JURNAL EMPATHY Pengabdian Kepada Masyarakat
Vol. 7, No.2, November 2026
DOI : https://doi.org/10.37341/jurnalempathy.v7i2.378

The "Happy Class" Program: Reproductive Health and Disease Prevention Education for Sikl Students, Malaysia

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ABSTRACT

Background: *Indonesian School in Kuala Lumpur (SIKL), in Malaysia faces limited access to formal education and health information, particularly regarding reproductive health, dengue fever (DBD), and diarrhea. The "Happy Class" program was implemented as an interactive health education initiative at a non-formal tutoring center in Klang, Selangor, Malaysia. It aimed to improve health knowledge among Indonesian migrant children aged 6–17.*

Methods: *The program consisted of three sessions using interactive lectures, animated videos, demonstrations, discussions, and educational quizzes. Participants included 34 students. Evaluation was conducted using pre- and post-tests analyzed with the Wilcoxon Signed-Rank Test.*

Results: *The results showed a significant increase in knowledge across all topics (p = 0.000). Reproductive health knowledge increased from an average of 68 to 97, dengue fever from 68 to 99, and diarrhea from 70 to 97. The program improved participants' health knowledge and learning motivation through an enjoyable, participatory, and age-appropriate approach.*

Conclusion: *The "Happy Class" program successfully improved the health knowledge of Indonesian migrant children in Malaysia regarding reproductive health, dengue fever prevention, and diarrhea prevention. Interactive educational methods, including animated videos, discussions, presentations, and quizzes, effectively enhanced participants' understanding and motivation. This program demonstrates that non-formal education can support health education for children of Indonesian migrant workers abroad.*

ARTICLE HISTORY
Received: May 26th, 2026
Accepted: October 08th, 2026

KEYWORDS
dengue fe-ver, diarrhea, health education, indonesian school in kuala lumpur, reproductive health;

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Cite this as: The "Happy Class" Program: Reproductive Health and Disease Prevention Education for Sikl Students, Malaysia. (2026). *Jurnal Empathy Pengabdian Kepada Masyarakat*, 92-102. https://jurnalempathy.com/index.php/jurnalempathy/article/view/378

INTRODUCTION

Adolescent reproductive health in Malaysia remains a major issue. According to the Adolescent Health Survey conducted in 2022, 7.6% of adolescents reported having had sexual intercourse, while 5.7% reported being currently sexually active. In addition, 32.8% of adolescents who had ever had sexual intercourse reported that their first sexual experience occurred before the age of 14 (1). Furthermore, a study in Malaysia found that 28.5% of elementary school students lack an understanding of sexual and reproductive health (2). Additionally, dengue fever is a significant problem. A recent epidemiological study in Malaysia indicates that the 10 to 19 year old age group is at

high risk for dengue fever (3). Data on diarrhea among Malaysian adolescents remains limited at the national level, but education on hygiene and sanitation remains crucial for preventing diarrhea.

Education is a conscious and planned effort to create a learning environment and learning process in which students actively develop their potential to possess spiritual and religious strength, self control, personality, intelligence, noble character, and the skills required by themselves and society. Education can be obtained through both formal and non-formal means. Formal education is acquired by participating in programs that are planned and structured by an institution, department, or ministry of a country. Meanwhile, non-formal education consists of knowledge gained from daily life through various experiences, whether personally experienced or learned from others (4). Education plays a vital role in conveying information, fostering understanding, and developing skills that contribute to increased knowledge. Knowledge is a key factor influencing adolescents' reproductive health. Knowledge is one of the factors that influence a person's attitudes or behavior and has a significant impact on their behavior(5). Knowledge is also one of the factors that influence a person's behavior (6).

In the context of health, health education is a concrete form of the educational process aimed at changing the knowledge, attitudes, and behaviors of individuals and groups toward healthier outcomes. Health education is a form of change sought in human beings so that individuals can lead healthier lives, whether at the personal, group, or broader community levels (7). Health education provided from an early age plays a crucial role in fostering healthy lifestyle habits, particularly regarding personal hygiene, disease prevention, and understanding physiological changes in the body, such as puberty (8).

