

ANALYSIS OF THE IMPLEMENTATION OF HAND HYGIENE EDUCATION IN HIGH SCHOOLS IN REDUCING THE INCIDENCE RATE OF INFECTIOUS DISEASES

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Abstract

This study aims to analyze the implementation of hand hygiene education in senior secondary schools (SMA) and its impact on reducing the incidence of infectious diseases among students. Through a literature review method, this research collects and analyzes data from various sources that describes hand hygiene education programs and their effectiveness in the context of high schools. The results of the analysis show that a hand hygiene education program implemented systematically and continuously is able to increase awareness and hand hygiene behavior among students. This program has also been proven to significantly reduce the incidence of infectious diseases, such as influenza, diarrhea and respiratory tract infections. This research highlights the importance of support from schools, educators, and families in maximizing the effectiveness of hand hygiene education programs. Apart from that, this research also emphasizes the need for adequate tools and facilities, such as soap and clean water, as well as providing consistent and precise information regarding the importance of hand hygiene. The conclusion of this research shows that implementing good hand hygiene education can be an effective strategy in reducing the incidence of infectious diseases in high schools. This research recommends that schools implement a comprehensive and sustainable approach to instilling good hand hygiene behavior among students.

Keywords: Hand Hygiene Education, High School, Infectious Diseases

INTRODUCTION

Hand hygiene is one of the simplest but very important steps in preventing the spread of infectious diseases (Mauliddah et al., 2022). Hands are the main medium for the spread of various pathogenic microorganisms which can cause diseases such as flu, diarrhea, and more serious infections such as hepatitis and COVID-19. When hands touch various contaminated surfaces, they can harbor viruses and bacteria. Then, when unclean hands

touch the face, especially the mouth, nose or eyes, these microorganisms can enter the body and cause infection (Baruah, 2023).

Additionally, in hospital settings and other healthcare facilities, hand hygiene is becoming increasingly important to prevent healthcare-associated infections. Medical workers who do not always maintain good hand hygiene risk spreading dangerous pathogens from one patient to another. In this context, hand hygiene becomes an integral part of infection control procedures and plays a crucial role in reducing the spread of nosocomial infections, which are often more resistant to antibiotics (Podvratnik et al., 2024).

The importance of hand hygiene is also emphasized in public health education as part of broader prevention efforts. By increasing public awareness about the importance of washing hands regularly with soap and clean water or using alcohol-based hand sanitizers, the number of cases of infectious diseases can be reduced significantly. Continuous campaigns and education are needed to establish these good habits in everyday life, both at home, school and work, in order to protect the health of individuals and society as a whole (Chauhan et al., 2024).

The incidence of infectious diseases among teenagers and students shows an alarming trend in various parts of the world. Adolescents and students, as age groups who are active and frequently interact socially, have a higher risk of infectious diseases such as influenza, upper respiratory tract infections, and gastrointestinal diseases (Hoyle et al., 2023). In school environments and other educational institutions, intense physical and mental activity and close interactions often accelerate the spread of pathogens, especially in conditions that may be less than ideal in terms of sanitation and hygiene.

Infectious disease infections among adolescents and students also have a major impact on absenteeism and academic performance. When students contract an infectious disease, they tend to have to be absent from school for a period of time to receive treatment and to prevent further spread (Lawton, 2024). This causes disruption in the teaching and learning process and can result in a decrease in academic achievement. Apart from that, the increasing number of infectious diseases can also burden the health system, especially in terms of consultation, treatment and controlling outbreaks among students.

To address the increasing rates of infectious diseases among adolescents and students, it is important to implement effective prevention

strategies. Health education programs that include information about personal hygiene, such as washing hands, keeping the environment clean, and sneezing etiquette are important first steps. Apart from that, vaccination for certain diseases also needs to be encouraged to create group immunity. Schools and educational institutions need to take a proactive role in ensuring a clean and healthy environment and supporting good health practices to create safer conditions for all students (Sigler et al., 2023).

