THE SYNERGY OF PEER EDUCATION AND DIGITAL TECHNOLOGY IN STRENGTHENING THE IMPLEMENTATION OF SMOKE-FREE AREAS

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Abstract

This program aims to strengthen the role of students as peer educators and to develop digital campaigns supporting the implementation of SFA within schools and at home. The activities began with initial coordination and a needs assessment conducted in collaboration with the principal and supervising teachers to map students' readiness and interests. Based on the selection results, fifteen students were chosen as SFA Ambassadors. The subsequent stages included peer educator training, followed by the production of educational digital content, in which students created digital comics using the Canva application. The comics featured themes such as the dangers of smoking, peer influence, the benefits of healthy living, and the importance of SFA implementation in schools. These were then disseminated through digital campaigns and peer education activities. The program concluded with monitoring and evaluation, including surveys of students and parents, analysis of digital engagement, and reflections from the peer educators. The results of this community service activity successfully achieved its primary objectives, namely enhancing students' capacity and role as agents of change in creating a smoke-free school environment. Through training, mentoring, and digital campaigns, students demonstrated improved understanding of the dangers of smoking, awareness of the importance of smoke-free policies, and developed communication and creative skills in delivering health messages to their peers and the surrounding community.

Keywords: Adolescents, Smoke-Free Areas, Peer Educators, Digital Campaign, School

INTRODUCTION

Adolescents are a population group highly vulnerable to the influence of smoking, whether from social environments, families, or media exposure (Kemenkes RI, 2018). Adolescence represents a critical phase in brain development and behavioral formation, during which early exposure to nicotine poses serious risks to physical and psychological health as well as to long-term addictive behaviors (WHO, 2022). Adolescents often engage in new experiences as a form of self-exploration, including risky behaviors such as smoking

(Qoyyimah et al., 2021). According to the *Indonesia Health Survey (SKI)* 2023, 7.4% of active smokers in Indonesia are children and adolescents aged 10–18 years. The average age of smoking initiation in Indonesia begins at 15.9 years, based on the *Global Adult Tobacco Survey (GATS)* 2021 (GATS, 2021; SKI, 2023).

Systematic monitoring of students' smoking behaviors is essential for the early identification of potential behavioral deviations and serves as a critical tool for evaluating the effectiveness of Smoke-Free School (SFS) policy implementation. Moreover, such monitoring enables schools to implement timely and appropriate preventive and corrective interventions through structured guidance, counseling, and sustained educational programs.

The results of research related to the evaluation of KTR in Kendari City in 2023 show that the implementation of this policy still faces serious challenges in the education sector. Of the total 200 observation points, a quarter (25%) had not installed no smoking signs, which is the most basic element in the dissemination of the KTR policy. Even more worrying, cigarette butts were found in 43% of locations, indicating that smoking was taking place in areas that should be smoke-free. Schools are one of the facilities covered by the Kendari City KTR Regulation No. 16 of 2014. The results of this study also show that compliance with KTR enforcement in schools is only at 33% (Dinas Kesehatan Kota Kendari, 2023).

One effective form of implementation to address the issue of KTR violations in schools while also preventing smoking behavior among adolescents is thru the formation and strengthening of the role of peer educators. Peer education has great potential to influence students' attitudes and behaviors toward the dangers of smoking and the importance of maintaining smoke-free Areas (Sisliana et al., 2023). Additionally, in the current digital context, the role of peer educators can be strengthened thru the production and dissemination of educational content on social media (Narayanan et al., 2023). This allows anti-smoking messages to reach a wider audience, not only in the school environment but also into students' homes and surrounding communities. Additionally, there is still a digital literacy gap among students and parents, particularly regarding understanding the dangers of smoking, the Regional Regulation on Smoke-Free Areas, and the importance of maintaining a smoke-free environment (Dewi et al., 2021).

To address these challenges, an innovative and participatory approach is needed. The synergy between peer educators and the production of educational digital content is the main strategy in this service. Peer educators will be trained to actively and contextually deliver messages about the dangers of smoking and the importance of smoke-free areas to their peers. Meanwhile, digital content created by the students themselves will be disseminated thru the school's and personal social media, reaching households and the surrounding community more broadly and relevantly in today's digital age.

