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Original Research Article

A mixed method to evaluate the importance of visual health awareness among health care students

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ABSTRACT

Objective: The study was done to assess the pre and post awareness of eye health care and importance of regular eye test to detect ocular and systemic conditions which may be asymptomatic.**Materials and Methods:** This study done on 278 subjects, age group between 18-30years. 65% of the subjects are females and 35% of them are males are included. In this questionnaire study, pre and post data is collected among health care students on pre-eye examination, participants were asked questions on their demographic detail, Eye examination, visual symptoms, ocular symptoms, visual aids, safety eye wear, importance of eye examination and a pamphlet is shown to impart knowledge and awareness after which post awareness data is collected.**Results:** A total of 278 subjects participated in our study, and result showed a significant improvement in increasing awareness, knowledge level in post intervention of health care students regarding visual health awareness and eye care. Overall knowledge before intervention was low 55.43% and it increased to 87.1% after intervention.**Conclusions:** Awareness programs in eye care can have a positive effect on raising the profile of eye health services within healthcare systems, thereby increasing the knowledge, confidence, and motivation in health care students.This is an Open Access (OA) journal, and articles are distributed under the terms of the [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License](https://creativecommons.org/licenses/by-nc-sa/4.0/), which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.For reprints contact: reprint@ipinnovative.com

1. Introduction

There is a consensus among healthcare professionals that their education is enhanced by early “hands-on” experience with patients.¹ This alternative model of health professional education includes didactic courses with simultaneous early exposure to direct patient care.² The vision screening supports achievement of the college’s educational goals of excellent clinical skills, preparation for full-scope care, experience with diverse populations and professional self confidence.³ In order to facilitate early detection of student’s vision problems and meet the vision needs of all students and access to comprehensive eye examinations

education on preventive medicine is highly important in all fields of medicines as well as in ophthalmology.⁴ With this we contribute to protect public health and reduce the budget allocated to treatment expenditures.⁵ In order to protect eye health as well as to draw attention to the missing points in medical education concerning eye health.⁶ Eye health promotion is important for the eye care system. Awareness and knowledge of the importance of eye health is a critical pre-requisite for motivating behavior and access to care.⁷ More emphasis is given on getting your eyes checked regularly. Increased awareness may also lead to behavior and habits that enhance eye health. Children are enthusiastic and open to learning, making them potentially powerful health advocates. 6 months; eyes and vision should be checked during regular well baby visit.⁸ Eye Heroes

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hopes to Influence people that might otherwise be hard-to-reach, while educating future generations about eye health.⁹ It is important to ensure that all students at a school have a basic visual acuity screening which is cost-effective and useful for early detection of possible vision problems.¹⁰ Besides that, ocular abnormalities may be the first recognized sign of systemic disease.¹¹ Vision screening prevalent in developing countries like Nepal, nearly 80% of pre-school age children never get an eye examination.¹² vision screening and eye examinations create a frequent and early opportunities to diagnose a myriad of conditions. To make the vision screening program among students more organized, more effective and more reachable to more number of students.¹³ Thus the importance of correction and management of refractive error is significantly high for the management of visual impairment.

2. Materials and Methods

This study done on 278 healthy subjects, age group between 18-30years, 65% of the subjects are females and 35% of them are males with mean 19.90 and standard deviation is 1.40 and it's approved by Institutional Ethical committee of Saveetha College of Allied Health Sciences, In this questionnaire study, pre and post data is collected among health care students regarding the eye examination, visual symptoms, ocular symptoms, visual aids, safety eye wear, and on importance of eye examination, after collection of pre data a pamphlet was shown to create awareness followed by post assessment. All data were analysed using SPSS Version (.16.0). Statistical package for Social Sciences. The highest and the lowest were compared and the Mean, Standard deviation is evaluated.

