

# Commentary for Addressing the Multiple Behavioural Risk Factors: A Call for Integrated Adolescent Health Interventions

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## COMMENTARY

Adolescents worldwide are facing an alarming convergence of four lifestyle-related behavioural risks – physical inactivity, sedentary behaviour, poor sleep, and unhealthy diet – that threaten their current and future wellbeing. These behaviours frequently co-occur and are strongly associated with a range of adverse outcomes, including physical and mental health issues and compromised academic performance. Emerging evidence suggests these risks are particularly concerning in Southeast Asia, particularly Indonesia.

In Indonesia, home to over 46 million adolescents (United Nations Population Fund [UNPF], 2024), national surveys highlight the rising prevalence trend. A significant proportion of adolescents do not meet recommended physical activity levels, nearly half engage in prolonged sedentary behaviour, many report sleep difficulties, and dietary quality remains poor (Global School-based Health Survey [GSHS], 2023; Kementerian Kesehatan Republik Indonesia [Kemenkes], 2018). These risks may be further compounded by systemic gaps in health promotion infrastructure and unequal access to services, which are frequently observed in low-resource settings across developing countries (Feigin et al., 2024).

Despite the interconnected nature of these behaviours, most health interventions remain siloed, targeting single behaviours in isolation (Ahmed et al., 2021; Pushpa et al., 2024; Rizal et al., 2019). This fragmented approach may overlook the synergistic consequence of behavioural risks and misses critical opportunities for more holistic and efficient solutions. There is an urgent need for integrated interventions – characterised by addressing multiple behavioural risk factors simultaneously or sequentially – that are grounded in adolescents' lived experiences and tailored to the constraints of resource-limited environments.

Considering this potential, it is encouraged to shift from isolated action to unified strategies, multi behaviour interventions. A focus on the big four behavioural risk factors is not only timely – it is essential to safeguard the health, development, and future potential of Indonesia's young people and beyond.

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## REFERENCES

- Ahmed, K. R., Uddin, R., Kolbe-Alexander, T. L., & Khan, A. (2021). The effectiveness of physical activity interventions in Asian children and adolescents: A systematic review. *Public Health*, 194, 48–59. <https://doi.org/10.1016/j.puhe.2021.02.011>
- Feigin, V. L., Abate, M. D., Abate, Y. H., ElHafeez, S. A., Abd-Allah, F., Abdelalim, A., Abdelkader, A., Abdelmasseh, M., Abd-Elsalam, S., Abdi, P., Abdollahi, A., Abdoun, M., Abd-Rabu, R., Abdulah, D. M., Abdullahi, A., Abebe, M., Zuñiga, R. A. A., Abhilash, E. S., Abiodun, O. O., ... Murray, C. J. L. (2024). Global, regional, and national burden of stroke and its risk factors,

- 1990–2021: A systematic analysis for the Global Burden of Disease Study 2021. *The Lancet Neurology*, 23(10), 973–1003. [https://doi.org/10.1016/S1474-4422\(24\)00369-7](https://doi.org/10.1016/S1474-4422(24)00369-7)
- Global School-based Health Survey (GSHS). (2023). *2023 GSHS Fact Sheet Indonesia*. <https://www.who.int/publications/m/item/2023-gshs-fact-sheet-indonesia>
- Kementerian Kesehatan Republik Indonesia (Kemenkes). (2018). *Laporan Nasional Riskesdas 2018* [National Report]. Kementerian Kesehatan Republik Indonesia. <https://repository.badankebijakan.kemkes.go.id/id/eprint/3514/1/Laporan%20Riskesdas%202018%20Nasional.pdf>
- Pushpa, B. S., Abdul Latif, S. N., Sharbini, S., Murang, Z. R., & Ahmad, S. R. (2024). Nutrition education and its relationship to body image and food intake in Asian young and adolescents: A systematic review. *Frontiers in Nutrition*, 11. <https://doi.org/10.3389/fnut.2024.1287237>
- Rizal, H., Hajar, M. S., & Kuan, G. (2019). School-based physical activity interventions in Southeast Asia: A systematic review. *International Journal of Public Health and Clinical Sciences*, 6(3), 32–52. <https://publichealthmy.org/ejournal/ojs2/index.php/ijphcs/article/view/970>
- United Nations Population Fund. (2024). *World Population Dashboard -Indonesia*. <https://www.unfpa.org/ms/data/world-population/ID>