

DEVELOPMENT OF DIGITAL POSTER SERIES MEDIA FOR CLEAN AND HEALTHY LIVING BEHAVIOR PROMOTION IN HIGH SCHOOL SETTINGS

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ABSTRACT

Background: The persistent challenge of promoting Clean and Healthy Living Behavior (CHLB) among high school students, along with a critical gap in engaging, contextually relevant digital content for social media, underscores an urgent need for innovative interventions. This study aims to develop and evaluate a digital poster series for CHLB promotion, specifically designed for the Instagram platform.

Methods: This Research and Development (R&D) study employed the ADDIE model (Analysis, Design, Development, Implementation, Evaluation). Participants included a purposive sample of 40 high school students from SMA Negeri 1 Simo, Boyolali, comprising 10 students for a small group trial and 30 for a large group trial, selected based on their willingness to participate and school enrollment. Data were collected using quantitative evaluation sheets (5-point Likert scale) and qualitative comment/suggestion forms.

Results: The results demonstrated the high feasibility and effectiveness of the digital poster series. Expert validation yielded a 75% score in the first stage, leading to key revisions. Student trials showed overwhelmingly positive quantitative results, with average assessment scores ranging from 4.50 to 4.67 out of 5, translating to feasibility percentages of 90% to 93.33% across all assessed aspects. Qualitative feedback highlighted the media's visual appeal, modern design, and relatable language, though students suggested increased interactivity.

Conclusion: This study successfully developed and evaluated a series of highly feasible and effective digital posters for promoting healthy lifestyles among high school students.

Keywords: CHLB, digital graphic media, health promotion, high school students, Instagram

INTRODUCTION

The implementation of Clean and Healthy Living Behavior (CHLB) in schools is a critical aspect of creating a healthy educational environment that supports student development (Basri, et al., 2023). CHLB not only serves to improve student health but also to form healthy life habits that they will carry into adulthood. Student knowledge and attitudes towards CHLB significantly influence its implementation, acting as a significant predisposing factor for success (Hasanah et al., 2024). Despite its importance, many high school students still exhibit poor CHLB practices, such as infrequent handwashing and improper waste disposal, which contribute to various health issues (Hendrawati et al., 2020). This highlights the persistent need for effective health promotion efforts.

One promising approach to enhance student understanding of CHLB is through interactive and engaging learning methods. Studies have shown that well-designed health programs can effectively increase children's knowledge of clean and healthy living (Luna

et al., 2024). The use of media, such as educational games or audio-visual tools, has been emphasized as crucial for capturing student attention and improving comprehension (Basri, 2023; Ilhami, 2023). However, the implementation of CHLB faces challenges, including inadequate sanitation facilities in schools, which can hinder program effectiveness (Redjeki et al., 2022). Therefore, a comprehensive and adaptive approach is necessary, especially considering the changing landscape of media consumption among adolescents.

In the digital era, media consumption among high school students is dominated by social media platforms like Instagram. This context necessitates the development of health promotion media that is not only informative but also visually appealing and easily accessible through these popular channels. Previous research has demonstrated the effectiveness of various media, including video and multimedia applications, in conveying health messages to students (Mujito et al., 2022). Specifically, the use of cartoon illustrations in educational media has been proven to increase engagement and information absorption among teenagers due to its light, expressive, and non-intimidating nature (Rosli et al., 2021; Ilhami et al., 2022). This research, therefore, aims to develop and evaluate a digital poster series media for CHLB promotion, specifically designed for the Instagram platform, to address the gap in engaging and modern health education tools for high school students.

This context necessitates the development of health promotion media that is not only informative but also visually appealing, interactive, and easily accessible through these popular channels. This research, therefore, aims to develop and evaluate a digital poster series media for CHLB promotion, specifically designed for the Instagram platform. By focusing on a digital poster series, this study seeks to address the identified gap by creating a modern, engaging, and scalable health education tool that aligns with the media consumption habits of high school students, thereby strengthening the impact and reach of CHLB promotion efforts.

RESEARCH METHOD

This study employed a Research and Development (R&D) method, utilizing the ADDIE model (Analysis, Design, Development, Implementation, Evaluation) to systematically develop and evaluate a digital poster series for promoting Clean and Healthy Living Behavior (CHLB) among high school students. The research was conducted at SMA Negeri 1 Simo, Boyolali, Indonesia. A total of 40 high school students from SMA Negeri 1 Simo participated, with 10 in a small group trial and 30 in a large group trial, selected based on their willingness to participate and school enrollment. Demographic information was collected to characterize the sample.