3. Results

Responses to the questionnaires are tabulated in Table-III. From the analyses, one hundred and Sixty-five (59.35%) healthcare students have undergone an eye examination previously, while the remaining seventy-six (26.61%) never did an eye examination, while seventeen (6.47%) and twenty-two (7.91%) had undergone every 6 months once in every year. Of those who had consulted an eye care practitioner/optometrist. Eighty-eight (31.65%) had their last eye examination within the preceding 6 months. Forty-five (16.18%) within the past one year. While the other sixty-six (23.74%) within past two years and seventy-nine (28.41%) had never consulted eye care. As indicated in figure -II the frequency of health care students who have had an eye examination was majority. It was found more than 50% had received an eye examination. These findings indicate that they are aware of the eye examination routines. This study found that majority of health care students have no visual symptoms either double vision, blurred vision and glaring of vision. There were 278 responses

of visual symptoms in total, where 111(31.65%) were of no blurred vision, (60.43%) double vision, and glare 54.31%. and also had no ocular symptoms such as itchy eye (51.07%), eye pain (40.28%) and (39.20%) headache in pre-evaluation and post evaluation. Whereas 82.01% of the health care students have reported no trouble with color vision, and (74.82%) have no eye disorders/diseases. Majority of the health care students (278) studied did not habitually wear any form of optical correction .62.94% does not use spectacles and 75.17% of them don't use contact lens. Students reported using safety eye wear during risky works in pre-assessment was only (40.28%) and (61.51%) in post assessment which shows that their awareness has been increased on importance of safety eye wear.

Most of the health care students in pre assessment (35.25%) accepted that refractive errors are corrected through glasses + lenses whereas the awareness is increased to (69.06%) in post assessment. The response rate was high (75.89%) among the students about the source of information for eye health and medication from optician.

The health care students were also asked to give their opinion on importance of visual examination. Majority (82.37%) agreed that comprehensive eye examination was necessary while (17.62%) stating that visual examination was optional / unnecessary. 87.41% of the health care students chose that awareness about visual health can help to prevent most of the blindness. An apparent high level of awareness is considered to be most importance for eye examination and visual health.

Table 1: Descriptive statistics of age

	N	Minimum	Maximum	Mean	Std. Deviation
Age	278	18	24	19.90	1.40

From Table 1, it is observed that, a total of 278 health care students were examined. The mean age of Health care students was 19(range 18-24years).

Table 2: Distribution of gender

Gender	Number of respondents	Percentage
Female	182	65.47%
Male	96	35.43
Total	278	100

From Table 2, it is observed that among 278 subjects 65% of the subjects participated in this study are Females and another 35% of them are males.

Table 3: Pre and post evaluation

S.No	Questions	Number of participants and percentage	
		Percentage PRE	Percentage POST
1	Have you ever had an eye exam by an eye doctor or optometrist?		
	a) yes	(163) 58.63%	(165) 59.35%
	b) No	(76) 27.30%	(74) 26.61%
	c) Every 6 months	(17) 6.10%	(18) 6.47%
	d) Once in a year	(22) 7.91%	(21) 7.91%
2	If yes when was your last eye exam?		
	a) 6 months	(88) 31.65%	(88) 31.65%
	b) 1 year	(45) 16.18%	(45) 16.18%
	c) More than 2 years	(66) 23.74%	(66) 23.74%
	d) Not even once	(79) 28.41%	(79) 28.41%
3	Are you experiencing blurred vision?		
	a) Yes	(111) 39.92%	(111) 39.92%
	b) No	(129) 46.40%	(129) 46.40%
	c) Rarely	(38) 13.66%	(38) 13.66%
4	Are you experiencing itchy eye?		
	a) yes	(65) 23.38%	(72) 23.38%
	b) No	(158) 56.83%	(142) 51.07%
	c) Sometimes	(55) 19.78%	(64) 23.02%
5	Are you experiencing double vision?		
	a) yes	(58) 20.86%	(77) 27.69%
	b) No	(187) 67.26%	(142) 60.43%
	c) Rarely	(33) 11.87%	(64) 11.87%
6	Do you wear spectacles?		
	a) Yes	(88) 31.65%	(90) 32.37%
	b) No	(177) 63.66%	(175) 62.94%
	c) I have spectacles but not using	(13) 4.67%	(13) 4.67%
7	Do you ever have problems related to colour vision?		
	a) Yes	(84) 30.21%	(22) 7.91%
	b) No	(153) 55.03%	(228) 82.01%
	c) Not noticed	(41) 55.03%	(28) 10.07%
8	Do you wear contact lens?		
	a) Yes	(56) 20.14%	(56) 20.14%
	b) No	(210) 75.53%	(209) 75.17%
	c) Sometimes	(12) 4.31%	(13) 4.67%
9	Are you experiencing headache during studies?		
	a) Yes	(73) 26.25%	(86) 30.93%
	b) No	(136) 48.92%	(109) 39.20%
	c) Rarely	(69) 24.82%	(83) 29.85%
10	Are you experiencing eye pain while using digital gadgets?		
	a) Yes	(78) 28.05%	(89) 32.01%
	b) No	(132) 47.48%	(112) 40.28%
	c) Rarely	(68) 24.46%	(77) 27.69%
11	In your opinion do you think eye examination on a health care student is important?		
	a) Yes	(218) 78.41%	(229) 82.37%
	b) No	(60) 21.58%	(49) 17.62%
12	Have you ever undergone vision training /awareness programme?		

