

Improving Student Health Through Healthy Lifestyle Education and Physical Activity in Kuala Lumpur

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ABSTRACT

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Migrant children living in non-formal educational settings are at increased risk of physical inactivity and unhealthy lifestyle behaviors due to limited access to structured health education and physical activity programs. This community-based program aimed to promote student health through healthy lifestyle education and traditional game-based physical activities among migrant student at a Muhammadiyah learning center in Kuala Lumpur, Malaysia. The program employed a participatory approach that integrated healthy lifestyle education, mental health and self-awareness sessions, balanced nutrition education, and structured physical activities using traditional games. Program effectiveness was evaluated using pre-test and post-test assessment to measure changes in students knowledge, attitudes, and health-related practices. The findings demonstrated substantial improvements across all outcome indicators. Students knowledge increased from 40% to 94%, positive attitudes from 55% to 85%, and healthy practices from 27% to 90% following the intervention. In addition, the program supported improved utilization of school sports facilities and increased student engagement in regular physical activity. In conclusion, healthy lifestyle education combined with traditional game-based physical activities is an effective strategy for health promotion among migrant students in non-formal learning environments. Sustained collaboration between educational institutions, communities, and families is recommended to ensure the long-term sustainability of health-promoting behaviors.

1. INTRODUCTION

Physical inactivity and unhealthy lifestyle behaviors among children remain major public health challenges globally, particularly among vulnerable populations such as migrant children (WHO, 2020). Limited access to structured health education and physical activity programs has been shown to increase health risks among children

living in marginalized and non-formal educational settings (van der Wurff et al., 2024).

In Malaysia, migrant learning centers provide essential educational access for children of migrant workers; however, health promotion activities in these settings are often insufficiently structured. Previous studies indicate that school- and community-based physical

activity interventions can improve children's physical activity levels when supported by appropriate educational approaches and learning environments (Abdullah, 2021). Despite this evidence, observations at a Muhammadiyah learning center in Kuala Lumpur revealed low levels of structured physical activity, suboptimal use of sports facilities, and limited awareness of healthy lifestyle practices among students and their families. These conditions indicate a service gap, namely the absence of integrated and sustainable health promotion programs tailored to migrant children in non-formal education contexts.

Traditional game-based physical activities have been recognized as a culturally relevant and feasible strategy to enhance children's participation, motivation, and social interaction while promoting physical activity (Porusia et al., 2023). However, the application of this approach within migrant learning centers in Malaysia remains limited.

Therefore, this community-based program aimed to promote student health by improving knowledge, attitudes, and health-related practices through participatory healthy lifestyle education and traditional game-based physical activities among migrant students in a non-formal learning environment in Kuala Lumpur, Malaysia.

2. METODE

Study Design

This study employed a community-based participatory service design to promote healthy lifestyle behaviors among migrant students. The program integrated health education and physical

activity interventions, drawing on evidence that regular physical activity contributes to improved physical fitness and health outcomes among children (Prakosa & Hartati, 2022).

Participants and Setting

The program was conducted at a Muhammadiyah learning center located in Kampung Baru, Kuala Lumpur, Malaysia. Participants consisted of 20 migrant students aged 8–12 years who were enrolled in the learning center. The learning center serves children of Indonesian migrant workers and functions as a non-formal educational setting.

Intervention Procedures

The intervention was implemented using a participatory approach involving students, facilitators, and the school community. The program consisted of four integrated components:

1. Healthy lifestyle education,
2. Mental health and self-awareness sessions,
3. Balanced nutrition education, and
4. Structured physical activities based on traditional games such as jump rope and bekel ball.

The use of traditional games as a medium for physical activity was based on previous findings indicating that game-based physical activity models can effectively improve children's physical fitness and engagement (Bile et al., 2021). Educational sessions were delivered through interactive lectures, group discussions, demonstrations, and hands-on practice to encourage active participation and sustainable behavior change.

Evaluation Instruments

Program evaluation was conducted using structured questionnaires administered before and after the intervention. The evaluation instruments consisted of three sections measuring:

1. Knowledge related to healthy lifestyle and physical activity,
2. Attitudes toward healthy behaviors and physical activity, and
3. Practices or actions related to daily healthy lifestyle behaviors.

Each section included 10 items, resulting in a total of 30 questions. Responses were categorized into levels of low, moderate, and good performance.

Data Analysis

Data analysis was performed using descriptive statistical techniques. Pre-test and post-test results were compared by calculating percentage changes in knowledge, attitudes, and practices. The results were presented descriptively in tables and graphical formats to illustrate changes before and after the intervention.

3. RESULTS AND DISCUSSION

Results

Program outcomes are presented in Figures 1-4, illustrating changes in students knowledge, attitudes, and action before and after the intervention, as well as a comparative summary of all three domains.

Changes in Knowledge

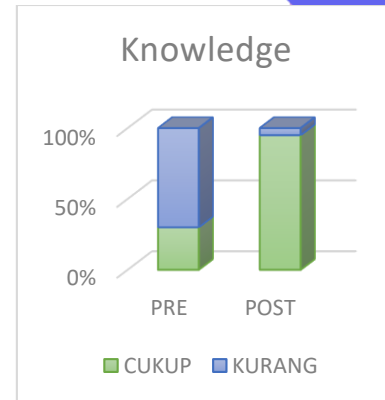


Figure 1. Changes in Students' Knowledge Before and After the Intervention

Figure 1 illustrates improvements in students' knowledge following the intervention. The visual trend indicates that participatory healthy lifestyle education effectively enhanced students' understanding of health-related concepts. Interactive sessions and experiential learning contributed to increased comprehension and knowledge retention.

