Impact report of Health education in Government Schools
Tarang Health Alliance (2024-25)

Introduction:

India has the highest disease burden in the world. To improve the health of the population, we believe that health education should be taught in schools as a separate subject. Tarang Health Alliance has been conducting health education in schools of north India. In March 2025, we signed an MOU with the Government of Haryana to conduct health education for Class VI and VII students in twelve government schools. The goal of this project was to evaluate the impact of educational intervention on health knowledge and health behavior of the students.

Methods:

The twelve schools in which our health education curriculum was implemented were distributed across Faridabad, Gurugram and Panchkula. There were two schools in Faridabad, three in Gurugram and the remaining seven in Panchkula. The name, location, number of students being taught health in each school ,are listed in Table 1.

	School	Location	Language	# Class VI students	# Class VII students
1	GGSSS NIT-5	Faridabad	Hindi	80	90
2	GGSSS Ajronda	Faridabad	Hindi	93	96
3	GSSS Gadauli	Gurugram	Hindi	85	78
4	GSSS Kadarpur	Gurugram	Hindi	30	44
5	GSSS Sarhaul	Gurugram	Hindi	112	152
6	GHS S-17	Panchkula	Hindi	80	67
7	G Model S-20	Panchkula	English	217	206
8	GSSS S-6	Panchkula	Hindi	80	74
9	Sanskriti S-26	Panchkula	English	144	144
10	G Middle S-4	Panchkula	Hindi	101	79
11	PM Shri S-15	Panchkula	Hindi	87	65

12	GSSS Suketri	Panchkula	Hindi	86	-
	Total			1195	1095

The salaried teachers of Tarang Health Alliance in Delhi NCR and Panchkula taught the health subject to Class VI & VII students using our health curriculum. The curriculum is included in our workbook titled " On the way to being healthy". The curriculum covers topics on physical, mental and social health. Each student was given a free copy of the workbook in Hindi or English, depending upon the medium of instruction in their school. All teachers were given 8 hours of training by Dr. Rahul Mehra prior to teaching. Each trained teacher was provided with the workbook and teacher's manual at no extra cost to them. There was a total of seven teachers who taught in the twelve schools. The timetable of each teacher was set in a manner that they taught two periods of health education every week to every student in each school. No teacher taught at more than two schools.

To evaluate the impact of the curriculum, all Class VI & VII students were asked to fill out the answers to two questionnaires before the first health class (Pre) in and after the last health class (Post) at the end of the academic year. The first questionnaire was on "Health Knowledge" and the second on "Health Behavior". The Health Knowledge questionnaire had 38 questions and Health Behavior questionnaire had 44 questions. The questions in the knowledge & behavior questionnaires included questions on nutrition, hygiene, physical activity, diseases, personal health etc. Each questionnaire took one period to complete. These questionnaires are in Appendix A. Paired data was collected from 1192 Class VI students and 1092 Class VII students . This is less than the total number of students because several students were not present for both the Pre and Post Questionnaires.

Knowledge:

The knowledge questionnaire consisted of 38 questions among 10 topics: nutrition (10), hygiene/sanitation (5), types of disease (1), air pollution (3), Tobacco & alcohol (5), physical activity (2), injuries (1), mental & social health (4), General health (5), Goal setting and decision making (2). Each topic had several questions that added up to the total score of that topic. A score of 1 per question indicated a correct answer, while a score of 0 indicated a wrong answer. The topic scores were then scaled by summing the question responses and then dividing by the number of questions in the topic. If a student did not answer a question, it was assumed to be incorrect.

Pre and post scores were calculated based on the sum of correct answers after scaling per topic. A total score was calculated as the sum of the correct responses divided by the

total number of questions . A change in topic score was calculated based on the post-score minus the pre-score.

