

EVALUATION OF AN INNOVATIVE SCHOOL EYE HEALTH EDUCATIONAL MODE

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ABSTRACT

An innovative mode of using school children as health educators for transmitting messages on eye health care in the school environment was evaluated. Fifty children were evaluated at baseline and immediately after the educational session. A significant change in cognitive aspects of eye care was demonstrated ($p < 0.001$). Knowledge on vitamin A related aspects and childhood ocular trauma improved substantially compared to all other aspects of eye care.

Keywords: Health education, Vitamin A, Trachoma, Ocular injuries.

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Nearly two billion children in the world are school aged of whom less than 50% are actually enrolled in schools(1). School health education and primary health care are both supplementary and complimentary to each other. In fact it has rightly been said that "Health Education for All" should be prior to "Health for All", because Health Education helps people to help themselves to Health(2). Surveys among school children have demonstrated that they are curious about diseases which affect them, their peers and their family members(3).

Most school health educational programmes have depended on either outsiders or the school teachers sensitizing their wards. Children enjoy assuming a teacher's role and their peers are also more fascinated by such students. The present study was thus undertaken as a pilot venture to ascertain whether school children could be effectively utilized as health educators in their regular environment.

Material and Methods

The present pilot venture was undertaken at a middle school in Faridabad town of Haryana. In September 1992, a team from our Centre, liased with a private school catering to middle class strata children in Faridabad.

After obtaining concurrence of the school management and teachers, a three phased programme was undertaken. In the first phase, 8 students who consistently performed well in the school were identified. They were given intensive eye health education by the team from our centre. The ocular problems focused were those relevant to school and preschool periods. Thus vitamin 'A' deficiency, trachoma, ocular injuries and refractive errors were included in the programme. The teachers were also

sensitized and literature was also distributed. Each of the students were given a specific topic on which to talk to the rest of the school children. These 8 students were given one week's time to prepare their material. At the end of the week, the 8 'Child health educators' spoke to the rest of their school mates for 3 minutes each. The audience were encouraged to ask questions from the presenters. Prizes were awarded depending on how well these young health educators answered the questions. At the end of the session, the doctors team summed up on all aspects. The students prepared a 'Qawali' on eye health problems and preventive strategies and presented the same.

To evaluate the effectiveness of this innovative method, 50 randomly selected children from Classes V to VI were administered a pre and post educational session questionnaire. The same questionnaire was used on both occasions. The study presents the results of this evaluation.

Results

Fifty students from Classes V to VI were included to evaluate the effectiveness of the innovative health educational mode. The mean age of the children was 10.7 years (Range 9-13 years). Seventy per cent (n=35) were boys and 30% (n=15) were girls. Due to the small number of study subjects and since there were no significant differences in the responses of the 2 sexes, analysis is presented for the entire group without any stratification.

The proportion of students aware of the different vitamins, the vitamin required for eyes and the different sources of vitamin A increased substantially after the innovative educational session (*Table I*). The knowledge of the students increased on all aspects of vitamin A.

Regarding knowledge of trachoma, 84% children before the session contrasted to 70% after the session did not know any symptoms of trachoma. The commonest symptom known was redness of the eyes to 6 children at baseline and to 11 subjects after the session. More than one correct symptom were identified by 3 children at baseline and 9 at follow up. Only 2 at baseline and 9 at follow up could identify the correct mode of transmission of trachoma.

The third aspect related to ocular trauma. Ocular injuries are commoner during Holi and Diwali and by indulgence in dangerous games like 'Guli-danda', 'Bows and arrows' and 'GuleP, etc. Smearing of gular on the eyes during holi can be dangerous as it contains powdered silica. Similarly, inadequate care on Diwali can lead to eye injuries. The conical anars are a major hazard during diwali. The knowledge of the students on these aspects was elicited (*Table II*).

Very few students both at the initial evaluation and the post session evaluation appreciated Holi hazards. Water balloons were not named at all.

An increase of 34% was seen with regard to knowledge of conical anars as a potential hazard. Rockets and bombs were also identified as potential hazards by almost 50% of the children. In relation to Diwali, the most common safety measure stated was lighting of fireworks from a distance.

In addition to 'Guli-danda' and 'Bows and arrows' many students also regarded ball games as hazardous (21 at pre and 17 at post evaluation).

