

HEALTH EDUCATION ON THE IMPORTANCE OF PHYSICAL ACTIVITY FOR ADOLESCENT FEMALE ISLAMIC BOARDING SCHOOL STUDENTS

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Abstract. Adolescents, including female Islamic boarding school students, are an age group that is highly vulnerable to nutritional problems, one of which is caused by low levels of physical activity. Nutritional problems can have long-term consequences if not addressed promptly, including an increased risk of various metabolic diseases later in life. Health education is therefore an important strategy to improve adolescents' knowledge regarding physical activity. This activity aimed to provide health promotion through video-based education to enhance knowledge about the importance of physical activity. The program was conducted among 30 adolescent female students in an Islamic boarding school located in Ogan Ilir Regency. The intervention consisted of a pre-test and post-test assessing knowledge of physical activity using a structured questionnaire, followed by the main activity, which was a health education session delivered through an educational video. The results showed a significant improvement in knowledge, indicated by an increase in the number of students with good knowledge from 10 students before the intervention to 26 students after the intervention. These findings demonstrate that video-based health education on the importance of physical activity is effective in improving adolescents' knowledge, particularly among female Islamic boarding school students.

Keywords: education, female Islamic boarding school students, physical activity

Abstrak. Remaja, termasuk santriwati, merupakan kelompok usia yang rentan terhadap masalah gizi, di mana salah satu faktor penyebabnya adalah rendahnya aktivitas fisik. Masalah gizi memiliki dampak jangka panjang jika tidak segera ditangani, seperti terjadinya berbagai penyakit metabolik di kemudian hari. Edukasi kesehatan menjadi strategi penting untuk meningkatkan pengetahuan remaja mengenai aktivitas fisik. Kegiatan ini bertujuan memberikan sosialisasi berupa edukasi kesehatan melalui media video dalam meningkatkan pengetahuan tentang pentingnya aktivitas fisik pada. Kegiatan ini dilakukan pada remaja putri di sebuah pesantren di Kabupaten Ogan Ilir, yaitu sebanyak 30 santriwati. Rangkaian kegiatan ini meliputi pre-test dan post-test tentang pentingnya aktivitas fisik pada remaja dengan menggunakan kuesioner dan kegiatan inti, yaitu penyuluhan melalui video edukasi. Hasil menunjukkan adanya peningkatan pengetahuan setelah kegiatan, yaitu dari 10 santriwati yang memiliki pengetahuan baik menjadi 26 santriwati yang memiliki pengetahuan baik. Sosialisasi menggunakan media video yang berisi tentang pentingnya aktivitas fisik pada remaja dapat meningkatkan pengetahuan remaja, khususnya santriwati.

Kata Kunci: aktifitas fisik, edukasi, santriwati

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INTRODUCTION

Adolescence is a critical period in the life cycle, marked by rapid physical growth, hormonal changes, and significant psychosocial development. During this phase, the need for adequate physical activity and optimal nutritional status is crucial to support bone development, muscle mass, cardiovascular function, and mental and emotional health (Bustamante-Sanchez et al., 2022). The World Health Organization (WHO, 2020) emphasizes that regular physical activity in adolescents plays a crucial role in maintaining energy balance, improving physical fitness, and preventing various non-communicable diseases later in life.

Furthermore, physical activity also contributes to improved learning concentration, sleep quality, and psychological well-being (Cheng et al., 2025).

However, global reality shows that most adolescents do not meet the recommended minimum physical activity level of at least 60 minutes of moderate to vigorous intensity physical activity per day (Aubert et al., 2022; Reilly et al., 2022). A global study by Guthold et al. (2020) reported that more than 80% of adolescents worldwide are classified as physically inactive, with a higher prevalence among girls than boys. This condition is influenced by various factors, such as increased sedentary behavior due to the use of gadgets and social media, academic demands, limited open spaces for exercise, and a lack of environmental and family support for an active lifestyle (Hanifah et al., 2023).