Behavior:

The Behavior Questionnaire consisted of 44 questions. It had questions related to Nutrition (11), Personal Health (2), Hygiene /Sanitation (4), Pollution (3), Tobacco, Alcohol, Drugs (5), Physical Activity (1), Injuries (3), Meditation & Yoga (2), Mental Health (2), Social Health (1), Personal Safety/Reproductive Health (1), Personal Health (9).

For the behavior questionnaire, instead of correct and incorrect answers, the answer choices were scaled with the highest score indicating desirable behavior and a low score indicating non-desirable behavior. Values were then normalized to a 0-1 scale, where 1 shows more desired behaviors and 0 less desire behaviors. Topic scores were calculated as the mean response of the questions in each topic.

The total score was calculated as the mean of all responses in the questionnaire, besides question 16.. This was done to compare the total score in behavior to the total score of knowledge, which did not include a section for personal safety that only question 16 in the behavior questionnaire represented. The pre and post scores were calculated based on the sum of the recoded/scaled answers from each topic and the change in score was based in post-score minus pre-score.

If student left a topic-specific question blank in a topic, the question was left out of calculating the student's score for that topic as it was assumed data were missing at random. For example, if a student had 3 of 4 questions in a topic answered, then the topic score would have been the average of the three filled responses. Topic scores were calculated as the average of the recoded responses corresponding to each topic. For example, the score for nutrition was the average of the filled-in responses, so missing responses did not affect the score.

If a student left a whole topic question blank, the whole topic was left out of calculating the student's total score. Questions that were not part of a school's taught sections were not included in the respective student's total score. In the government schools, data till chapter 10 was analyzed as they all completed till that chapter. That includes personal health, nutrition, hygiene, physical activity and tobacco.

Results:

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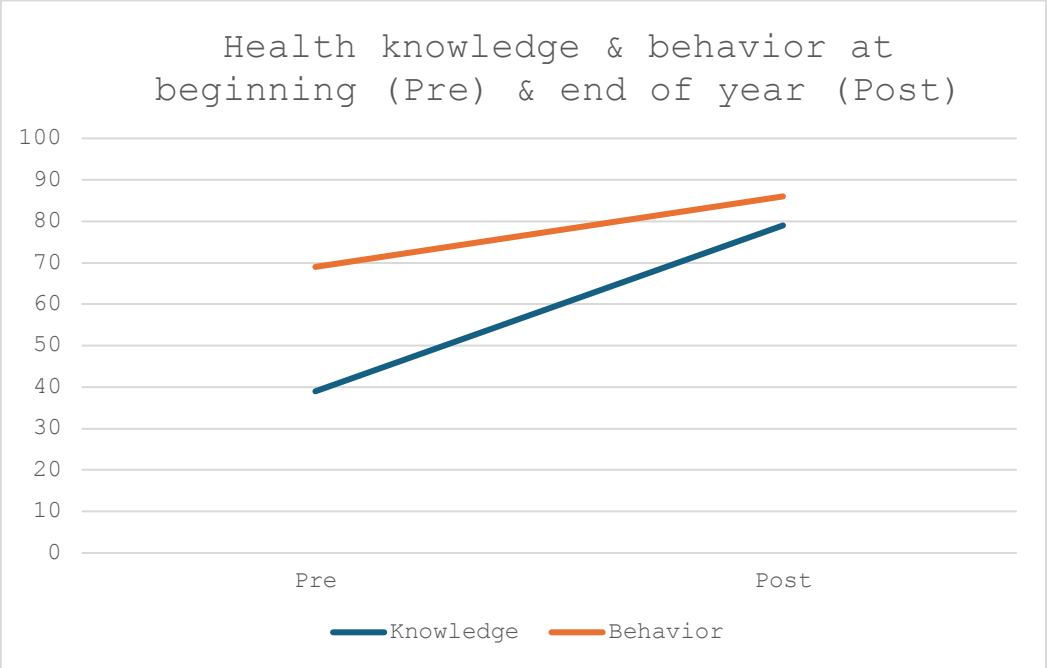
Grade 6:

