



Awareness Levels of School Teachers Regarding Healthy Vision And Eye Screening In Dist Gautam Budh Nagar, U.P.

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ABSTRACT

Background: School teachers in government schools are contributing in eye screening of students through school health services. The private schools also need to contribute more in these services by raising the knowledge regarding vision, healthy practices for healthy eyes and vision as well as screening of the eyes for refractive errors. The study aims to find the knowledge levels of private school teachers regarding healthy vision practices and eye screening, train the teachers in eye screening and assess the level of improvement in their knowledge after the training.

Methods: 14 schools in the field practice areas of the department of Community Medicine were enrolled for the study. Two teachers from each school were randomly selected for training and assessment. Pre and post assessments were made on the teachers during the training workshop. The data thus collected was analysed using SPSS 20.

Results: None of the schools had implemented the School Health Program. Knowledge among teachers was found to be poor in many aspects of eye and vision health which showed a remarkable improvement after the training (P values ranging from .003-.02).

Conclusion: Private school teachers should be trained for eye screening and utilized for early identification of uncorrected refractive errors in children.

Keywords- school teachers, school health program, screening, refractive errors, knowledge

INTRODUCTION

Children below 15 years of age is a large proportion of population (28.6%)¹ and contribute a major chunk in the overall health status of the population of an area. The health problems common in these children are- communicable diseases like URI, vector borne diseases, nutritional deficiency diseases, refractive errors as well as injuries. School health is an important component of NRHM and has been successfully functioning in states like Tamil Nadu, Kerala, Gujarat, and West Bengal. It involves many domains like- provision of health services, capacity building, monitoring and evaluation and mid-day meal.² The purpose of the school health program is to empower the children to take care of their health by means of enhanced knowledge regarding

healthy practices, food and nutrition and an improved access to teachers and health workers for discussing issues related to adolescent health.³ 6-7% of children aged 10-14 years have problems with their eye sight which affects their learning at school. Under the School Health Program, children are being screened by trained teachers who identify the students having low vision.⁴ Various studies in India have proved that trained teachers can screen for refractive errors in school children effectively, reducing the burden on Ophthalmologists.^{5,6}

Visual impairment is defined as uncorrected visual acuity of less than 6/12 in the better eye.⁷ Elimination of avoidable blindness and visual impairment due to uncorrected refractive errors is a major goal of Vision 2020- the Right to Sight.⁸ Globally, 12.8

million children aged 5-15 years are visually impaired due to refractive errors and 5 population based surveys on refractive errors in children globally, find the cause to be myopia in >90% of children.^{9,10} In India, 1/5th of total blindness is due to uncorrected refractive errors.⁹

Refractive errors are very common in today's children due to changes in our social set up as well as increased use of audio visual aids for education as well as entertainment. Over the years, use of electronic instruments like mobile phones, ipads, computers, smart phones and smart TV have revolutionized the world and has provided the much-needed impetus for rapid communication as well as progress of an individual and thereby, a nation. But it has also brought with it the problems of impaired vision due to excessive and improper usage. The impact of uncorrected refractive errors is manifold and may include educational loss in affected population with loss of employment and economic opportunities in future.⁷

Therefore, it is our responsibility as community health experts to make the people aware of healthy vision practices in this 'smart' age. The first step in this direction is to assess the basic knowledge of the teachers in various schools and improve their knowledge so that they can further disseminate the same to their pupils.

The study was conducted to assess baseline knowledge of school teachers regarding healthy practices for a healthy vision; to organize a health awareness session on healthy vision practices for the school teachers; and to assess the improvement in their knowledge after the awareness session.

METHODOLOGY

The study was conducted in January 2017 on school teachers of private primary and secondary

schools present in the field practice areas of the health centers of Department of Community Medicine, SMS&R, Sharda University, Greater Noida. Nineteen private schools were present in the rural and urban field practice areas. Consent for participation in the study was given by concerned authority in fourteen schools. All the teachers in each school were enlisted and two teachers from each school were randomly selected for the study. A workshop was arranged for these teachers to teach them how they can screen students for refractive errors in collaboration with Department of Community Ophthalmology, Dr RP Center, AIIMS, Delhi.

The questionnaire prepared assessed the knowledge of these teachers on healthy vision practices, services provided under school health program for vision screening, and the signs and symptoms of visual impairment. A pre-workshop assessment was done, followed by training and awareness session and then a post workshop assessment was done. The data was entered in Microsoft excel and analyzed using SPSS 20. Incompletely filled questionnaires were discarded and responses were finally recorded from 25 teachers.

RESULTS

A total of 25 study subjects recorded their responses in the present study. Table 1 shows the responses of the school teachers with respect to vision screening. Most of the teachers gave incorrect response for different aspects of screening. The knowledge of teachers regarding vision screening was specifically deficient for age of screening and the distance between the observer and the student (96% and 84% respectively gave incorrect responses) Table 1.

