

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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SUMMARY

Summary

Obesity has been linked to various NCDs such as type 2 diabetes mellitus, and coronary heart disease in previously conducted studies. There is evidence that health-related behaviours adopted at a young age carries over into adulthood and even to subsequent generations. Overweight and obese children and adolescents are more likely to grow up into obese adults, who in turn are at higher risk of developing chronic diseases. Environmental factors including urbanization and lifestyle choices play major roles and are largely a result of practices adopted during early ages. Comprehensive adolescent health promotion measures are crucial for promoting healthy lifestyles and creating an enabling environment for sustainable behavioural change. Such interventions should be evidence-based and tailored to the needs of the community. Over the years, health promotion interventions have evolved due to technological advancements that have integrated new media with traditional communication channels.

We believe that there is a need to develop a comprehensive school-based intervention to foster healthy eating practices and emphasize the importance of being physically active. The same has been emphasised in earlier studies (45, 48). The development of the intervention started with focus-group discussions with students and in-depth interviews with teachers to understand the needs of the school-age youth. Our research question was to assess the effectiveness of the comprehensive school-based intervention on diet and physical activity-related behaviour of school-going adolescents during the COVID-19 pandemic. We hypothesized that the intervention would lead to a significant increase in the dietary and physical activity-related behaviours of the students in the intervention group after two years, compared to the control group. Chapter 2 describes the process of developing the comprehensive intervention based on the Health Belief Model (HBM), which has been well documented as an appropriate model for intervention development. The intervention development was guided by an expert group comprising a public health practitioner, a nutritionist, and communication professional. The intervention was pre-tested with the target audience (school-going students and teachers) to understand the acceptability of the intervention. Quantitative data at the baseline confirmed the need to implement the intervention to improve the knowledge and behaviour of school-going adolescents,

especially in urban settings. Chapter 3 assesses the prevalence of excessive weight and underweight and its associated dietary and physical activity-related knowledge and behaviours among the urban private school-going adolescents (aged 11–12 years) in Delhi. The secondary objective was to study the correlates of BMI status – underweight, normal, excessive weight – with dietary and physical activity knowledge and behaviours among these participants. These outcomes were important for understanding whether the planned cluster RCT was justified. The planned trial was the iPROMISE Plus, performed over two years (2019–2021). In 2020, the outbreak of COVID-19 brought the whole world to a standstill. Considering the measures to contain the spread of COVID-19 infection and mitigate the pandemic risks, educational institutions were closed and school-age children were confined to their homes, posing an unprecedented challenge to their education and natural growth. It has greatly affected the lives of adolescents through restrictions such as less playtime, more screen time, and limited interaction with peers. Chapter 4 evaluates the impact of the COVID-19 pandemic on the dietary and physical activity-related behaviour of school students. The secondary objective was to determine the factors that influenced physical activity and diet-related behaviour among adolescents during the COVID-19 pandemic. Chapter 5 describes the effects of the iPROMISE Plus intervention. The findings indicated that the intervention resulted in changes in the expected direction, but no significant effects were observed in the intention-to-treat analysis, probably due to reduced follow-up among schoolchildren due to COVID-19 measures, including the closure of educational institutions. Results showed that the intake of vegetables (once a day) in the per-protocol analysis has significantly increased among adolescents in the intervention group compared to the control group. This result highlighted that the comprehensive iPROMISE Plus intervention including the involvement of school staff and parents might be effective in improving diet-related behaviour. Along with such interventions, policies should be strengthened to create a stimulating environment in and around the school such that students of this age group are enticed to be more physically active and aware of healthy eating.