



Youth Movement Ambassador for Adolescent Health

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ABSTRACT

Background: Physical inactivity and sedentary behavior have become major global public health concerns, particularly among adolescents. Approximately one-third of the world's population aged 15 years and older does not engage in sufficient physical activity, thereby increasing the risk of adverse health outcomes. These behaviors contribute to the growing burden of non-communicable diseases and negatively affect physical, psychological, and reproductive health, which are important concerns within adolescent and midwifery care.

Objective: This community engagement program aimed to improve adolescents' awareness and knowledge regarding physical activity and to establish Youth Movement Ambassadors who can promote healthy lifestyles and peer support within the school environment.

Methods: A health education and empowerment program was conducted among members of the Youth Red Cross Organization at Junior High School in Bandung. The intervention included educational sessions on the health consequences of sedentary behavior, the importance of regular physical activity, and leadership training to prepare selected students as Youth Movement Ambassadors.

Results: The program successfully established a group of Youth Movement Ambassadors within the school setting.

Conclusion: The establishment of Youth Movement Ambassadors represents a promising strategy for promoting physical activity and reducing sedentary behavior among adolescents.

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INTRODUCTION

Adolescence is a critical developmental period during which lifelong health behaviors are established. Promoting healthy lifestyles during this stage is particularly important because behavioral patterns formed during adolescence often persist into adulthood and significantly influence future health outcomes.[1] Physical activity contributes to optimal physical growth, mental well-being, cognitive performance, and the prevention of non-communicable diseases (NCDs).[1], [2] However, physical inactivity and sedentary behavior among adolescents have become major public health concerns worldwide. More than 80% of adolescents globally do not meet the recommended level of physical activity, namely at least 60 minutes of moderate-to-vigorous physical activity per day.[1], [3], [4]

In the school setting, opportunities for engaging in physical activity are often limited. Physical education classes are generally conducted only once a week, and participation in sports extracurricular activities remains low. Furthermore, the availability of extracurricular sports programs is frequently restricted to a few activities, such as basketball, volleyball, swimming, badminton, and futsal. These limitations are compounded by rapid technological advancement and the widespread use of smartphones, social media, and online gaming among adolescents. Excessive screen time has substantially increased sedentary behavior, resulting in a generation of adolescents who are increasingly characterized by low levels of physical activity.[5], [6]

The proliferation of sedentary lifestyles is a global phenomenon driven by increased screen exposure, limited access to recreational spaces, and changing lifestyle patterns.[5], [6] Recent evidence demonstrates that prolonged sedentary behavior is independently associated with adverse health outcomes, including obesity, cardiovascular diseases, type 2 diabetes mellitus, metabolic syndrome, depression, and premature mortality.[2], [5], [6], [7] Sedentary behavior negatively affects the human body through multiple biological mechanisms, including reduced lipoprotein lipase activity, impaired glucose transport and carbohydrate metabolism, decreased insulin sensitivity, endothelial dysfunction, and chronic low-grade inflammation.[2], [6] Furthermore, prolonged sitting influences insulin-like growth factor pathways and sex hormone regulation, potentially increasing the risk of hormone-related cancers.[2], [5]

The adverse effects of sedentary behavior are extensive and include increased all-cause mortality, cardiovascular mortality, metabolic disorders such as diabetes mellitus, hypertension and dyslipidemia, musculoskeletal disorders including arthralgia and osteoporosis, depression, and cognitive impairment.[2], [5], [6] Therefore, reducing sedentary behavior and increasing physical activity are equally important strategies for improving population health.[1], [6]

The issue of physical inactivity is particularly relevant in the context of adolescent health and midwifery. Healthy lifestyle behaviors established during adolescence, especially among girls, have long-term implications for reproductive health and future maternal outcomes.[1], [4] Physical inactivity and abnormal nutritional status during adolescence are associated with an increased risk of obesity, metabolic disorders, polycystic ovary syndrome, and adverse pregnancy outcomes later in life.[1], [8] Therefore, adolescent health promotion constitutes an essential component of preventive and promotive midwifery care.[1]

SMPN 40 Bandung is a public junior high school located in an urban area of Bandung and serves approximately 500 female students. Previous research conducted by Ferina in 2021 at this school revealed that 27% of adolescents had an abnormal body mass index (BMI), with 25% categorized as underweight (BMI <18.5 kg/m²) and 2.7% classified as overweight or obese (BMI >25 kg/m²).[9] Abnormal BMI during adolescence is associated with an increased risk of non-communicable diseases, including hypertension, diabetes mellitus, cardiovascular disease, and certain types of cancer.[2], [5], [6] Current evidence suggests that unhealthy dietary habits and insufficient physical activity are among the primary contributors to abnormal BMI among adolescents.[1], [2], [3]

