



Advancing Medication Safety and Healthy Lifestyle Education for Elementary Students in Sangkhom Islam Wittaya School Thailand

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ABSTRACT

In 2024, community service was done at Sangkhom Islam Wittaya School in Thailand from September to August. This program of community service is to increase the safe use of medication and provide an education on a healthy lifestyle at Sangkhom Islam Wittaya School. We will be educating on medication errors, correct use, and side effects of medications with this program. The program combines educational components with community actions to create a school environment where children feel safe and encourages life-long behaviours leading to students' well-being. It supports the overarching goals of improving public health and underscores the importance of early education to influence a healthier generation in the future. This method of determining what is wrong, discussing with the partners, and then launching it will be accompanied by counselling, rehearsal, and knowledge calculated by using pre-test and post-test. The mean score for the pre-test was 65.20 after the intervention, the mean score on the post-test rose substantially to 95.20. This community service was carried out at Sangkhom Islam Wittaya Elementary School for students in grade 6. The number of students in grade 6 is 25. Community service was actually one of the program areas that the successful programs had a high success rate in, meaning it did what it set out to do. This will require analysis of some specific pre- and post-test data to judge how effective this program is.

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Introduction

Elementary school students in Thailand have an increasing risk of medication and lifestyle habit issues. As one can purchase over-the-counter medication and students of the young age group have little understanding, misuse or improper self-medication is quite common. What is more, long-term health risks are compounded by a growing prevalence in unhealthy lifestyles such as an unbalanced diet and lack of physical activity. These are important areas to address in order to continue medication safety and grow healthy lifestyle behaviours among this risky age group. Pharmaceutical education programs must therefore be initiated, particularly for children, to avoid health disorders. Community pharmacists are in a prime position to help educate them on the safe and appropriate use of medications. Moreover, pharmacists may learn to be more at ease in counselling and educating children about

medications as they design a child-targeted program that can be implemented within community-based settings. Through early education and understanding, Thailand can help prevent a future youth population from falling ill.

Sangkhom Islam Wittaya is an educational institution located in Thailand that pursues the goal of offering an inclusive education based on Islamic principles. This institution combines the teaching of the religion with regular study programs so that the pupils can achieve both academic and personal development. As this institution emphasises morals, it creates room for educational, spiritual, and social growth for learners. Sangkhom Islam Wittaya School is determined to raise the citizens who will be responsible, well-informed, and humane adherents of Islam.

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However, there are challenges to engage children in medication education, including maintaining the attention of children while trying to convey important medication information, particularly with younger age groups with limited attention spans or lower levels of comprehension, and simplifying medication counselling to suit a child's level of understanding (Abraham et al., 2017). Therefore, pharmacists should adapt to these conditions by speaking in a pleasant communicative tone, using minimal medical jargon, having a friendly personality, and providing kid-friendly materials that have colourful pictures, minimal text, and clear and easy to understand information (Abraham, Brothers, Alexander, & Carpenter, 2017).

Self-medication or another term called self-medication is one of the efforts in society to maintain health independently. In current practice, self-medication can be a source of problems with medication use due to a lack of knowledge about medications and their use (Harahap et al., 2017).

Medications are materials that are very easy to find, but people's knowledge regarding health and especially drugs is still limited and has an important role in health services, therefore it must always be used correctly in order to provide optimal clinical benefits (Wahyuningsih, 2021). For drugs that are no longer used, it is important to dispose of them properly to prevent harm to the community, the knowledge and methods of medication that are not used are very important. This problem will cause environmental pollution which is very dangerous and can have consequences for future generations (Ani Kristiyani & Sarah Puspita Admaja, 2021). To prevent errors in medication use, it is necessary to educate the public on drug use from an early age, especially for children to increase their knowledge of drug use and be given education about proper drug use (Ristian Octavia & Aisyah, 2019)

The World Health Organization defines self-medication as the treatment of self-diagnosed disorders or symptoms using medicines with the intent for them to be used by consumers on their initiative and responsibility (Parulekar et al., 2016; Shafie et al., 2018).

Self-medication practices facilitate patients to make informed decisions about managing their minor illnesses and reduce pressure on medical services (Hughes et al., 2001; Jember et al., 2019; Noone & Blanchette, 2018). Self-medication is an important part of daily self-care and is influenced by various factors such as lifestyle, socioeconomic factors, availability of drugs, access to drugs, time of day, and perceived risks of self-medication (Afshary et al., 2015; Ayalew, 2017; Hailemichael et al., 2016).

Hence the use of self-medication needs to be rationalized. A good self-medication practice could be beneficial for both the patient and the healthcare system because no resources are being wasted on minor cases. However, most self-medication practices are done irrationally. The patient's behavior such as sharing the medicines with family members or friends, using the same medicine from the past, incorrectly reading medicine labels, etc (Lei et al., 2018; Mohammed et al., 2021).