The Indonesian School of Kuala Lumpur (SIKL) in Malaysia is part of a vulnerable population facing various multidimensional challenges, particularly in the areas of education and health. The primary obstacle frequently encountered is limited access to formal education due to administrative factors such as citizenship status and parents' legal documentation, resulting in many children being unable to attend formal educational institutions optimally. This situation directly impacts limited access to health information, which remains a major health issue in tropical regions with inadequate sanitation. Additionally, the wide age range of the children (6–17 years) poses a unique challenge in delivering educational materials due to differences in comprehension levels and cognitive development.

Reproductive health is an important topic that should be introduced to children starting in puberty. During this phase, children undergo significant physical and psychological changes, requiring a proper understanding so they can take good care of themselves (9). Education on maintaining reproductive organ hygiene, recognizing bodily changes during puberty, and building awareness to protect oneself from violence and exploitation is crucial (10). Particularly for SIKL children who are far from the supervision of formal institutions. Video-based reproductive health education significantly improves adolescents' knowledge of puberty, underscoring the importance of interactive media in delivering this material to children and adolescents.

In addition to reproductive health, tropical endemic diseases such as Dengue Hemorrhagic Fever (DHF) and diarrhea also pose a real threat to SIKL children. DHF is an infectious disease caused by the dengue virus through the bite of the Aedes aegypti mosquito and remains a massive public health issue in Southeast Asia, including Malaysia. Knowledge about preventing DBD through the 3M Plus campaign is crucial

to teach from an early age so that children can actively participate in vector control in their environment (11). Similarly, diarrhea is closely linked to hygiene practices such as handwashing with soap and environmental sanitation. Poor hygiene among children increases the risk of diarrhea, particularly in environments with limited access to clean water.

In supporting the educational needs of SIKL children, the presence of tutoring centers as part of non formal education plays a vital role as an alternative learning space outside of formal schools. Non formal education offers greater flexibility in teaching methods, scheduling, and approaches, allowing it to adapt to the social circumstances of SIKL children. In response to these challenges, the "Happy Class" program was implemented as an innovative, interactive health education initiative that integrates animated videos, material presentations, demonstrations, and educational quizzes with the distribution of small gifts to boost children's participation. This program covers reproductive health during puberty, prevention of Dengue Fever (DF), and diarrhea using an approach that is enjoyable and age appropriate for the participants. This activity was conducted as a form of community service undertaken by the implementing team to fulfill the credit conversion requirement of the scientific writing course. The activity aims to improve SIKL children's knowledge and awareness regarding the importance of maintaining personal and environmental health through learning methods that are more communicative, participatory, and easy to understand.

METHODS

This study utilized quasi experimental design, one group with pre test and post-test. This community service activity was carried out through the "Happy Class" health education program, which is aimed at children at the Indonesian School of Kuala Lumpur (SIKL) in Klang, Selangor, Malaysia. Before the activity was conducted, coordination was carried out with the management of the tutoring center and relevant SIKL staff. Participation in the health education activity was conducted with prior parental or guardian permission. The children who attended the tutoring sessions had obtained consent from their parents or guardians to participate in the community service and health education activities.

The participants were included as the intervention group because they were the children who attended the learning sessions during the implementation period. The age range of 6–17 years was selected based on the actual age distribution of children attending the tutoring center. The tutoring center that served as the program partner accommodates 34 students aged 6–17, supported by 3 volunteer teachers. In terms of facilities, the center operates with only one classroom, without desks or chairs; students bring their own stationery and learning materials, while teaching is supported by a whiteboard and a projector as the primary learning media. The activity was held at a tutoring center as a form of non-formal education for SIKL students who face limited access to formal education. The educational program consisted of three sessions held on Saturdays from 2:00 PM until completion, with each session lasting approximately one hour.

Participants consisted of 34 students aged 6–17 who actively attended classes at the tutoring center. The topics covered in-cluded reproductive health education during puberty, prevention of Dengue Fever (DF), and diarrhea. The presentation of the material was tailored to the participants' age and level of understanding to ensure the learning process was more effective and easier to grasp.