Lack of physical activity during adolescence has serious implications for both short-term and long-term health. Chaput et al. (2020) explain that inactivity is closely associated with an increased risk of overweight and obesity, decreased cardiorespiratory fitness, impaired lipid profiles, insulin resistance, and an increased risk of metabolic diseases in adulthood. In addition to physical impacts, low physical activity is also associated with an increased risk of mental health disorders, such as stress, anxiety, and depression (Figueira et al., 2023). Therefore, inactivity in adolescents can be viewed as an important determinant of long-term health problems. Promotive and preventive efforts through health education, strengthening school-based physical activity policies, and creating environments that support active lifestyles are crucial strategies to ensure adolescents achieve optimal health benefits (Santos et al., 2023). Integrated interventions between schools, families, and communities are expected to increase adolescent participation in physical activity, thereby supporting a better quality of life into adulthood (Li et al., 2024).

In addition to low levels of physical activity, various other factors, such as a sedentary lifestyle, increased screen time, and limited health literacy, contribute to the worsening nutritional and fitness status of adolescents (Xu et al., 2024). Sedentary patterns characterized by prolonged sitting for studying, playing games, or accessing social media contribute to low daily energy expenditure and an increased risk of energy imbalance. Poortinga (2021) emphasized that the increasingly digital modern environment encourages adolescents to spend more time in front of screens, reducing opportunities for active movement. This situation is exacerbated by adolescents' lack of understanding of the importance of physical activity and a balanced diet as part of a healthy lifestyle (Hargreaves et al., 2022).

Based on guidelines from the World Health Organization (WHO, 2020), children and adolescents aged 5–17 are recommended to engage in at least 60 minutes of moderate to vigorous-intensity physical activity daily. Furthermore, muscle and bone-strengthening activities are recommended at least three times per week to support optimal growth. These recommendations are based on scientific evidence demonstrating that regular physical activity plays a crucial role in enhancing heart and lung health, strengthening the immune system, maintaining a healthy body composition, and improving cognitive function and mental well-being (Caglar et al., 2025). Research by Mitchell and Byun (2014) also showed that physical activity is positively associated with academic performance, concentration, and emotional regulation in adolescents.

However, a global report by the World Health Organization (WHO, 2019) indicates that more than 80% of adolescents worldwide do not meet the recommended physical activity levels. This phenomenon is a serious concern because it has implications for the increasing prevalence of overweight, obesity, and risk factors for non-communicable diseases from a young age (Ragusa et al., 2026). Gender disparities are also evident, with adolescent girls tending to have lower levels of physical activity than adolescent boys (Kretschmer et al., 2023). A study by Yue Zhu and Yue Chen (2020) revealed that social and cultural barriers, as well as limited access to sports facilities, are factors influencing low physical activity participation among adolescent girls, including female students in boarding-based educational environments.

Overall, the combination of low physical activity, high sedentary behaviour, and a lack of health literacy creates a complex pattern of risks for adolescents' nutritional status and fitness. Therefore, a comprehensive approach is needed that not only encourages increased physical

activity but also builds health awareness, creates an environment that supports an active lifestyle, and reduces sedentary behaviour through school policies and community-based interventions. In this context, health education plays a key role in increasing adolescent knowledge and awareness. Video media is one educational method proven effective in increasing understanding because it presents information visually and aurally in an engaging manner. Therefore, this community service is crucial to improve the knowledge of female students through video-based physical activity education.

METHOD

This activity was carried out at one of the Islamic boarding schools in the Ogan Ilir Regency of South Sumatra. The participants of this activity were 30 female students of Madrasah Aliyah level (equivalent to high school). This community service activity was conducted on October 28, 2025, by lecturers and students from the Nursing Department of the Faculty of Medicine, Sriwijaya University, who also served as resource persons and facilitators. Before carrying out this activity, the community service team conducted a situational analysis and coordinated with the school to jointly determine the problems experienced by female students and agree on a solution, namely, health education about the importance of physical activity through video media.