Since early grade student tend to have low medication knowledge it is important for them to have the knowledge on advancing the medication safety and healthy lifestyle education in the form of pre test and post test. Since many diseases and condition are spread by not having a proper hygiene (Centers for Disease Control and Prevention , 2022).

The purpose of the program on promoting safe medication practices and a healthy lifestyle for elementary students at Sangkhom Islam Wittaya School is to boost the general health of the young learners by safe medication usage and maintenance of healthy practices. This program aims to raise the understanding of medication safety among elementary school students, especially the use, dosage, self-medication concerns, and the need to see a doctor. In addition, the new program helps students to replace unhealthy habits with healthy ones like eating well, exercising, and attaining psychological health, emotionally fit to Islamic traditions. With such knowledge in children at a younger age, Sangkhom Islam Wittaya School hopes to provide health and safety foundations for lifelong and responsible active citizenship.

Methods

The community service initiative titled "Advancing Medication Safety and Healthy Lifestyle Education" through fun learning education to raise awareness among children about safe medication use and healthy lifestyle choices among Primary School Children at Sangkhom Islam Wittaya School, Thailand. Sangkhom Islam Wittaya School use Phratom for education system this program focuses on grade 6 students, with a cohort of 25 participants, chosen for their more developed cognitive abilities to understand and medication safety and healthy lifestyle education. The curriculum offers a fun and engaging way for students to learn about healthy living and medication safety, guided by a pharmacy student. Through lively discussions, hands-on demos, and interactive activities, kids get to explore how to stay healthy and use medicines safely in a way that's both enjoyable and informative. Establishing these



habits in grade 6 students is essential for fostering long-term health-conscious behaviors as they transition to higher levels of education.

A pre-test was conducted prior to the intervention to assess students' baseline knowledge of medication safety and healthy lifestyle practices. The assessment included multiple-choice questions addressing key topics such as the role of pharmacists, the correct use of medications, appropriate sources for obtaining medicine, and best practices for safe medication usage. This pre-test aimed to assess the student's knowledge regarding the proper use and safety of medications, the importance of following instructions, and how pharmacists can help ensure safe and effective treatment. Since safe medication administration is one of the vital processes that ensures patient safety and high quality of life (*Zanco J Med Sci*, 2018).

In the interactive phase, students take part in organized games and quizzes aimed at enhancing their understanding of medication safety and healthy lifestyle habits. The activity kicks off with a "throwing ball" quiz, where participants stand in a circle and pass a ball. The student who catches the ball must answer a question related to medication safety, healthy habits, or the pharmacist's role. Those who answer correctly receive a prize as an incentive for their engagement. This phase is led by instructors or pharmacy student from University of Muhammadiyah Bandung and involves: (a) expert facilitation to ensure accurate information is conveyed; (b) active involvement of all elementary students; (c) a focus on integrating learning with interactive engagement; and (d) the provision of resources, including quiz materials, prizes, and educational tools. The use of interactive methods like games and quizzes effectively reinforces key health concepts while creating an engaging and enjoyable learning environment for the primary students.

The final stage involves evaluating the effectiveness of the program to understand its impact on students. After completing all activities, students take a post-test to assess their knowledge about medication safety, healthy living, and the role of pharmacists. Both the pre-test and post-test consist of 10 questions each, with a total possible score of 100 points. These questions focus on key areas such as safe medication use, healthy lifestyle habits, and the contributions of pharmacists to effective treatment. This evaluation helps determine whether the students have understood these important topics and how beneficial the program has been.

Tabel 1. Knowledge Score Criteria

SCORE RANGE	CRITERION
<60	NOT GOOD
60-69	FAIR
70-79	GOOD
80-89	VERY GOOD
90-100	EXCELLENT

Results and Discussions

This community service was carried out at Sangkhom Islam Wittaya Elementary School for students in grade 6. The number of students in grade 6 is 25. The early stage of community service begins with the preparation of a community service proposal. In the next stage, the community service team coordinated with a group of the local teachers who were recruited as facilitators in the community service program. In this session, the community service team explained the purpose of community service, the program plans to be carried out, and the roles of the community service team and students (Matson et al., 2019). Then, representatives of the community service team coordinated with the principal of the Sangkhom Islam Wittaya School for a request to carry out community service at school, which had been approved by the principal.

The service begins with making material in the form of PowerPoint about the pharmacist profession, followed by the practice of introducing medicines (Hidayati et al., 2022) and healthy and nutritious food through presentations and playing games. It is important for elementary school students to learn about health and medicine; therefore, they will be more precise and wise in using drugs according to their indications and conditions (Matson et al., 2019; Syofyan et al., 2019) and to prevent drug abuse (Prakash et al., 2021).