Knowledge of the minimum reading distance and the dangers of violating this

TABLE I—Knowledge of Respondents Regarding Vitamin A

Knowledge of	Pre-evaluation			Post-evaluation		
	N	n	%	N	n	%
1 Atleast 1 vitamin	50	34	68.0	50	47	94.0
2 Vitamin A	50	11	22.0	50	32	64.0
3 >=1 vitamin A sources	11	8	72.7	32	30	93.8
4 GLV* as source	11	6	54.4	32	27	84.4
5 Yellow fruits as source	11	8	72.7	32	30	93.8

* Green leafy vegetables.

TABLE II—Knowledge of Childhood Ocular Hazards

Knowledge of hazards	Pre-evaluation (n = 50)		Post-evaluation (n = 50)	
	n	%	n	%
1 Gulal	2	4	5	10
2 Conical anar	20	40	37	74
3 Guli-danda	21	42	32	64
4 Bows and arrows	15	30	20	40
5 Gulel (sling-shot)	2	4	4	8
6 Knew correct precaution for crackers	23	46	33	66

practice were also elicited. However, the educational session did not significantly alter knowledge on this aspect. Forty eight per cent (n=24) at the baseline and 42% (n = 21) at the post session evaluation could not identify any problems related to this practice. Diminished vision followed by eye pain, eye strain and watering of eyes were the commonly cited problems among those who were aware at both evaluations.

A comprehensive scoring system based on 10 aspects was developed and all child-

ren were scored at baseline and at the post session evaluation. The salient inferences of the scoring system are depicted in *Table III*. The mean scores increased by 1.8 times and an overwhelming majority (37-74%) had a better score on post evaluation. Only 1 respondent bagged 'zero' in the post evaluation and this student bagged a 'pair'.

On Wilcoxon rank test, it was observed that the eye health educational session significantly ($p < 0.001$) increased the awareness of the students.

TABLE III—*Comparison of Scores at Pre and Post Evaluation*

1	Mean scores attained:	
	Pre-evaluation	2.32
	Post-evaluation	4.20
	(Maximum possible score = 10)	
2	No. showing increased scores	37
3	No. scoring same	11
4	No. showing decreased scores	2
5	No. scoring '0' (Pre-evaluation)	6
6	No. scoring '0' (Post-evaluation)	1

Discussion

In its broadest interpretation, school health education can be defined as all those experiences of school children which influence beliefs, attitudes and behavior with respect to health. School children are an important manpower resource for participation in community health activities. They effectively reach their peers, parents and community members. Children in their formative years are quick to grasp instructions, are capable of imitation and absorb a great deal from what is happening around them.

Many innovations have been tried to impart school health education. Most have stressed on cognitive functions rather than on psychomotor skills. Cognitive appreciation is a first step in bringing about a change in behavior and beliefs. Most efforts have been directed towards personal hygiene and environmental sanitation. Eye care has generally been a neglected component of such programmes. This was the precise reason that prompted the present study. It was also felt that demonstration of an innovative mode concentrating on one component activity could act as a pilot for more intensive efforts of a similar nature in other areas of health.

The child to child approach has successfully used children as change agents in the community and family settings(4,5). These young educators can be equally effective in the school environment also. If child health monitors can be made to participate in demonstration projects in every school, they could efficiently get the message across to the others.

The present study clearly demonstrates the potential of using school children as health educators. There was a significant difference in cognitive aspects of eye health even by a single educational session conducted primarily by the students. Some aspects were better imbibed than others. This could point to the fact that too much should not be crammed into a single session. Repeated sessions concentrating on one aspect at a time may be more conducive. At the same time rapid programmes with a potential to cover a large number of students in a short time are needed. Thus, an effective compromise needs to be worked out. A prerequisite to effective implementation is a high degree of motivation and commitment on the part of the planners ' and the teachers.

If school health education not only in eye care but also in other aspects of health is to be effective, innovative approaches have to be considered. Such innovative changes cannot wait. The potential of children has to be harnessed in the present day itself. As the poet and Noble laureate Gabriela Mistral said, "Children cannot wait; Many things can wait but they cannot. To them we cannot say tomorrow—Their name is TODAY(1)".

REFERENCES

1. Yarham C. Health education for the school aged child. Hygie 1987, 6: 3-4.
2. Somprayoon S. School health education

- and primary health care development in Thailand. *In*: Proceedings of First South East Asia Regional Conference on Education for Better Health of Mother and Child in Primary Health Care, 1986, Madras, pp 457-461.
3. Ahmed M. An activist approach. *Education for Health* 1985, 2: 15-18.
 4. Webb JKG. From child to child. *Education for Health* 1985, 2: 5-8.
 5. Ling JCS. The strategic significance of helping a billion children learn about health. *Hygie* 1987, 6: 23-25.
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