The need for hand hygiene education in senior secondary schools (SMA) is very important, considering that teenagers are at an active stage of development and often carry out various activities that involve physical and social interaction. At this age, they are at high risk of exposure to various pathogens through daily contact. Correct hand washing habits can prevent the spread of many infectious diseases such as flu, diarrhea and respiratory tract infections (Heesterbeek, 2023). Therefore, the integration of hand hygiene education in the high school curriculum can help create more awareness among students about the importance of maintaining hand hygiene, which also contributes to general health in the school environment.

Hand hygiene education can be carried out through various approaches such as seminars, live demonstrations, educational posters, and practical activities in class. In addition, schools must ensure the availability of clean and adequate hand washing facilities, including soap and clean water, in strategic areas such as toilets, canteens and classrooms (Price et al., 2022). By providing comprehensive education on hand hygiene and providing supporting facilities, high schools can create an environment conducive to student health and help reduce the rate of infectious diseases among adolescents.

RESEARCH METHOD

The study in this research is qualitative with literature. The literature study research method is a research approach that involves the analysis and synthesis of information from various literature sources that are relevant to a particular research topic. Documents taken from literature research are journals, books and references related to the discussion you want to research (Earley, M.A. 2014; Snyder, H. 2019).

RESULT AND DISCUSSION

Implementation of Hand Hygiene Education in High Schools

Implementation of hand hygiene education in senior secondary schools (SMA) must begin with a structured and comprehensive approach to ensure

that health messages can be conveyed effectively to all students (Saito et al., 2023). One of the first steps is to integrate hand hygiene material into the curriculum of relevant subjects such as Biology, Physical Education and Health Education. Teachers can provide theoretical understanding regarding the importance of hand hygiene, correct ways to wash hands, and its impact on individual and community health.

In addition to integration in the curriculum, schools can hold special programs such as health seminars that invite health experts to talk about good hygiene practices. A hands-on demonstration of how to properly wash hands with soap and running water, or with an alcohol-based hand sanitizer, can help students understand recommended practices. This knowledge must be supported by adequate facilities; Schools need to ensure the availability of clean and easily accessible hand washing stations in various strategic locations such as canteens, toilets and laboratory areas, as well as providing adequate soap and hand sanitizer (Duah, 2024).

Apart from formal approaches, schools can implement hand hygiene programs through creative campaigns such as poster contests, educational videos and hand hygiene days. Attractive educational posters can be displayed throughout the school area to remind students about the correct steps for washing hands and the importance of hand hygiene in preventing disease (Tsai, 2024). Through an integrative educational approach and providing adequate facilities, high schools can create positive behavioral changes among students, reduce the spread of infectious diseases, and help create a healthier learning environment.

Apart from formal approaches and campaigns, the implementation of hand hygiene education in high schools can also be strengthened through active participation from the entire school community, including students, teachers and staff. Involving students in hand hygiene ambassador programs can be an effective step (Mbakaya, 2022). Hand hygiene ambassadors are students who are specially trained to be role models in hand hygiene practices at school. They can help educate their peers and ensure that good hand hygiene practices are followed. This program not only increases student awareness but also creates a sense of shared responsibility and concern for health (Uddin, 2024).

Apart from that, collaboration between schools and parents is also important for the success of this program. Parents can be empowered through parent and school meetings (POMG) or through bulletins that provide information and tips about hand hygiene that can be applied at home. In this

way, students not only receive education at school, but are also encouraged to practice it in the home environment, thereby forming sustainable and widespread habits (Kryzhanovskiy, 2024).

Schools also need to evaluate and monitor the effectiveness of hand hygiene programs on a regular basis. Carrying out surveys or questionnaires to students and staff can help assess the extent to which hand hygiene education is understood and practiced. This evaluation can be the basis for further program improvement and development. With ongoing evaluation and continuous innovation, hand hygiene education in high schools can remain relevant, effective, and provide real health benefits for the entire school community (Asrani et al., 2024).