From the findings and discussions, the work program undertaken was quite satisfactory and reached the objective. It however requires an additional comment, that is to say, in regard to the communication aspect during the counseling process. Effective and clear organization of the material is very important in order for the students to be able to comprehend. The role of the accompanying teacher also needs to be taken into consideration in facilitating two-way communication between the students and the participants. The biggest challenge is that within the classroom, there are communication challenges that significantly affect the implementation of the work program.



Fig 1. Class Teaching Programme



Fig 2. Pre and Post Test Conducted



Fig 3. After Class Programme

Table 2. Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1. Pre test	65.2000	25	12.94862	2.58972
Post test	95.2000	25	6.53197	1.30639

The paired sample statistics for the “Advancing Medication Safety and Lifestyle for Elementary School Students” program initiated in Sangkhom Islam Wittaya School show that there was an enhancement in the students’ knowledge and practice regarding medication safety as well as healthy lifestyle.

A pre-test was conducted prior to the intervention to assess students' baseline knowledge of medication safety and healthy lifestyle practices. The assessment included multiple-choice questions addressing key topics such as the role of

pharmacists, the correct use of medications, appropriate sources for obtaining medicine, and best practices for safe medication usage. This pre-test aimed to assess the student's knowledge regarding the proper use and safety of medications, the importance of following instructions, and how pharmacists can help ensure safe and effective treatment. Since safe medication administration is one of the vital processes that ensures patient safety and high quality of life (Zanco *J Med Sci*, 2018).

The paired samples t-test was used to evaluate whether the determinants of this intervention improved the medication safety and lifestyle options among the elementary pupils of Sangkhom Islam Wittaya School. The findings revealed an improvement in pre-test and post-test scores showing statistical value ($t(24) = 11.56, p < .001$). The mean score on the medication safety and lifestyle assessment rose from 65.20 to 95.20, clearly demonstrating an aptitude change with respect to the knowledge and practices embraced by the students.

Pre-test Results: The mean score for the pre-test was 65.20 (SD = 12.95), indicating a moderate baseline level of knowledge among the students before the program was implemented. The standard error of the mean was 2.59, reflecting the variability in students' initial understanding.

Post-test Results: After the intervention, the mean score on the post-test rose substantially to 95.20 (SD = 6.53). This increase of 30 points suggests a significant enhancement in the students' knowledge and practices following the educational program. The standard error of the mean decreased to 1.31, indicating that the students' knowledge became more consistent as a result of the program.

The results of this study show that a developmental intervention among elementary students in Sangkhom Islam Wittaya School improves medication safety and lifestyle. The increase in the score from 65.20 to 95.20 points shows that the program was able to make students aware of some important aspects related to medication safety and healthy lifestyle practices. The newly developed educational tools were successful at increasing student comprehension of the medication safety principles and their practical application.

A number of reasons may have contributed to the success of the intervention. It began by personalising the curriculum so that it was age-appropriate and relatable for students. In hindsight, the interactive exercises and use of tinkering/kinaesthetic learning would have helped to concrete down the essential points. The students



may also have been more committed to adopting healthier behaviours due to the program's incorporation of parents and carers.

The drop in both the standard deviation and the standard error of the mean from the pre-test to the post-test highlights the success of the program in leveling out and boosting students' knowledge overall. This means that not only did the average understanding improve, but the gap in knowledge between students also shrank, showing that the program benefited everyone, no matter where they started.

These results align with earlier studies that emphasize the importance of starting education early to teach kids about medication safety. By providing information in a way that's easy for their age group to understand and incorporating fun activities, this program helped children learn the skills they need to make smart choices about medicine and avoid potential risks.

These results are particularly important for community service initiatives, as they demonstrate the potential of targeted educational programs to make a significant impact on young students' health literacy. By equipping elementary students with essential knowledge and skills in medication safety and lifestyle management, the program contributes to the broader goal of promoting long-term health and well-being within the community.

While the findings of this study are promising, further research is needed to explore the long-term effects of the intervention on students' medication safety and lifestyle behaviors. Additionally, it would be valuable to investigate the effectiveness of similar programs in different cultural and socioeconomic contexts.

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Conclusion

2024, Sangkhom Islam Wittaya School held a community service program centred on medicine safety and healthy lifestyle teaching. The campaign intended to increase students' knowledge of correct medicine usage, error prevention, and healthier behaviours. The program engaged 25 grade 6 children with interactive activities such as quizzes and games.

The pre-test results indicated a moderate baseline knowledge, with an average score of 65.20. Following the session, post-test scores rose dramatically to an average of 95.20, indicating a better grasp of pharmaceutical safety and healthy living behaviours. The statistical analysis proved the program's performance, as pupils' knowledge grew and disparities in individual comprehension levels closed. Overall, the program proved helpful in increasing health literacy among pupils.

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