Given the increasing prevalence of sedentary lifestyles and the limited opportunities for enjoyable physical activities in schools, innovative and youth-centered empowerment strategies are urgently needed. Adolescents are more likely to participate in activities perceived as enjoyable, socially engaging, and relevant to their interests. Therefore, empowering students through peer-led initiatives, such as the establishment of Youth Movement Ambassadors, may represent a promising approach to promoting physical activity, reducing sedentary behavior, and fostering a culture of healthy living among adolescents.[4], [8] Such initiatives align with the principles of adolescent-friendly health promotion and preventive midwifery care by empowering young people to become active agents of change within their school communities.[1]

Given the increasing prevalence of sedentary lifestyles and the limited opportunities for enjoyable physical activities in schools, innovative and adolescent-centered empowerment strategies are urgently needed. Adolescents are more likely to engage in activities that are perceived as enjoyable, socially interactive, and relevant to their interests. Peer influence during adolescence also plays a significant role in shaping health-related behaviors and lifestyle choices. Therefore, empowering students through peer-led initiatives has considerable potential to promote sustainable behavioral change and foster a supportive school environment for healthy living.[4], [8]

In line with the principles of adolescent health promotion and preventive midwifery care, the establishment of Youth Movement Ambassadors represents an innovative approach to encouraging physical activity among adolescents. The program is designed not only to increase awareness of the adverse effects of sedentary behavior but also to develop adolescent leaders who can serve as peer educators, role models, and agents of change within their school communities. Through this initiative, students are expected to promote active lifestyles, strengthen peer support, and contribute to improving the overall health and quality of life of adolescents.

The present study aimed to develop and implement a Youth Movement Ambassador program as a peer-led health promotion strategy to increase physical activity, decrease sedentary behavior, and foster adolescent empowerment and healthy lifestyle practices among junior high school students.

METHOD

This community engagement program employed a participatory, peer-led empowerment approach to establish and implement the Youth Movement Ambassador Program among junior high school students. The intervention involved the establishment and training of Youth Movement Ambassadors using a blended learning model and a structured mentoring process to promote physical activity and reduce sedentary behavior among adolescents.

Preparation Phase

The preparation phase involved several activities, including: (1) coordination meetings with the partner school; (2) needs assessment to identify the characteristics and physical activity needs of students; (3) development of the community engagement proposal; (4) obtaining administrative and ethical permissions; (5) preparation of educational and training materials; (6) recruitment and selection of prospective Youth Movement Ambassadors from members of the school health organizations and student representatives; (7) development of a handbook and booklet for the ambassadors; (8) preparation of training facilities and educational media; and (9) coordination with relevant stakeholders to support program implementation.

Implementation Phase

The training and empowerment activities were conducted from May to August 2025. A blended learning approach was adopted, combining face-to-face and online learning modalities to enhance accessibility and participant engagement.

Training Methods and Educational Media

The training program utilized multiple educational methods and media, including:

- Face-to-face educational sessions;
- Online meetings through the Zoom platform;
- Communication and discussion through WhatsApp groups; and
- A printed booklet serving as a learning resource and exercise practical guide for the Youth Movement Ambassadors was upload in youtube: https://youtu.be/2_xgxbJpZ1g?si=krJwySug9Olgs5qF

The educational content covered the importance of physical activity, the health consequences of sedentary behavior, leadership development, peer education strategies, and practical approaches to promoting active lifestyles among adolescents.

Mentoring of Youth Movement Ambassadors

Following the training, the Youth Movement Ambassadors participated in a structured mentoring program designed to:

1. Provide opportunities for ambassadors to apply the knowledge and skills acquired during the training under professional supervision; and
2. Enhance the ambassadors' self-confidence and leadership capacity in implementing peer-led health promotion activities.

The mentoring program was implemented in two stages:

Full mentoring phase. During the first month after training, ambassadors received intensive guidance and supervision from facilitators while conducting activities with their peers. This phase employed a blended mentoring model through face-to-face meetings, video calls, and WhatsApp communication.

Partial mentoring phase. During the second month, ambassadors were encouraged to conduct activities more independently, while facilitators provided guidance and support on an as-needed basis. This gradual transition aimed to strengthen the ambassadors' autonomy, confidence, and sustainability in implementing the program independently.