IMPLEMENTATION METHOD

The implementation method for the activity "Synergy of Peer Educators and Information Technology in Supporting the Implementation of SFA at SMPN 9 Kendari City" is carried out thru a participatory, educational, and technology-based approach. The main strategies used include training, digital content production, and public dissemination thru social media. The detailed breakdown of the method per stage is as follows:

Materials and Tools

The materials and tools used in the program include:
a. Peer educator module including the definition and types of cigarets, harmful substances in cigarets, the impact of cigarets on the physical and mental health of adolescents
b. Canva application for creating digital educational comics
c. Projector and printed poster media for presenting the work of KTR ambassadors, namely digital comics
d. Educational games as pre-tests and post-tests to measure students' knowledge levels
    Media sosial sekolah sebagai tempat mempublikasikan media edukasi berbasis komik
e. School social media as a platform for publishing comic-based educational media

Program Implementation Stages

The program is divided into several stages:
a. Initial Coordination and Needs Survey: Analyze partner readiness and agree on the implementation of activities.
b. Peer Educator Training on Tobacco Control: Enhancing students' capacity to educate about the dangers of smoking and advocate for tobacco control.
c. Digital Content Production: Fostering students' creativity in conveying tobacco control messages thru digital media.
d. Digital Campaign & Peer Education: Disseminating tobacco control messages to the school and home environments of students.
e. Monitoring and Evaluation: Measuring the impact of activities on students and the community.

RESULTS AND DISCUSSION

Initial Coordination and Needs Survey

The activity began with an initial meeting between the Halu Oleo University Service Team and the Principal and Guidance and Counselling Teachers of SMP Negeri 9 Kendari on Tuesday, August 19, 2025. This meeting aims to present the activity plan, gain support from the school, and align the implementation schedule with the school's activities.

At the same time, the team also conducted a survey of student interest in becoming peer educators, which showed high enthusiasm from the participants. A total of 20 students volunteered, and they were then selected based on criteria such as motivation, communication skills, and involvement in extracurricular activities. The selection results determined 15 students as candidates for the KTR Ambassador of SMPN 9 Kendari.

This stage is an important foundation for developing subsequent activity strategies because it provides an initial overview of the school's readiness, teacher support, and student interest in the SFA issue within the school environment.

KTR Peer Educator Training

The peer educator training will be held on Thursday, August 21, 2025, in the hall of SMP Negeri 9 Kendari. This activity was attended by 15 students selected as candidates for SFA Ambassadors, who had previously passed interest and readiness selection stages.

The training began with a general introduction to cigarets, covering: The definition and types of cigarets, including clove cigarets, white cigarets, cigars, shisha, smokeless tobacco, and electronic cigarets (e-cigarettes); Harmful substances in cigarets such as nicotine, tar, carbon monoxide, and other carcinogenic substances that cause addiction and chronic diseases; The impact of cigarets on the physical and mental health of adolescents, including lung disorders, heart disease, and decreased learning concentration.

The training material was presented visually thru educational slides and comic media (as seen in the activity documentation), which displayed educational images such as lung anatomy, the dangers of cigaret contents, and examples of smoke-free zones in schools.

Next, the activity continued with three main sessions: Socialization of Kendari City Regional Regulation Number 16 of 2014 concerning Smoke-Free Areas (KTR), to instill understanding of the importance of regional regulations in creating a healthy school environment. Next, there was effective peer communication training, which emphasized how to deliver messages using light language, empathy, and a confident attitude. Finally, all students were allowed to practice public speaking and the creation of educational messages, where students practiced delivering anti-smoking messages using visual media and real-life examples from school.

To measure the increase in students' understanding, pre-tests and post-tests were conducted in the form of educational games. Participants were divided into four groups, and before the training, all groups indicated that they did not know much about the dangers of smoking, although some already understood the concept of peer educators. After all sessions were completed, an evaluation game in the form of a quick quiz on educational material was held. From the results of the activity, two groups managed to answer all questions correctly, while the other two groups still did not answer all questions correctly. These results indicate an increase in students' knowledge and active participation after participating in the training.

In general, the training took place in an enthusiastic and interactive atmosphere. Participants were active in asking questions, discussing, and giving each other feedback during the training session. Through this activity, students not only understood the dangers of smoking, but also gained communication skills and confidence to become agents of change in their school environment in supporting the implementation of No Smoking Areas (KTR).

Digital Content Production

The digital content production activity was held on Friday, August 22, 2025, at the computer lab of SMP Negeri 9 Kendari. This activity was a follow-up to the peer educator training that had been conducted previously, with the aim of honing students' creativity in conveying anti-smoking messages through digital media that are interesting and easy to

understand by their peers.

