

# Impact of a comprehensive multi-component health literacy module on dietary and physical activity patterns of adolescents studying in schools of Delhi, India

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# VALORIZATION

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## Valorization

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In this thesis, we aimed to provide insight into the impact of comprehensive intervention on the dietary practices and physical activity-related knowledge and behavior of school-going adolescents. Below is the summary of the scientific and social impact of this thesis.

**Scientific Impact:** The scientific impact of this thesis lies mainly in the development and assessing the effectiveness of a comprehensive intervention to improve the dietary practices and physical activity-related knowledge and behavior of school-going adolescents. The intervention development was guided by the principles of the Health Belief Model. The findings suggest that the intervention including audio-visual modules for students and teachers and follow-up interactive activities can be effective in promoting a healthy lifestyle among children and adolescents in schools. This study emphasized that prevention-oriented interventions and strategies that are based on behavioural theory can be used to promote preventive messages. There are very few studies that assessed the impact of the intervention on dietary practices and physical activity-related behaviour during the COVID-19 pandemic. The major challenge that schools faced was increased screen time for students during the COVID-19 Pandemic. Considering the impact of COVID-19, future studies may assess the effect of such interventions on school achievement or cognitive skills of school-going children and adolescents.

**Social impact:** The research findings described in this thesis are important for different stakeholders to foster a healthy environment in the school setting. . The participation of teachers, school authorities, and family members played an important role in providing a supportive environment for fostering positive behaviours. However, curriculum-based health education regarding the prevention aspects and motivation of the children needs to incorporate sustaining healthy lifestyle practices into their daily lives.

### Implementation of results

Children and adolescents should be the primary target groups of health promotion interventions, as they are at an impressionable age and can be motivated to make appropriate adjustment to their behaviour. This is primarily attributed to personal choices, environmental influences, and lifestyle changes. Our intervention was

developed following the guiding principles of the Health Belief Model (HBM), as the intervention was focused on the prevention of risk factors (unhealthy diet and physical inactivity) by taking into account both individual perceptions, and external cues to action, and individual self-efficacy (Chapter 2). The results of pre-testing the intervention highlighted that it was likely to be effective in conveying the importance of healthy lifestyles. The findings indicate that the methodology of the study was useful in obtaining input from students and teachers and gauging their perceptions to guide the development of resources/tools. The intervention included a short animation film for students. It focused on reinforcing healthy lifestyle practices through a character named Super Kid Aryan (<https://youtu.be/k3qaucZFHYQ>). An informative short film ([https://youtu.be/kA\\_TLTYQ\\_wc](https://youtu.be/kA_TLTYQ_wc)) was developed for teachers on NCDs including diabetes, its prevention, and management. A renowned endocrinologist was used as a resource. A teacher's manual was developed including interactive theme-based activities, comic strips, information on the type, risk factors, consequences, management and prevention of diabetes, region-specific food preparation options to promote healthy eating, and guidelines for schools to promote regular physical activity/exercise and healthy eating. The developed videos contain sections on debunking diabetes myths. (chapter 2). Such educational resources which were co-created in consultation with different stakeholders to advance health literacy in school-going students can encourage healthy eating and have long-term implications later in adulthood. The findings of this study provide valuable insights i.e. prevention-oriented interventions and strategies that are based on behavioural theory can be used to promote preventive messages (Chapter 5) even in public health emergencies like the COVID-19 pandemic. Nonetheless, despite evidence of some positive results of this intervention, efforts are needed to motivate and reinforce healthy lifestyle practices and to foster a healthy environment in daily life.

The result of this thesis will be shared with others in several ways. Three chapters of this thesis have already been published in peer-reviewed journals which are openly accessible online. This thesis will be published online, to make it readable for everyone interested. We will present the results of this thesis at scientific meetings, congress, or webinars.