Healthy Schools: Education Intervention Program to Prevent Diabetes in Indian School Students

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Learning Objectives
1) To understand the impact of a health education program on prevention of NCDs among Indian school students
2) To understand what types of health education activities can improve student knowledge and healthy lifestyle practices related to NCDs and their prevention
3) To learn examples of health education practices that can be replicated in schools globally

Abstract

Background: Non-communicable diseases (NCDs) are among the leading causes of morbidity and mortality, with disproportionately higher rates in developing countries. Arogya World Healthy Schools Program conducts a two-year health education program focused on primary prevention of NCDs in Indian schools to understand if such a program has an immediate effect on students' knowledge, attitudes, and practices related to diabetes prevention, and whether any positive lifestyle changes are maintained in the long term.

Methods: Instructors and student peer leaders facilitated five NCD prevention classroom activities with 1,502 sixth- and seventh-grade students from ten New Delhi schools, over one year. A questionnaire assessed knowledge, attitudes, and practices related to healthy lifestyle habits pre- and post-intervention. Data was analyzed using Microsoft Excel and R. McNemar tests, chi-square tests, and t-tests were performed using Bonferroni adjustment for multiple testing (alpha≤0.001). Only students with complete responses were included in the analysis for each question.

Results: 983 students (65.4%) were male and 519 (34.6%) were female ranging from 9-14 years at baseline. Improvement (i.e., students incorrect pre- but correct post-intervention) was observed across all nine questions assessing knowledge of disease and prevention. Knowledge that a balanced diet is essential and recognition of various forms of physical activity (e.g., household chores) also improved (p<0.001). More females than males improved in knowledge that exercise is not solely for overweight people (p<0.001). Weekly dancing activity and monthly fruit and vegetable consumption increased (p<0.001). Females increased their dance frequency more than males (p<0.001).

Conclusions: Implementing a low-cost, scalable health education program utilizing peer-led group discussions and hands-on games to engage students on nutrition, physical activity, and disease prevention improved student knowledge and self-reported healthy lifestyle practices. Implementing similar school-based programs globally may potentially shift lifestyle habits to prevent NCDs around the world in the years to come.

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