During this session, the peer educators were facilitated in creating digital educational comics using the Canva application. Before the creation process began, the community service team provided guidance on story ideas and how to use Canva, as well as introducing five main themes that students could choose from, namely:

a. The dangers of cigarette smoking,
b. The influence of peers.
c. The benefits of a healthy life without cigarettes,
d. Inspirational stories of teenagers without cigarettes, and
e. The importance of smoke-free areas in schools.

Students were divided into small groups, each tasked with developing story ideas, writing short scripts, and collaboratively designing the visual layout of the comics. The process was active and enjoyable, with students discussing among themselves to determine the characters, dialogue, and moral messages they wanted to convey.

This activity resulted in 12 digital comics containing educational messages about the dangers of smoking and the importance of maintaining a smoke-free school environment. The comics depict various real-life situations in the lives of teenagers, such as peer pressure to smoke, how to politely refuse invitations to smoke, and the role of schools and families in creating smoke-free areas.

This activity not only produced creative products, but also fostered students' confidence and pride in their work. Students learned that health messages can be conveyed effectively through digital media that they are familiar with, while also providing tangible support for the implementation of Smoke-Free Areas in schools and surrounding communities.

Digital Campaign and Peer Education

The digital campaign was conducted over two weeks, from August 12 to 25, 2025, in conjunction with peer education in classrooms by peer educators. In this activity, KTR Ambassadors presented their digital comics to their classmates using projectors and printed posters. The methods used were interactive, involving question and answer sessions, short quizzes, and small group discussions. Based on observations, all target classes (100%) successfully conducted the education sessions according to schedule. Student engagement was high, with an activity rate of 85%. Teachers and homeroom teachers responded positively to this activity, assessing that peer education was effective in instilling healthy behavior values and strengthening the implementation of Smoke-Free Areas in the school environment.

Monitoring and Evaluation

a. Digital Impact Measurement

Digital comics uploaded to the school's social media accounts received more than 1,000 views and hundreds of positive responses in the form of likes and comments. This shows the high level of interest among school members and the community in comic-based educational media.

b. Student and Parent Response Survey

A survey was conducted on 10 respondents from the general public (teachers,

parents, and residents around the school) to assess their acceptance of digital comics. The results showed a very positive response, with around 100% of respondents stating that the comics were easy to understand and the messages conveyed were clear, and 90% felt motivated to maintain a smoke-free environment. Comments included "the pictures are attractive" and "it is quite understandable, although it may not be very suitable for families."

These results show that comics are an effective medium for smoke-free school campaigns, with opportunities for further development to make the content more relevant to adults as well.

c. Peer Educator Reflections

Reflections were conducted verbally after the activity was completed. Most peer educators expressed pride and joy in being able to act as an extension of the school in voicing the anti-smoking message. One student said, "At first I was nervous about speaking in front of my friends, but it turned out they were enthusiastic, and I became more confident." Several students also said that this activity helped them understand more deeply the dangers of smoking and the importance of protecting their friends from its influence. The main challenge they faced was managing their time between practice and study. In general, the reflection showed that this activity was successful in building the students' confidence, awareness, and communication skills as agents of change in school. This approach not only improved the health literacy of adolescents but also fostered a sense of social responsibility and leadership among students (Narayanan et al., 2023).

CONCLUSION

This service activity successfully achieved its main goal, which was to increase the capacity and role of students as agents of change in creating a smoke-free school environment. Thru training, mentoring, and digital campaigns, students are able to understand the dangers of smoking, recognize the importance of implementing KTR, and develop communication and creativity skills in conveying health messages to their peers and the surrounding community. The implementation of the activities showed several important achievements:

1. The formation of 15 peer educators who actively served as KTR Ambassadors in schools.
2. The production of 12 educational digital comics featuring messages about the dangers of smoking and the importance of maintaining smoke-free areas
3. High student participation and school support, with 100% of target classes involved and positive responses from teachers and parents.
4. Increased digital literacy and health awareness among adolescents, as evidenced by pre-post test results, participant reflections, and public interaction with campaign content on social media.

Overall, this activity demonstrates that combining peer education and digital campaigns is an effective strategy for strengthening the implementation of KTR in schools, as it is able to reach adolescents in a contextual, engaging, and sustainable manner.

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