risk of chronic disease and risky behaviours (Bröder et al., 2017).

Research, including a cross-sectional study by Rueda-Medina et al. (2020), assessing the health literacy status of students and its association with their health behaviors, found that approximately 30.2% of students had inadequate or problematic health literacy. This highlights the need for health science students, as future health care providers, to improve their health literacy skills. In the Surabaya study, only 25.9% of high school students achieved an average functional health literacy level, indicating widespread problems in understanding health information (Prihanto et al., 2021). Similarly, a study showed that 31.9% of students in Indonesia have low health literacy. Influencing factors included age, frequency of access to health information through TV, radio, internet and mobile phones. Students with good health literacy tend to be more active in using health services and interacting during consultations with doctors. Health literacy also correlated

with general health conditions and varied by demographic background. For example, students from low socioeconomic backgrounds often have lower health literacy scores (Nurjanah et al., 2015).

A study of health literacies through school health education in China found that the health literacies of primary and middle school children were limited and imbalanced, and advocated for enhanced school health education and updated national guidelines for school health curriculum (Yu et al., 2012). This suggests that strategies for improving and promoting health literacy in such areas are urgently needed. Thus, the implementation of comprehensive health education programmes in schools is essential to equip students with the necessary skills to navigate health information and make informed decisions about their health. (Bröder & Carvalho, 2023; L. Paakkari & Paakkari, 2012).

Enhancing health literacy is an important strategy for decreasing disparities and can significantly improve health outcomes for school-aged students (Jafari et al., 2021). Therefore, the implementation of health literacy in learning can be applied to appropriate subjects that raise the topic of health, especially the dangers of smoking in human breathing, based on this the appropriate subject in its application is science and can be applied to human respiratory system material. In teaching the material, they will later act as an intermediary to improve health. Considering that there are still many students who lack health literacy and to improve health literacy, intervention in learning among students is needed (Paakkari et al., 2018).

Schools should implement comprehensive health education programmes that focus on the improvement of health literacy skills. This should include the integration of health topics into the curriculum and the use of interactive teaching methods to effectively engage students (Dewi, Yulyana, Novianti, & Ramanian, 2023). Learning strategy utilizing learning media for teaching activity is required to raise health awareness, which can enhance healthy living behavior and quality of life. Because the media now plays an essential role in creating and modifying its viewers' attitudes, beliefs, and actions. A proper presentation media will develop the student's skills in this area, such as reading, writing, and counting. The media

should be attractive because new and fascinating media will motivate students to study alongside the teacher (Harmawati, Hasanah, Belwawin, & Hidayat, 2020). The concept of media literacy has emerged as one of the most pressing challenges. One of the essential skills of the twenty-first century is media literacy, which is defined as the ability to access, analyze, examine, and generate communications in a variety of contexts (Nazarnia, Zarei, & Rozbahani, 2022). One learning media that can help students' health literacy is comics.

Comics are a kind of learning media that include information in a narrative, which is then expressed through images and dialogue. Since many students like reading comic books, they may be a fun teaching media when paired with engaging illustrations, narrative, and colours (Sabri, Dias, Sumarlan, & Mohamad, 2024). An educative comic learning media that has been developed can increase students' learning prestige. It can be used by the students in a group for self-depending and internalising the whole meaning of the theme, especially for their literacy (Akcanca, 2020). Comics have been used in various populations to promote health issues, including encouraging children and their parents to make healthier lifestyle choices and improving students' knowledge and medication compliance. Nowadays, The comic is increasingly studied as a popular media for learning. According to Rapp, comic books provide an ideal media for reading education, as they can communicate literacy and critical thinking skills more creatively than other media (Tarver et al., 2016).

However, research on health improvement is still quite restricted, as schools rarely incorporate health information into the educational environment. Thus, looking at the importance and limitations of health literacy in the school environment, researchers aim to promote health literacy through comic learning media. By looking at the problems that have been mentioned, the researcher intends to analyze the enhancement of health literacy by using comic media to learn the dangers of smoking in the human respiratory systems.