Figure 1. *Coordination with the school regarding problems experienced by female students and the solutions to be implemented*

Details of the stages of implementation of community service activities are shown in the following diagram:

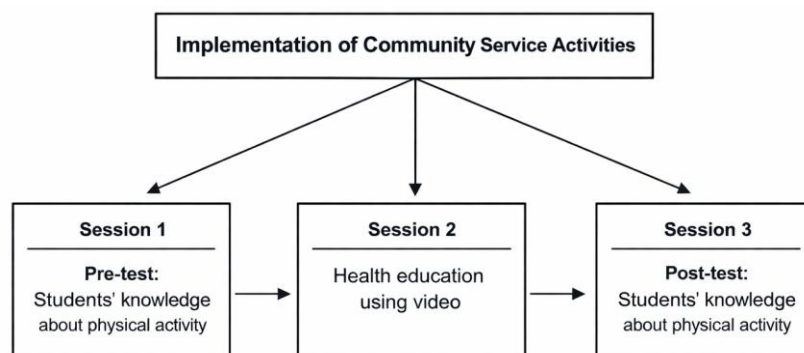


Figure 2. *Flowchart of the community service implementation*

The stages of this community service activity are: (1) Pre-test, where participants completed a questionnaire to measure their knowledge about the importance of physical activity for adolescents. (2) Health education using a 12-minute educational video on the importance of physical activity for adolescents, accompanied by a Q&A session. (3) Post-test, where participants completed a questionnaire to measure their knowledge about the importance of physical activity for adolescents. Each session was conducted once. The questionnaire to assess the students' knowledge consisted of 15 questions covering the definition, benefits, and impacts of physical inactivity, types of physical activity, and other physical activity concepts.

RESULT AND DISCUSSION

Based on the results of community service activities, it is known that there have been changes in the knowledge of female students regarding the importance of physical activity for adolescents, namely as follows:

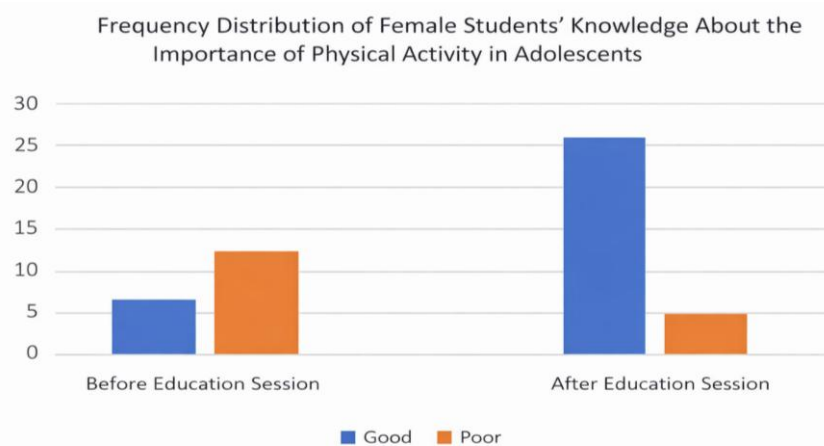


Figure 3. *Graph of students' knowledge*

The graph shows the frequency distribution of female students' knowledge about the importance of physical activity for adolescents before and after the educational session. Before the socialization, the number of female students with good knowledge was relatively small compared to those with poor knowledge. Conversely, after the health education session using video media, there was a significant increase in the number of female students with good knowledge, accompanied by a sharp decrease in the number of female students with poor knowledge (Febriana et al., 2020). These changes indicate that the educational intervention provided was effective in increasing female students' understanding of the importance of physical activity (Fairclough & Stratton, 2006; Rakhshani et al., 2021). Overall, the graph shows an improvement in knowledge levels after the implementation of the educational program.

The increased knowledge found in this activity aligns with research indicating that the majority of global adolescents are physically inactive and require ongoing education (Guthold et al., 2020). Therefore, health education interventions, such as physical activity outreach, are highly relevant for improving adolescents' understanding (Jago et al., 2023). Educational videos have proven effective as a health promotion medium for adolescents because audiovisuals facilitate information comprehension and retention (Rizki & Suryani, 2022). This supports the success of the community service activities, which demonstrated increased knowledge after the outreach.