Changes in Attitudes

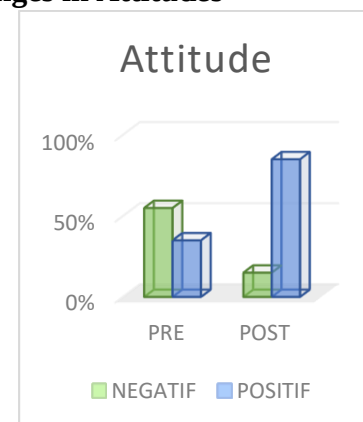


Figure 2. Changes in Students' Attitudes Before and After the Intervention

As shown in Figure 2, students demonstrated more positive attitudes

toward physical activity and healthy living after participating in the program. The integration of traditional games appeared to increase motivation and enjoyment, supporting favorable perceptions of regular physical activity.

Changes in Action

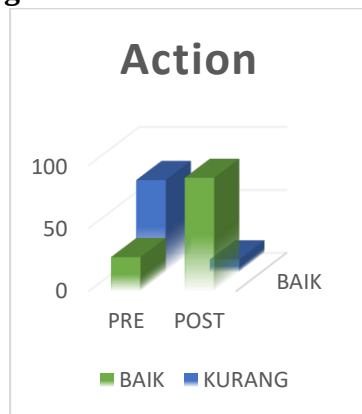


Figure 3. Changes in Students' Practices Before and After the Intervention

Figure 3 presents improvements in students' health-related action. The results indicate that students were able to apply learned concepts in daily activities, reflecting the practical impact of the intervention within the non-formal learning setting.

Comparative Analysis

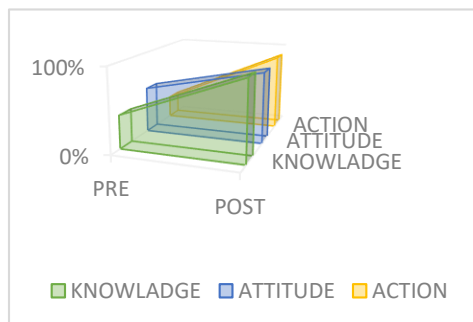


Figure 4. Comparative Changes in Knowledge, Attitudes, and Action

To provide a comprehensive overview, Figure 4 summarizes the comparative changes across knowledge, attitudes, and practices. The combined visualization highlights consistent improvements in all all domains, demonstrating that the intervention influenced cognitive, affective, and behavioral aspects of health promotion simultaneously.

Discussion

The findings demonstrate that integrating healthy lifestyle education with traditional game-based physical activities is an effective strategy for improving multiple dimensions of health-related behaviour among migrant students. The improvements observed across knowledge, attitudes, and practices are consistent with previous evidence emphasizing the importance of structured physical activity and health education in shaping children's health behaviours (Shahril et al., 2023).

The positive attitudinal changes align with research indicating that enjoyable and contextually appropriate physical activities enhance student motivation and engagement (Rohmah & Muhammad, 2021). Traditional games provided a culturally familiar and accessible medium that supported active participation without requiring complex facilities.

Furthermore, the behavioural improvements observed in this study correspond with findings suggesting that physical activity and healthy lifestyle behaviours are associated with better physical fitness and daily activity patterns among school-aged children

(Mulyaningsih et al., 2023). The participatory approach likely facilitated the translation of knowledge into action. Despite the overall positive outcomes, several challenges were identified during program implementation. Not all students demonstrated equal engagement, and the relatively short intervention period may have limited the sustainability of behavioural changes. In addition, constraints related to facilities and learning environments in non-formal educational settings may have influenced consistent application of healthy behaviours. These considerations highlight the importance of continued reinforcement and supportive institutional environments to strengthen long-term program impact.

Community service program public implemented a number of stage that is socialization, education and training, and evaluation, all of which designed For increase participant in knowledge, attitudes, and skills/actions about draft pattern life healthy and active physique fitness and physical based game traditional. The following This is explanation details from each implementation.

Problems and Obstacles

Despite the overall positive outcomes, several challenges were observed during program implementation. Not all students demonstrated the same level of engagement, and the relatively short intervention period may have limited the sustainability of behavioral changes. In addition, constraints related to facilities and learning environments in non-formal educational settings may have influenced students' ability to consistently apply healthy lifestyle behaviors. These

challenges highlight the importance of continued reinforcement, extended program duration, and supportive institutional environments to strengthen the long-term impact of health promotion programs.

4. CONCLUSION

This community-based program demonstrated that integrating healthy lifestyle education with traditional game-based physical activities can effectively improve students' knowledge, attitudes, and health-related practices in a non-formal migrant learning environment. The participatory approach and use of culturally familiar activities supported active engagement and meaningful learning experiences among students.

The program shows strong potential for sustainability, as it utilizes simple methods, familiar traditional games, and existing learning center resources without requiring complex infrastructure or specialized equipment. These characteristics enable educators and facilitators to integrate the program into routine learning and extracurricular activities, supporting continued health promotion efforts.

Furthermore, the program has potential for replication in other migrant or underserved communities. Its core components healthy lifestyle education, participatory learning, and game-based physical activity are flexible and can be adapted to different local contexts while maintaining the primary objective of promoting student health. Future implementations may benefit from extended duration and broader institutional support to enhance long-term impact.

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