Monitoring and Evaluation

Monitoring and evaluation activities were conducted over a one-month period to assess the implementation process and identify challenges encountered during program execution. The evaluation focused on participants' engagement, the implementation of ambassador activities, and the feasibility of sustaining the Youth Movement Ambassador program within the school setting. Continuous feedback from facilitators, school staff, and student participants was used to improve program implementation and ensure the achievement of the program objectives.

RESULT AND DISCUSSION

Result

A total of 30 junior high school students participated in the Youth Movement Ambassador training program. The effectiveness of the educational intervention was assessed by comparing participants knowledge scores before and after the training. The findings demonstrated a substantial improvement in participants' knowledge regarding physical activity, sedentary behavior, and their implications for adolescent health. The median pre-test score was 60, which increased to 87 in the post-test assessment, representing an increase of 40.36% in knowledge levels (Table 1).

Table 1 Youth Movement Ambassador Knowledge

	Median+SD	Minimum	Maksimum	p-value
Pretest	60±11,29	33	80	0,001*
Posttest	87±6,76	73	100	

*Wilcoxon

Overall, almost all of participants showed an increase in knowledge scores following the intervention. These findings indicate that the Youth Movement Ambassador training program was effective in improving adolescents understanding of the importance of physical activity and the health consequences of sedentary behaviour.



Figure 1 Exercise activity Youth Movement Ambassador



Figure 2 Exercise activity led by Youth Movement Ambassador



Figure 3 Youth Movement Ambassador and all students after exercise

Discussion

The present study demonstrated a substantial increase in adolescents' knowledge regarding physical activity and sedentary behaviour following the Youth Movement Ambassador training program. Previous studies have consistently shown that increasing adolescents' knowledge is an essential first step toward behavioural change and the adoption of healthy lifestyles. Adolescents with higher levels of health literacy are more likely to engage in regular physical activity and exhibit lower levels of sedentary behaviour.[1], [4], [10], [11] The significant increase in knowledge observed in this study may be attributed to the use of a blended learning approach and peer-led education strategies.

Recent systematic reviews have demonstrated that school-based interventions integrating educational components, peer support, and environmental modifications are more effective in increasing physical activity and reducing sedentary behaviour than single-component interventions.[12], [13], [14], [15]

Peer influence also plays an important role in shaping adolescents' health behaviours. Adolescents tend to adopt healthy behaviours when supported by their social networks and peers. Consequently, empowering students as Youth Movement Ambassadors may facilitate the dissemination of healthy lifestyle messages and encourage sustainable behavioural changes within the school environment.[16], [17], [18] Recent evidence from eHealth and social network interventions further suggests that peer engagement and digital communication can positively influence physical activity participation and healthy behaviours among adolescents.[19], [20]

The findings of this study are particularly important because physical inactivity during adolescence is associated with an increased risk of overweight and obesity, metabolic syndrome, cardiovascular disease, type 2 diabetes mellitus, and poor mental health outcomes.[8], [21], [22] Prolonged sedentary behaviour contributes to insulin resistance, chronic low-grade inflammation, impaired vascular function, and increased mortality risk.[2], [5], [6] Furthermore, regular physical activity has been shown to improve cardiorespiratory fitness, body composition, psychological well-being, and cognitive performance among adolescents.[23], [24], [25]

From a midwifery perspective, promoting physical activity among adolescent girls is particularly important because lifestyle behaviours established during adolescence have long-term implications for reproductive health and future maternal outcomes. Physical inactivity and abnormal nutritional status during adolescence are associated with menstrual disorders, obesity, polycystic ovary syndrome, metabolic disturbances, and adverse pregnancy outcomes later in life.[1], [26] Therefore, preventive and promotive interventions targeting adolescents should be considered a priority within community midwifery services.

Moreover, participation in physical activity programs contributes to better self-esteem, social connectedness, emotional well-being, and leadership development

among adolescents.[23] The establishment of Youth Movement Ambassadors in this community engagement program therefore represents a promising and sustainable strategy to improve adolescents' knowledge, foster peer support, reduce sedentary behaviour, and promote healthy lifestyles within school settings. Consistent with the whole-school approach recommended by recent evidence, peer-led interventions have the potential to create supportive environments that facilitate long-term behavioral changes and contribute to better health outcomes among adolescents.[12], [15]

CONCLUSION

The findings of this community engagement program affirm that empowering adolescents through the Youth Movement Ambassador initiative is more than an educational intervention, it is the beginning of a cultural transformation toward active and healthy living. By equipping young people with knowledge, leadership, and peer-support skills, schools can cultivate a generation that not only chooses movement over inactivity but also inspires others to do the same. Every active adolescent empowered today has the potential to become a catalyst for healthier communities and a cornerstone of future public and reproductive health.

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