According to the WHO, standardized physical activity provides significant benefits for adolescents' cardiovascular fitness, metabolism, and mental health (WHO, 2020). Therefore, the increased knowledge generated from this activity is expected to encourage better physical

activity practices. Changing nutritional status requires long-term interventions that include changes in eating behavior, regular physical activity, and regular health monitoring (Mitchell & Byun, 2014). The phenomenon of low physical activity among adolescent girls has been consistently demonstrated in numerous studies, including an international meta-analysis that found that girls are at significantly higher risk of developing a sedentary lifestyle (Zhu & Chen, 2020). This reinforces the importance of interventions targeting female Islamic boarding school students, such as this community service activity.



Figure 4. *Providing education with video media*

Furthermore, a sedentary lifestyle and increased use of gadgets lead to decreased physical activity time, increasing the risk of overnutrition and other health problems (Poortinga, 2021). Therefore, health education about physical activity needs to be carried out continuously. This community service program strategically combines education and nutritional status assessment, thus not only increasing knowledge but also providing an objective picture of participants' health conditions, a recommended approach in adolescent health promotion (Setiawan & Lestari, 2021). Therefore, this activity has the potential to become a model for sustainable interventions in Islamic boarding schools, incorporating routine physical activity, periodic education, and nutritional status monitoring to more effectively achieve behavioral change (Darwanto et al., 2024).



Figure 5. *Community service in the form of health education on the importance of physical activity*

Engaging visual materials and hands-on practice opportunities have been shown to increase knowledge retention and participant competency (Ward et al., 2024). This approach is relevant for implementation in Islamic boarding schools, which require easy-to-understand and efficient educational methods (Ikhwan, 2025). This community service activity successfully improved the students' knowledge and skills in physical activity and nutritional status assessment (Dureau et al., 2022). Follow-up interventions such as mentoring or integrating health materials into learning activities are highly recommended to maintain the sustainability of the benefits. Therefore, this activity has the potential to become a sustainable intervention model in Islamic boarding schools, incorporating routine physical activity, periodic education, and nutritional status monitoring to achieve more effective behavioural change (Romdloni et al., 2025).

CONCLUSION

The implementation of health education through video-based media proved to be effective in improving female students' knowledge regarding the importance of physical activity during adolescence. The observed increase in the proportion of students with good knowledge after the intervention indicates that audiovisual learning methods can successfully enhance understanding by delivering information in a clear, engaging, and easily comprehensible manner. Video media combine visual and auditory elements, which may improve attention, motivation, and information retention compared to conventional lecture-based approaches. The improvement in knowledge following the educational session highlights the importance of structured and well-designed health promotion programs in school or boarding school settings. Since adolescence is a critical developmental period characterized by rapid physical growth and behavioural formation, strengthening knowledge at this stage can serve as a foundation for establishing lifelong healthy habits. Increased awareness of the benefits of physical activity may encourage students to adopt more active lifestyles and reduce sedentary behaviours.

However, knowledge improvement alone is not sufficient to ensure sustainable behavioural change. Therefore, it is strongly recommended that similar educational programs be implemented regularly and integrated into routine school health activities. Periodic reinforcement, monitoring, and supportive environmental strategies such as providing opportunities for regular exercise are essential to translate knowledge into consistent practice. In the long term, continuous and comprehensive interventions are expected to contribute not only to increased physical activity levels but also to improvements in nutritional status, physical fitness, and overall adolescent health outcomes. Sustainable health education initiatives can play a significant role in preventing overweight, obesity, and other non-communicable disease risk factors later in life.

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REFERENCES

- Aubert, S., et al. (2022). Global matrix 4.0 physical activity report card grades for children and adolescents: results and analyses from 57 countries. *Journal of Physical Activity and Health*, 19(11), 700-728. DOI: <https://doi.org/10.1123/jpah.2022-0456>
- Bustamante-Sanchez, A., Villegas-Mora, B. E., Martínez-Guardado, I., Tornero-Aguilera, J. F., Ardigò, L. P., Nobari, H., & Clemente-Suárez, V. J. (2022). Physical activity and nutritional