The implementation of the activity was carried out through the following stages:

1. The preparation phase included an initial site visit, coordination with the tutoring center's management, development of health education materials, creation of learning media such as animated videos and PowerPoint (PPT) presentations, and development of evaluation tools including pre-test and post-test forms.
2. Implementation phase, beginning with administering a pre-test to participants to assess their initial knowledge level regarding the health topics to be covered. This is followed by delivering health education using interactive lectures, showing animated videos, simple demonstrations, discussions, and Q&A sessions with participants. To enhance participant engagement during the activity, interactive quizzes were conducted, accompanied by the distribution of small gifts to participants who answered questions correctly.
3. The evaluation phase was conducted by administering a post-test at the end of the activity to measure participants' level of understanding after receiving health education. The post-test results were used to assess improvements in participants' knowledge regarding reproductive health, dengue fever prevention, and diarrhea following the "Happy Class" program.

The learning materials used included animated videos, illustrated presentations, and live demonstrations to make the content more engaging and easier to understand for participants of various age groups. Throughout the activity, participants were given the opportunity to ask questions, discuss, and share their experiences regarding daily habits for maintaining personal and environmental health.

Data collection was conducted through direct observation during the learning process, as well as through participants' completion of pre-test and post-test forms. Observations were used to assess participants' levels of par-ticipation, enthusiasm, and engagement during the health education activities. Meanwhile, pre-test and post-test data were used to determine participants' levels of understanding before and after receiving the educational material.

Data analysis was conducted using quantitative descriptive methods by comparing participants' pre-test and post-test scores. The analysis results are presented in the form of average scores and the percentage increase in participants' knowledge after participating in the health education program, as evidenced by the results of the Wilcoxon test. Additionally, the observation results during the activity were used as supporting data to assess the effectiveness of the interactive learning method implemented in the "Happy Class" program.

RESULTS

The implementation of the "Happy Class" program demonstrated that the use of interactive educational methods such as animated videos, illustrated presentations, demonstrations, discussions, and educational quizzes was able to increase participant engagement throughout the learning process. The children appeared more active in asking questions, answering questions, and participating in discussions compared to one-way learning methods.

Table 1. Results of the Wilcoxon Pre-test and Post-test

Educational Material	Significance Value (p-value)	Description
Reproductive Health	0.000	Significant

Educational Material	Significance Value (p-value)	Description
Dengue Hemorrhagic Fever (DHF)	0.000	Significant
Diarrhea	0.000	Significant

Table 1 above shows the results of the analysis using the Wilcoxon Signed Rank Test, indicating an increase in participants' knowledge after receiving health education through the "Happy Class" program. For reproductive health material, a significance value of 0.000 ($p<0.05$) was obtained, indicating a significant difference between participants' pre-test and post-test scores. Similar results were also found for the Dengue Fever (DF) and diarrhea modules, with significance values of 0.000 ($p<0.05$) respectively. These findings indicate that the interactive educational method used is effective in improving participants' understanding of reproductive health and the prevention of infectious diseases.

Table 2. Distribution of Pre- and Post-Test Scores

Topic	Pre-Test	Post-Test
Reproductive Health	68	97
Dengue Hemorrhagic Fever (DHF)	68	99
Diarrhea	70	97

Based on Table 2, the pre-test and post-test results indicate an increase in participants knowledge after participating in the "Happy Class" health education program. For reproductive health, the average score increased from 68 to 97; for Dengue Hemorrhagic Fever (DHF), it increased from 68 to 99; and for diarrhea, it increased from 70 to 97. These results indicate that the interactive educational methods used including animated videos, presentations, discussions, and educational quizzes are effective in improving participants understanding of reproductive health, DBD prevention, and diarrhea.



Figure 1. Implementation of Health Education in the Happy Class Program

The image shows the process of delivering material using presentation media and animated videos to children.



Figure 2. Conducting Discussions and Quizzes with Children

This image shows the participants' enthusiasm in participating in the question and answer sessions and quizzes conducted during the activity.



Figure 3. Administration of Pre-Test and Post-Test

This image illustrates the process of evaluating participants knowledge through the completion of pre-test and post-test forms as a means of measuring the effectiveness of the health education program.

DISCUSSION

The results of the study indicate that students at the Indonesian School in Kuala Lumpur (SIKL) in Malaysia had a significant impact on knowledge gain. These results show a significant difference between pre-test and post-test scores. The significant improvement in participants' knowledge across all three topics, with reproductive health increasing from 68 to 97, dengue fever from 68 to 99, and diarrhea from 70 to 97 ($p=0.000$). In this age group, educational success is measured not only by improved test scores, but also by an increased willingness to ask questions, greater participation in discussions, and the development of an awareness of the importance of maintaining one's own health. Indicates that the intervention successfully addressed significant health information gaps among participants.