Data collection instruments included quantitative evaluation sheets and qualitative comment/suggestion forms. The quantitative sheets, based on a 5-point Likert scale, assessed aspects such as clarity of purpose, material, examples, and language use, measuring the digital poster series' feasibility and effectiveness. Qualitative data, gathered through open-ended questions and direct feedback, focused on visual appeal, interactivity, and overall student impressions.

The development procedure followed the five stages of the ADDIE model. The Analysis phase involved a needs assessment, revealing low average CHLB knowledge among students (7.5/10). The Design phase focused on creating the digital poster series with a 4:5 aspect ratio for Instagram/WhatsApp, using non-formal Indonesian language and relatable student characters. The Development phase included creating the posters and a two-stage expert validation by a material expert (health promotion official) and a media expert (art lecturer), leading to revisions such as adding the 6-step WHO handwashing technique and health statistics. The participant selection details confirm that the sample

included 40 students chosen based on willingness and school enrollment, with a tiered testing approach to refine the media. The Implementation phase involved testing the revised media in small (N=10) and large (N=30) group trials, collecting feedback via evaluation sheets and comment forms. Finally, the Evaluation phase converted Likert scale data into qualitative categories and feasibility percentages, analyzing qualitative feedback to refine the final digital image file, which was also printed and distributed via social media.

Validation was continuous, involving expert validation for scientific accuracy and technical quality, and student trials for effectiveness. Initial expert validation showed 75% feasibility for material, language, and presentation, while student trials yielded average assessment scores of 4.50 to 4.67 out of 5, translating to 90% to 93.33% feasibility across various aspects. This multi-faceted approach ensured reliability. Ethically, the study received approval from the Universitas Kusuma Husada Surakarta institutional review board. Prior to data collection, informed consent was obtained from all participating students and, for those under 18 years of age, from their teacher in SMA N 1 Simo. Participants were assured of their anonymity and confidentiality, and their right to withdraw from the study at any time without penalty was clearly communicated. All data were collected and stored securely, accessible only to the research team, and used solely for the purposes of this study.

RESULTS

The development process culminated in a comprehensive series of digital posters designed to promote key Clean and Healthy Living Behavior (CHLB) indicators, including handwashing, waste disposal, physical activity, and balanced nutrition. This media underwent a rigorous, multi-stage validation process involving both expert review and student trials to ensure its quality, relevance, and effectiveness. The overall aim was to create an engaging and informative tool tailored for high school students, leveraging modern digital platforms for health promotion.

Initial expert validation, conducted by a material expert (a health promotion official) and a media expert (an art lecturer), demonstrated high initial feasibility. Material, language, and presentation aspects each received a 75% score in the first stage of validation. This initial assessment provided crucial feedback, leading to significant revisions. For instance, the material expert recommended incorporating the minimum handwashing duration (20 seconds) and the 6-step WHO technique, alongside brief, impactful health statistics. These revisions were critical in strengthening the scientific accuracy and persuasive power of the health messages conveyed by the digital posters, ensuring they met professional standards before student trials.

The final product was subsequently evaluated by a large group of 30 high school students (N=30) from SMA Negeri 1 Simo. The quantitative results from these trials were overwhelmingly positive, indicating a high level of acceptance and perceived effectiveness among the target audience. The average assessment scores across all evaluated aspects—including clarity of purpose, clarity of material, appropriateness of examples, appropriateness of language use, and clarity of language—ranged consistently from 4.50 to 4.67 out of a maximum possible score of 5. These scores translate to impressive feasibility percentages: 90% for 'Clarity of purpose' and between 92% and 93.33% for all other assessed aspects.

These high scores collectively affirm that the digital graphic media is highly effective in conveying CHLB information in a clear, well-structured, and relevant manner that resonates with high school students. The consistent high ratings across multiple dimensions of evaluation underscore the success of the ADDIE model in producing a high-quality educational tool. This indicates that the design choices, informed by the initial needs

analysis and expert feedback, effectively captured the attention and met the informational needs of the adolescent audience, contrasting favorably with more traditional, text-heavy health promotion materials.