- pattern related to maturation and development. *Sustainability*, 14(24), 16958. <https://doi.org/10.3390/su142416958>
- Caglar, E. F., Tutar, M., & Biyikli, T. (2025). ENHANCING BRAIN RESILIENCE: THE SYNERGISTIC ROLE OF COGNITIVE RESERVE, PHYSICAL FITNESS, AND PSYCHOLOGICAL WELL-BEING IN LIFELONG HEALTH AND LONGEVITY. *European Journal of Physical Education and Sport Science*, 12(4). <https://oapub.org/edu/index.php/ejep/article/view/5930>
- Chaput, J.-P., Willumsen, J., Bull, F., Chou, R., Ekelund, U., Firth, J., & Katzmarzyk, P. T. (2020). 2020 WHO guidelines on physical activity and sedentary behaviour for children and adolescents aged 5–17 years: Summary of the evidence. *International Journal of Behavioral Nutrition and Physical Activity*, 17(1), 141. <https://doi.org/10.1186/s12966-020-01037-z>
- Cheng, R., Yang, L., & Kang, S. J. (2025). A study on the relationship between high school students' sleep quality, physical exercise, academic stress, and subjective well-being. *BMC psychology*, 13(1), 180. <https://doi.org/10.1186/s40359-025-02497-3>
- Darwanto, A., Prahmana, R. C. I., Susanti, A., & Khalil, I. A. (2024). Transformation of boarding school management models in enhancing student accessibility and educational quality. *Jurnal Pendidikan Agama Islam*, 21(1), 145-164. <https://doi.org/10.14421/jpai.v21i1.8632>
- Durau, J., Diehl, S., & Terlutter, R. (2022). Motivate me to exercise with you: The effects of social media fitness influencers on users' intentions to engage in physical activity and the role of user gender. *Digital Health*, 8, 20552076221102769. <https://doi.org/10.1177/20552076221102769>
- Fairclough, S. J., & Stratton, G. (2006). Effects of a physical education intervention to improve student activity levels. *Physical Education and Sport Pedagogy*, 11(01), 29-44. <https://doi.org/10.1080/17408980500467613>
- Febriana, R., Artanti, G. D., & Rusilanti, R. (2020). The Effectiveness of Learning Videos for Increasing Knowledge about Women's Adolescent Nutrition and Reproductive Health. *KnE Social Sciences*, 4(14), 628-637. DOI: <https://doi.org/10.18502/kss.v4i14.7920>
- Figueira, H. A., Figueira, O. A., Figueira, A. A., Figueira, J. A., Polo-Ledesma, R. E., Lyra da Silva, C. R., & Dantas, E. H. M. (2023). Impact of physical activity on anxiety, depression, stress and quality of life of the older people in Brazil. *International Journal of Environmental Research and Public Health*, 20(2), 1127. <https://doi.org/10.3390/ijerph20021127>
- Guthold, R., Stevens, G. A., Riley, L. M., & Bull, F. C. (2020). Global trends in insufficient physical activity among adolescents: A pooled analysis of 298 population-based surveys with 1.6 million participants. *The Lancet Child & Adolescent Health*, 4(1), 23-35. [https://doi.org/10.1016/S2352-4642\(19\)30323-2](https://doi.org/10.1016/S2352-4642(19)30323-2)
- Hanifah, L., Nasrulloh, N., & Sufyan, D. L. (2023). Sedentary behavior and lack of physical activity among children in Indonesia. *Children*, 10(8), 1283. <https://doi.org/10.3390/children10081283>
- Hargreaves, D., et al. (2022). Strategies and interventions for healthy adolescent growth, nutrition, and development. *The Lancet*, 399(10320), 198-210. DOI: 10.1016/S0140-6736(21)01593-2
- Hoare, E., Stavreski, B., Jennings, G. L., & Kingwell, B. A. (2017). Exploring Motivation and Barriers to Physical Activity among Active and Inactive Australian Adults. *Sports (Basel, Switzerland)*, 5(3), 47. <https://doi.org/10.3390/sports5030047>
- Ikhwan, A. (2025). Building Innovation in Islamic Boarding School Learning through the Implementation of Educational Tools. *Journal of Islamic Education*, 10(2), 507-524. DOI: <https://doi.org/10.35723/jie.v10i2.658>
- Jago, R., Salway, R., House, D., Beets, M., Lubans, D. R., Woods, C., & de Vocht, F. (2023). Rethinking children's physical activity interventions at school: a new context-specific approach. *Frontiers in Public Health*, 11, 1149883. <https://doi.org/10.3389/fpubh.2023.1149883>