1.2 Research Problem

According to the background that has already been stated, the research problem of this research is “How does the enhancement of students’ health literacy in learning the dangers of smoking on the human respiratory system by using comic”

1.3 Research Question

Based on the research problem, this paper was constructs questions that will be explored, which are:

1. How does the enhancement of students’ health literacy after using comic as media in learning the danger of smoking on the human respiratory system?
2. How does the students’ impression after learning the dangers of smoking on the human respiratory system by using comics?

1.4 Operational Definition

This research includes specific operational definitions to achieve the expected outcome and avoid any misunderstandings. The terms defined are as follows:

- a. Health literacy refers to individuals having the ability to find, understand, and use information and services to inform health-related decisions and actions for themselves and others. In this research, the objective test will be measured as an improvement of students health literacy with consisting three aspect there are access, understand, and use/apply information. The assessment was in the form of 25 multiple choice questions each for pre-test and post-test.
- b. Students' impression refers to the perception or responses of students that have towards learning material about the dangers of smoking on the human respiratory system by using comics. This aims to evaluate how students feel and respond to their learning process. This impression is measured through a questionnaire consisting of four aspects, namely comic media, learning experience, understanding, and health literacy, which includes a total of 12 questions.
- c. Comics are defined as a visual narrative medium that combines text and images in a continuous, storytelling format to convey information about health risks of smoking, particularly respiratory effects. The title of this comic is "The Dangers Behind People's Pleasure". The comic aims to

improve students' health literacy about smoking in an engaging and accessible way.

1.5 Limitation of Problem

In order to make this research more focused, the problem is limited as follows:

1) Science Comic

The kind of comics that will be use is science comics, this comic is digital type on oneshot comic or a comic that will be provided in a shorth story, and this comic can be accessed by any devices connected to the internet. All the information put into the comics is real and related to the danger of smoking on the human respiratory system.

2) Students' Health Literacy

In this study, health literacy focuses on three aspect which are access, understand and use, which refers to a student's ability to gather relevant health information, understand and apply that knowledge to various health-related activities.

3) The Danger of Smoking on Human Respiratory Systems

The content contains the information available in the Merdeka Curriculum regarding the human respiratory system, which is proposed for 8th-grade students. The comic conversation primarily emphasizes the danger of smoking on the respiratory system and the disorders resulting from smoking.

1.6 Research Objective

The main objectives based on the proposed research question are:

- 1) To analyze the enhancement of students' health literacy after using comics as media in learning the danger of smoking on the human respiratory system
- 2) To investigate students' impression of using comics as media in learning the danger of smoking on the human respiratory system

1.7 Research Benefit

This research is useful in investigating the use of comics as media to learn the danger of smoking on the human respiratory system and enhance student health literacy. Here are some of the benefits:

1) Benefits for student

Students can gain new experiences in learning the human respiratory system through this digital science comic media and support students to be more excited about learning this topic. In addition, this comic is also valuable for promoting students' health literacy of respiratory system concepts and contributing to their overall quality of life by raising awareness.

2) Benefits for teacher

As a result of this research, digital science comic digital helps teachers to make the learning process more creative and innovative. These comics can assist teachers to find a new ways of teach human respiratory system.

3) Benefits for another researcher

This research can help and serve as a new reference for future research who have the same focus study to integrate this comics with other variables

1.8 Organizational Structure of Research Paper

To make this research systematically structured, this research is arranged based on the arrangement below:

1) Chapter I: Introduction

This chapter consists of background of the research, research problem, limitation of problem, research objectives, research benefit, and the organizational structure of research paper. This chapter is the foundation of the research.

2) Chapter II: Literature Review

This chapter discuss about the literature review that used in this research. There are describe comic learning media, students' health literacy, and human respiratory system.

3) Chapter III: Research Methodology

This chapter explains the research method, research design, subject of research, including sample and population, operational definition, assumption, hypothesis, instrument used in the research, and data analysis of the research.

4) Chapter IV: Result and Discussion

This chapter describes the result of the research and the reason for the data result that was gained. The result is used to answer the research questions and test the hypothesis that was already stated before. The data of this research is shown in the form of tables and figures

5) Chapter V: Conclusion, Implication, and Recommendation

This chapter consisted of the conclusion based on the data that was already analyzed in the previous chapter. The implication talks about the implementation during the study. This chapter also describes about the recommendations for teachers and another researcher for the future research.