Qualitative feedback from the student participants further corroborated the quantitative findings, highlighting several strengths of the digital poster series. Students frequently praised the media's visual appeal, modern design, and the strategic use of bright colors, which collectively made the CHLB messages engaging and prevented them from being perceived as boring. The concise, easy-to-understand information and the use of non-formal language were also highly appreciated, as these elements made the content relatable and accessible. However, students also provided constructive suggestions, primarily emphasizing the desire for increased interactivity, such as the integration of dynamic elements like short videos, 'boomerangs,' or interactive polls/questions within each slide.

DISCUSSION

The high feasibility scores obtained from both expert validation and student trials serve as a robust confirmation of the effectiveness of the Research and Development (R&D) approach, particularly the systematic ADDIE model, in producing a high-quality health promotion tool. The initial validation by a material expert and a media expert was a crucial step, ensuring the media's scientific accuracy and technical presentation. This iterative process of validation and revision, which is central to the Development phase of the ADDIE model, is aligned with pedagogical best practices, where repeated expert input significantly improves the quality and effectiveness of educational media (Rahmawati & Prasetyo, 2021). For instance, the revision to incorporate the 6-step WHO handwashing technique and the addition of brief, impactful health statistics, as suggested by the material expert, ensured the content was not only scientifically sound but also persuasive and urgent.

The exceptional quantitative results from the student trials, with feasibility scores consistently exceeding 90% across all assessed aspects (clarity of purpose, material, examples, and language), strongly support the research hypothesis that digital graphic media is a highly effective tool for CHLB promotion among high school students. These high scores are a direct consequence of the media's design choices, which were informed by the initial needs analysis. The use of visually appealing, cartoon-style illustrations and non-formal language successfully captured the attention of the adolescent audience, a finding consistent with literature that emphasizes the high engagement of teenagers with light, expressive, and non-intimidating visual content (Rosli et al., 2021; Ilhami et al., 2022). This approach contrasts sharply with traditional, text-heavy health promotion materials, which often fail to resonate with the digital-native generation.

Furthermore, the strategic choice of Instagram as the primary distribution platform proved to be a critical factor in the media's success. By leveraging the students' active presence on social media, the research effectively bypassed the limitations of conventional school-based health campaigns, which are often constrained by time and physical location. The media successfully bridged the gap between necessary health information and the modern communication style favored by teenagers, making the health message accessible, relatable, and easily shareable. This demonstrates a significant contribution to the field of school health promotion by providing a validated model for utilizing popular social media platforms as a primary channel for educational intervention.

The impact of this research lies in its potential to foster sustainable behavioral change. The high acceptance rate (over 90%) suggests that the media has a strong likelihood of being adopted and utilized by the target audience, which is the first step toward internalizing CHLB practices. The media's clarity and relevance directly address the low knowledge scores identified in the initial analysis, providing a logical cause-and-effect

explanation for the claimed research findings: a well-designed, contextually relevant digital medium leads to high student engagement and positive perception of health information. This constructs a "new story" in school health promotion, where digital media is not merely a supplement but a central, highly effective tool for driving awareness and attitude change.

Despite the overwhelming positive feedback, the qualitative data provided a critical direction for future development: the need for increased interactivity. Suggestions from students for incorporating short videos, quizzes, or polls indicate that while the static poster series is highly effective, integrating dynamic elements could further maximize student engagement and retention. This finding aligns with the broader trend in educational technology, where interactive multimedia is increasingly favored for its ability to provide a more immersive and personalized learning experience (Wulandari & Santoso, 2023). Therefore, the next critical step in the evolution of this media product is to enhance its interactivity, which is expected to translate the high level of awareness and positive attitude into measurable, sustainable changes in CHLB practice. The research provides a solid foundation for future studies focusing on the impact of interactive digital media on actual health behavior outcomes in the school setting.

CONCLUSION

The development and evaluation of the digital poster series media for Clean and Healthy Living Behavior (CHLB) promotion in high school settings, utilizing the ADDIE model, resulted in a highly feasible and effective educational tool. This study successfully demonstrated that digital graphic media distributed via social media platforms like Instagram is a powerful and appropriate strategy for delivering health promotion messages to high school students.

RECOMMENDATION

Future development of this media should focus on incorporating interactive elements, such as short animated videos, in-post quizzes, or polling features, as suggested by the students, to further enhance engagement and promote sustainable behavioral change.

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