	N	Pre (Mean)	Pre (Std Dev)	Post (Mean)	Post (Std Dev)	% Change	P value
Knowledge	1193	38.7%	16.6%	78.8%	18.5%	104%	<0.001
Behavior	1192	69	11	86	9	25%	<0.001

In the Knowledge Questionnaire, the percent correct answers among all students improved from 38.7% to 78.8%. The Behavior Questionnaire was on a scale of 0 to 100, with 100 being best possible health behavior. Their self-reported health behavior improved from 69 to 86. Both the improvements in Health Knowledge and Behavior were statistically significant.



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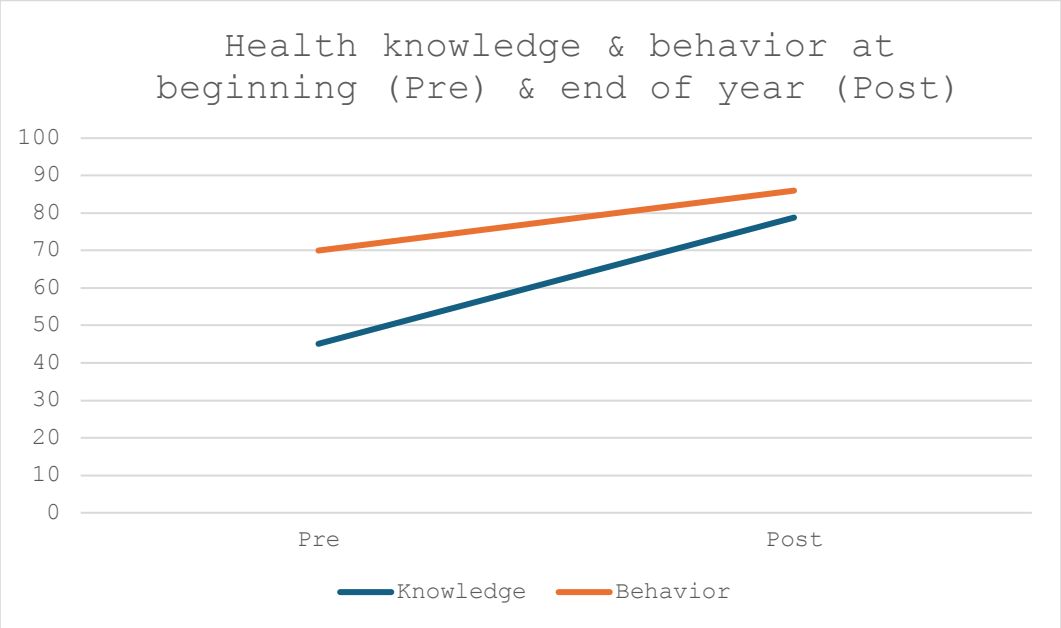
Grade 7:

	N	Pre (Mean)	Pre (Std Dev)	Post (Mean)	Post (Std Dev)	% Change	P value
Knowledge	1092	45.1%	17.0%	78.8%	16.9%	75%	<0.001
Behavior	1095	70	9	86	9	23%	<0.001



Then we compared the response of Grade 6 and 7 students. Grade VI students had started with slightly lower knowledge and behavior scores at baseline but at the end of the curriculum, reached the same score as grade 7 students. The overall statistical improvement in knowledge and behavior was much greater in Class VI students than in Class VII ($p<.001$). That indicates that as children grow, their knowledge & behavior improves slightly. Health education accelerates the process. This may also argue in favor of starting health education at lower Grade levels.

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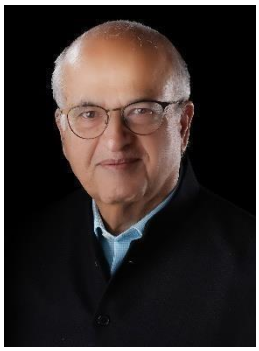

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