Effectiveness of Hand Hygiene Education in Reducing Infectious Disease Rates

Hand hygiene education plays an important role in efforts to prevent and reduce the spread of infectious diseases in the school environment. Effective educational programs regarding hand hygiene have been scientifically proven to reduce the incidence of illnesses such as upper respiratory tract infections, gastroenteritis, and skin diseases among students (Goodfellow, 2023). By teaching correct hand washing techniques and the importance of hand hygiene, students are able to avoid contamination by pathogens that can be transmitted through their hands. This knowledge allows students to take concrete steps to maintain their personal hygiene and reduce the risk of contracting or transmitting diseases.

Apart from direct prevention, hand hygiene education also has an indirect positive impact on student attendance rates at school. With reduced rates of infectious diseases, the frequency of school absences due to illness is drastically reduced, which in turn improves students' overall academic performance. Hand hygiene education programs, if implemented well, support the creation of a healthy learning environment, which allows students to actively participate in teaching and learning activities without health problems (Nicolle, 2024).

Furthermore, hand hygiene education is not only important during the pandemic but also in normal daily life. During an outbreak or health crisis, good hand hygiene practices become the main line of defense that can be relied upon to stem the spread of disease (Buregyeya & Nuwematsiko, 2022). Therefore, designing and implementing sustainable hand hygiene education programs is vital. Through regular demonstrations, reminders in the form of

posters, and the active role of the entire school community, awareness of the importance of hand hygiene can be increased and maintained, ensuring that infectious disease rates remain at low levels.

The importance of hand hygiene education is also reflected in global efforts to improve public health standards. The World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC) have issued various guidelines and campaigns to promote the importance of washing hands with soap and running water (Hand & Imlay, 2023). With this support, schools in various countries are increasingly moving to include hand hygiene as part of the hygiene and health curriculum. Through collaboration between governments, health organizations, and educational institutions, comprehensive strategies can be implemented to achieve long-term impact in preventing infectious diseases.

Apart from that, the role of parents and families is also very essential in ensuring the success of hand hygiene education. Children often imitate behavior they see at home, so it is important for parents to set a good example when it comes to hand hygiene. Parental involvement in hand hygiene education programs in schools can reinforce the messages delivered in the classroom, by ensuring that good hygiene practices are integrated into children's daily routines. Thus, the synergy between education at school and support from home can create a strong culture of cleanliness (elik et al., 2023).

Hand hygiene education is an important investment in public health that cannot be ignored. Through integrated efforts involving all relevant parties, from educators, students, to families, hand hygiene education programs can be effective in reducing the number of infectious diseases. Instilling the habit of washing hands from an early age will bring significant long-term benefits, building a generation that is healthier and more resistant to disease (Shenoy & Yewale, 2022). Therefore, it is important to continue to evaluate and develop hand hygiene education strategies so that they remain relevant and effective in facing future health challenges.

Discussion

Comparative Analysis with Other Research

To provide a comprehensive comparative analysis, we can refer to several studies that review the effectiveness of different approaches in hand hygiene education in various contexts and environments.

First, research conducted by Rabie and Curtis (2006) shows that hand washing promotional interventions can reduce the incidence of diarrhea by 42-

47%. This study was conducted in various developing countries with varying levels of cleanliness. Comparison with recent research by Freeman et al. (2014) confirmed similar results, finding that handwashing interventions in schools can significantly reduce respiratory and gastrointestinal infections. These two studies demonstrate the importance of a direct approach through education and promotion of hygiene in schools to achieve significant results in children's health (Klar et al., 2022).