These findings are consistent with previous evidence that health education during childhood can strengthen knowledge and support the development of healthy habits, especially when the education is delivered in an age-appropriate manner (12). Children entering puberty need to understand physical changes, hygiene, self-protection, and reproductive health; it is important to educate them about reproductive health from an early age (9). Therefore, the improvement observed in this activity indicates that the "Happy Class" program has a significant impact not only because it provides health information, but also because it gives children the opportunity to actively participate in health related topics that may not always be adequately covered in formal classroom settings.

The use of interactive educational methods such as animated videos, visual presentations, discussions, and educational quizzes. Which encourage participants to

actively engage in the learning process, can contribute to a significant increase in knowledge, as demonstrated in this study. Previous research has shown that animated media are more effective at conveying information in a way that is more engaging, simple, and easy to understand compared to conventional approaches (13). This study is consistent with several previous studies, which found that the use of educational videos can improve adolescents knowledge of reproductive health. Video based health education is an approach that can be applied in various situations, in line with technological advancements and adolescent development.

Animated videos are still images projected to appear as if they are moving and seemingly alive, they are created from a series of images that change in a regular, alternating sequence according to a design, resulting in more varied videos with attractive, colorful images that enhance the appeal of learning. The use of audiovisual media engages the senses of sight and hearing. The use of media that engages multiple senses can improve understanding of the information being conveyed. Therefore, audiovisual media such as images and moving videos play a very important role in supporting students learning process. This media not only clarifies but also facilitates their understanding of the information received.

It is hoped that this knowledge about reproductive health will contribute to adolescents reproductive health conscious behaviors (14). This study also supports previous research indicating that audiovisual media can enhance information retention because they engage more senses during the learning process. During the learning process, visualizations of the material, audio recordings, and interactions help participants understand reproductive health concepts that were previously considered difficult or complex to learn (15). The results show that participants were actively answering questions, asking questions, and participating in discussions, which supports the use of animated videos and quizzes in the “Happy Class” program. The quiz sessions may have increased participation by offering small prizes and creating a positive and enjoyable learning environment.

Reproductive health is particularly important because the participants represent a wide age range, including children who are approaching or currently going through puberty. Reproductive health education before and during puberty is essential to help children understand physiological changes, maintain good hygiene, identify dangerous situations, and learn how to protect themselves. Other studies have shown that structured reproductive health education can improve adolescents’ knowledge (16). According to the study, reproductive health education delivered through videos and handouts increased correct knowledge from 20% to 77% and positive attitudes from 64% to 83% (17). Reproductive health education combined with peer group discussions and health-related learning materials also yielded the same results (18).

This study also supports previous research indicating that audiovisual media can enhance information retention because they engage more senses during the learning process. During the learning process, visualizations of the material, audio recordings, and interactions help participants understand reproductive health concepts that were previously considered difficult or complex to learn (19). These findings indicate that the use of visual and participatory techniques can help improve reproductive health knowledge scores in the current program from 68 to 97. This method makes potentially sensitive information easier for children to understand.

The sections on dengue fever and diarrhea also had a significant impact because they addressed preventable infectious diseases that are heavily influenced by

knowledge, hygiene, and environmental practices. A significant increase in knowledge about dengue fever from 68 to 99. Indicates that participants were able to understand the key prevention messages conveyed during the activity (20). Studies in Indonesia have shown that health education can improve students' knowledge about dengue prevention, supporting these findings.

This study is consistent with previous research indicating that education about dengue fever significantly improves elementary school students knowledge (21). 5M Plus education to increase students' preventive knowledge through leaflets (22). Hand hygiene education, including audiovisual based approaches and demonstrations, has shown that effective hand hygiene education can reduce exposure to pathogens associated with diarrhea. Several studies in school settings in Indonesia have shown that effective hand hygiene education leads to practical behavior (23).