Table 1: Knowledge of teachers regarding vision screening (n=25)

Variable	Correct response (%)	Incorrect Response or not aware (%)
Age of vision screening in children	01(4)	24 (96)
Frequency of vision screening per year	10(40)	15(60)
Distance between observer and student	04(16)	21(84)
Steps of vision screening	11(44)	14(56)

Table 2: Knowledge of teachers regarding healthy vision practices (n=25) (%)

Variable	Correct response	Incorrect Response or not aware
Knowledge regarding whc micronutrient s good for healthy vision	13(52)	12(48)
Minimum distance between screen and eyes	04(16)	21(84)
Whether blinking is good for eyes	10(40)	15(60)
Importance of adequate light for healthy vision	19(76)	06(24)
Direction from which the light should come while studying	01(4)	24(96)
Rule 20-20-20	05(20)	20(80)

Table 3: Effect of workshop on the level of knowledge related to vision screening

Variable	P value
Age for vision screening	0.003
Frequency of screening per year	0.360
Distance between observer and student	0.003
Steps of vision screening	0.593
Symptoms of vision impairment	0.008
Minimum distance between screen and eyes	0.025

Table 4: Improvement in correct responses of the teachers after the training workshop

Variables	Appropriate Knowledge about the variables (%)	
	Pre test	Post test
Adequate light	19 (76)	22(88)
Vitamin A for healthy vision	13(52)	23(92)
Govt. Help	11(44)	23(92)
Suspect Vision impairment	19 (76)	24(96)
Screening procedure	11(44)	25(100)
Distance to be kept	4(16)	24(96)
Screening age	1(4)	21(82)

Knowledge regarding healthy vision practices was also assessed and varying responses were obtained. Most of the teachers were aware about the micronutrients which are good for healthy vision and the importance of adequate light while reading/studying (52% and 76% respectively). However, knowledge about the direction of light, the minimum distance between the phone screen and eyes and the rule of 20-20-20 was negligible (only 4%, 16% and 20% teachers gave correct responses). Table 2

There was considerable improvement in the knowledge regarding vision screening as well as other aspects of healthy vision after the awareness session. Statistically significant difference in the responses was observed with respect to age for vision screening, distance between observer and student, symptoms of vision impairment and minimum distance between screen and eyes (P value .003, .003, .008 and .025respectively) Table 3 & Table 4.

DISCUSSION

The schools approached for this study were private schools, assuming that the School Health Services were already being provided in the government schools of catering areas of the health centres under Department of Community Medicine, SMS&R, Greater Noida.

Vision screening for identifying the refractive error in students was not being done in any of the schools and most of the teachers were not aware regarding the steps of screening. The results of Ta-

ble 1 show that incorrect responses varied between 56% to 96%. A workshop was conducted to improve their knowledge regarding screening for vision and each of the teachers was taught how to conduct the screening. Training of teachers is the first step of the School Health Program in India and their utility and efficiency has been proved time and again by different studies in catching the uncorrected refractive errors in school children.^{5,6} Furthermore, the detection of uncorrected refractive errors in school children with the help of school teachers and ophthalmic assistants was found to be highly cost effective as proved by studies done in India and elsewhere.^{12,13}

Basic knowledge of teachers regarding the nutrients and practices which improve vision was also found to be lacking with incorrect responses ranging upto 96%. This shows that even the teachers were inadequately informed and therefore were ill-suited for transmitting the knowledge about healthy vision practices to their pupils. Similar findings were obtained in another study done by R Thummalapalli et al where they found low levels of knowledge levels among school teachers regarding vision and healthy practices.¹⁴

However, majority of the teachers were very receptive and keen to learn more about vision and its screening. They were enthusiastic learners when screening steps were taught and therefore showed a remarkable improvement in their knowledge after the workshop. Similar findings were obtained in the study done by R Thummalapalli et al where they found marked improvement in knowledge levels and perceived responsibility for students' health after an education session to the teachers.¹⁴ Another study by Jyothi Korani et al in Andhra Pradesh also showed a marked improvement in knowledge levels (reaching upto 88%) among the school teachers after training.⁶

Various studies done between 2007-17 in India show that 20%-30% of school children have refractive errors^{15,16,17} which is a significant increase from studies done between 1995-2000.^{18,19} This should ring an alarm among all and sundry, especially the public health experts to initiate an aggressive pursuance of school eye screening program.

CONCLUSION AND RECOMMENDATION

The study shows that we can easily utilize the school teachers to improve the eye screening services in private schools just by training the teachers who are interested to learn something new. Such teachers are a huge human resource for our various public health initiatives and may contribute a lot towards improving child health. The government school teachers are already participating in

the school health services but it's the private school teachers who may play a role in this direction. Such workshops and trainings should be regularly organized in private schools to empower the teachers in contributing positively in improving the health of their pupils and in turn young India.

LIMITATIONS OF THE STUDY

The sample size was small and therefore, the results cannot be generalized.

Relevance of the study:

The school health program is being followed by most Government Schools in Uttar Pradesh but the same is not true for private schools. Today, the number of private schools with their manpower resources is large and training the teachers of such schools, especially those catering to children of slums and resettlement colonies, in school health services including eye screening may play a big role in improving the general health as well as visual health of such children.

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