- Kretschmer, L., et al. (2023). Gender differences in the distribution of children's physical activity: evidence from nine countries. *International Journal of Behavioral Nutrition and Physical Activity*, 20(1), 103. <https://doi.org/10.1186/s12966-023-01496-0>
- Li, Z., Li, J., Kong, J., Li, Z., Wang, R., & Jiang, F. (2024). Adolescent mental health interventions: a narrative review of the positive effects of physical activity and implementation strategies. *Frontiers in psychology*, 15, 1433698. <https://doi.org/10.3389/fpsyg.2024.1433698>
- Mitchell, J. A., & Byun, W. (2014). Sedentary behavior and health outcomes in children and adolescents. *American Journal of Lifestyle Medicine*, 8(3), 173-199. <https://doi.org/10.1177/155982761349870>
- Poortinga, W. (2021). The association of sedentary behaviour with physical activity and sleep duration in adolescents: Evidence from the International Children's Accelerometry Database. *Journal of Sports Sciences*, 39(12), 1415-1423.
- Ragusa, F. S., Veronese, N., Soysal, P., & Barbagallo, M. (2026). Sedentary Behaviour and Physical Non-Communicable Disease and Risk Factors in Older Adults and Special Populations. In *Routledge Handbook of Sedentary Behaviour* (pp. 96-105). Routledge.
- Rakhshani, T., Khiyali, Z., Masrurpour, F., & Khani Jeihooni, A. (2021). Effect of educational intervention on improvement of physical activities of middle-aged women. *BMC Women's Health*, 21(1), 358. <https://doi.org/10.1186/s12905-021-01494-z>
- Reilly, J. J., Aubert, S., Brazo-Sayavera, J., Liu, Y., Cagas, J. Y., & Tremblay, M. S. (2022). Surveillance to improve physical activity of children and adolescents. *Bulletin of the World Health Organization*, 100(12), 815. <https://doi.org/10.2471/BLT.22.288569>
- Romdloni, M. A., Lukiyono, Y. T., Djazilan, M. S., & Muhaimin, M. Z. (2025). INTEGRATION OF ISLAMIC DIETARY PATTERNS AND LIFESTYLE IN CONTROLLING THE HEALTH OF STUDENTS IN MODERN ISLAMIC BOARDING SCHOOLS. *Almufida: Jurnal Ilmu-Ilmu Keislaman*, 10(2), 280-289. <https://jurnal.dharmawangsa.ac.id/index.php/almufida/article/view/8310>
- Santos, F., Sousa, H., Gouveia, E. R., Lopes, H., Peralta, M., Martins, J., ... & Marques, A. (2023). School-based family-oriented health interventions to promote physical activity in children and adolescents: a systematic review. *American Journal of Health Promotion*, 37(2), 243-262. <https://doi.org/10.1177/08901171221113836>
- Ward, L., Gordon, A., & Kirkman, A. (2024). Innovative and effective education strategies for adult learners in the perioperative setting. *AORN journal*, 119(2), 120-133. <https://doi.org/10.1002/aorn.14079>
- World Health Organization. (2020). WHO guidelines on physical activity and sedentary behaviour. World Health Organization. <https://www.who.int/publications/i/item/9789240015128>
- World Health Organization. (2019). New WHO-led study says majority of adolescents worldwide are not sufficiently physically active. WHO Global Report. <https://www.who.int/news/item/22-11-2019-new-who-led-study>
- Xu, Q., Hu, Z., Zeng, M., Su, Y., Jiang, K., Li, S., ... & Zhao, Y. (2024). Relationships among sleep time, physical activity time, screen time, and nutrition literacy of adolescents: A cross-sectional study in Chongqing, China. *Nutrients*, 16(9), 1314. <https://doi.org/10.3390/nu16091314>
- Zhu, X., & Chen, S. (2020). Gender differences in adolescent physical activity and sedentary behaviour: A systematic review and meta-analysis. *International Journal of Environmental Research and Public Health*, 17(21), 8139. <https://doi.org/10.3390/ijerph17218139>