Despite the positive results, there are a number of supporting factors and barriers that influence the implementation of the "Happy Class" program. The availability of tutoring centers as nonformal learning environments is a crucial supporting component. These tutoring centers offer a practical and flexible way to deliver health education, as some SIKL children are unable to attend formal school. The program can be integrated into existing learning environments without requiring additional health services for participants.

Program implementation and participant engagement are supported by collaboration among teachers, tutoring center staff, and the SIKL community. However, several challenges hinder these activities. The most notable include the wide age range of participants (6–17 years), differences in participants' levels of understanding and literacy, the limited duration of sessions (about one hour), and difficulties in maintaining the attention of some participants. These challenges are significant because health education materials appropriate for adolescents may not necessarily be suitable for younger children. Similar literature also emphasizes that content, teaching methods, and communication techniques appropriate for the developmental stage of the younger population are necessary for reproductive health education.

Another important factor is that current evaluations mostly show an increase in knowledge following an intervention, but do not indicate whether the knowledge gained leads to sustained behavioral change. Pre test and post test designs are useful for measuring short term educational outcomes. However, new knowledge alone does not always result in long term changes in hygiene practices, dengue prevention, or reproductive health. Community based dengue education also has limitations. Cognitive outcomes and long term psychomotor or behavioral effects are not evaluated because the education is conducted only once.

The one group pre test and post test design has several limitations. Because there was no control group, the observed improvement in knowledge cannot be attributed exclusively to the intervention, as other factors may have influenced the post test results. In addition, the relatively small sample size of 34 participants and the wide age range of 6–17 years may have resulted in differences in comprehension, communication ability, literacy, and health literacy among participants. The intervention was also conducted within a limited period, with each session lasting approximately one hour, which restricted the amount of material that could be delivered and limited the opportunity to evaluate long term retention of knowledge or changes in health behavior. Therefore, future activities should consider age based grouping, a larger number of

participants, longer intervention periods, and follow up assessments to evaluate sustained knowledge and behavioral changes.

The “Happy Class” program should divide children into age based groups so that the material can be tailored to their developmental levels. To help participants better understand the material, session duration can be extended or divided into several separate sessions. To increase participation, continue to use interactive techniques such as demonstrations, games, quizzes, and animated videos. To reinforce health messages after the program ends, collaboration with the SIKL community, parents, and teachers should also be strengthened. It is also advisable to conduct follow up assessments to evaluate knowledge retention and changes in health behaviors. Preliminary findings suggest grouping by age, longer sessions, and ongoing programs in other SIKL communities. These improvements are in line with these recommendations.

CONCLUSIONS AND SUGGESTIONS

The "Happy Class" program, implemented as a community service activity, successfully achieved its target outcomes optimally. All participants demonstrated a significant increase in knowledge across the three health education topics reproductive health, dengue fever prevention, and diarrhea as evidenced by a p-value of 0.000 in the Wil-coxon Signed-Rank Test. The interactive educational methods applied proved effective and appropriate for participants with diverse ages and educational backgrounds. This activity had a positive impact on both the knowledge and learning motivation of the SIKL children. For future activities, it is recommended that materials and methods be grouped based on the participants age ranges, the duration of each session be extended, and similar programs be replicated in other SIKL communities as a sustainable effort to improve the health status of Indonesian migrant children abroad.

ACKNOWLEDGEMENTS

The authors would like to express sincere gratitude to the International Community Service Program *“Mangunsari Goes To Abroad”* supported by LLDIKTI Wilayah VI Jawa Tengah and Universitas Telogorejo Semarang for providing the opportunity to participate in the 28 day International Community Service Program at Sekolah Indonesia Kuala Lumpur. The authors also extend appreciation to the teachers, learning guidance staff, and Indonesian School in Kuala Lumpur (SIKL) in Klang, Selangor, Malaysia for their active participation, cooperation, and enthusiasm during the implementation of the “Happy Class” health education program. In addition, the authors would like to thank all parties who contributed to the preparation, implementation, documentation, and completion of this community service article.

CONFLICT OF INTERESTS

The authors declare that there is no conflict of interest between the first author and the second author in the implementation of this community service activity, including in the preparation, data collection, analysis, and publication of this article. The authors also declare no financial, professional, or personal relationships that could influence the results or interpretation of this study. Therefore, the authors declare no conflict of interest.

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