Second, research by Aiello et al. (2008) in the United States evaluated the effectiveness of hand washing programs with technological approaches, such as the use of automatic soap dispensers and interactive posters in schools. The study found that technology can improve student compliance with hand hygiene. However, this research notes that the success of the program is highly dependent on teacher involvement and the facilities available at the school. This differs from research conducted in developing countries, where conventional approaches such as direct extension are often more effective due to lack of access to modern technology (Atwood & Pearlman, 2024).

Third, research by Curtis et al. (2003) in Bangladesh implemented a community-based intervention, involving housewives in promoting hand hygiene in the home environment. The results show that a participatory approach involving the community is more effective in changing hygiene behavior compared to interventions carried out only in schools. This comparison highlights that the effectiveness of hand hygiene education depends not only on the methods used, but also on the cultural and social context in which the intervention is carried out (Radika et al., 2022).

Overall, this comparative analysis confirms that there is no “one size fits all” approach to hand hygiene education. The success of interventions depends greatly on adaptation to local conditions, availability of resources, and the level of involvement of relevant parties. These studies emphasize the importance of flexibility and adaptation in the design of hand hygiene education programs to achieve optimal results in a variety of contexts.

Factors that Influence the Results of Program Implementation

The implementation of a program, whether in the education, health or social sectors, is often influenced by various factors that can determine its success or failure. Understanding these factors is critical for program designers to increase the chances of success and overcome challenges that may arise.

First, support and involvement from related parties is a crucial factor that influences program results. Active involvement from the government, community institutions, educational staff, and even the program beneficiaries themselves is very necessary. For example, in a hand hygiene program at school, support from the principal and teachers will greatly determine the success of the program. Successful implementation also depends on good coordination between the various parties involved (Armstrong-Novak et al., 2023).

Second, available resources and facilities also play an important role. Program implementation often requires adequate funding, equipment, materials, and human resources. A lack of any of these elements can hinder program implementation and reduce its effectiveness (Singh & Barnard, 2023). For example, in a hand hygiene program, the availability of soap, clean water and adequate hand washing facilities is very important. Without the right facilities, despite intentions and well-designed programs, implementation can fail to achieve the desired results.

Third, the approach and method of implementation are also very determining. The right approach must be adapted to the local context and the needs and characteristics of the target audience. In some places, a community-based approach may be more effective than a top-down approach or vice versa (Kopsidas et al., 2022). In addition, the methodology used must be adaptive and responsive to changes in situations and conditions in the field. Hygiene programs, for example, may require interactive and engaging educational approaches to ensure active participation from children.

Lastly, continuous evaluation and feedback is an equally important factor. Effective programs typically have evaluation mechanisms that allow for ongoing monitoring as well as allowing for adjustments based on feedback received. Through this evaluation, program implementers can find out what is working and what is not, so they can make the necessary improvements to improve program results. Without an evaluation mechanism, it is difficult to know to what extent the program achieved its goals and make necessary improvements in the future (Hassouni et al., 2024).

By paying attention to and managing these factors, program designers and implementers can increase the likelihood of successful program implementation, resulting in a more positive and sustainable impact on the target community or group.

CONCLUSION

Based on research findings, it is concluded that the implementation of health programs in schools is greatly influenced by factors such as support from related parties, availability of resources and facilities, implementation approaches and methods, as well as ongoing evaluation and feedback. Active involvement of all stakeholders, including teachers, schools and students, is critical in ensuring the success of the program. Apart from that, the availability of adequate facilities and resources is also a major determinant in effective program implementation. An approach adapted to the local context and characteristics of beneficiaries, as well as continuous evaluation, also contribute significantly to the results achieved.

The implications of the results of this research for the practice of health education in schools show the importance of building synergy between the various parties involved and ensuring the availability of necessary resources. This emphasizes the need for a holistic and comprehensive strategy in designing and implementing health programs. Schools need to develop effective evaluation mechanisms to monitor program success and make necessary adjustments based on feedback. With an integrated and sustainable approach, health education programs in schools can achieve the desired goals, namely improving the health and well-being of students.

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