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<i>Table 3 continued</i>			
	a) Yes	(109) 39.20%	(157) 56.47%
	b) No	(159) 57.19%	(26) 9.35%
	c) Once	(10) 3.59%	(95) 34.17%
13	Students should take active role in spreading awareness among family members?		
	a) Yes	(237) 85.25%	(269) 96.76%
	b) No	(41) 14.74%	(9) 3.23%
14	Are you experiencing glaring of vision?		
	a) Yes	(33) 11.87%	(57) 20.50%
	b) No	(216) 77.69%	(151) 54.31%
	c) Rarely	(29) 10.43%	(70) 25.17%
15	Do you use sunglasses?		
	a) Yes	(56) 20.14%	(46) 16.54%
	b) No	(175) 62.94%	(11) 3.95%
	c) Sometimes	(47) 16.90%	(221) 79.49%
16	Do you believe /think that reading books is harmful to the eyes?		
	a) Yes	(40) 14.38%	(55) 19.78%
	b) No	(190) 68.34%	(163) 58.63%
	c) Sometimes	(48) 17.26%	(60) 21.58%
17	Do you have any eye disease/disorders?		
	a) Yes	(36) 12.94%	(70) 25.17%
	b) No	(242) 87.05%	(208) 74.82%
18	Do you use protective glasses for works with risks?		
	a) Yes	(112) 40.28%	(171) 61.51%
	b) No	(166) 59.71%	(107) 38.48%
19	How do you correct the refractive errors?		
	a) Glasses	(112) 40.28%	(23) 8.27%
	b) Lenses	(53) 19.06%	(6) 2.15%
	c) Laser	(15) 5.39%	(57) 20.50%
	d) Glasses +Lenses	(98) 35.25%	(192) 69.06%
20	What is your source of information for eye health and medications?		
	a) Friend	(29) 10.43%	(22) 7.91%
	b) Internet	(84) 30.21%	(38) 13.66%
	c) Book	(35) 12.58%	(7) 2.51%
	d) Optician	(130) 46.76%	(211) 75.89%
21	Most of the blindness can be prevented if awareness is generated on eye health?		
	a) Yes	(205) 73.74%	(243)87.41%
	b) No	(73) 26.25%	(35) 12.58%

4. Discussion

In any comprehensive eye care, system eye health education is an important part. The main goal and objective of the eye health education program are to promote overall eye health in the country by creating awareness for eye health and motivating and to undertake the necessary preventive measures guiding the people in that way, and for detection of early eye health problems and thereby, promoting them for the utilization of existing eye care facilities. In a country having preventive and pro-motive eye care is of optimum importance. Awareness of vision and eye health and associated health risks can help motivate people to protect their vision and eye health. Promotion of Eye health is important for the eye care system. A critical prerequisite for motivating behaviours and access to care is awareness and knowledge of the importance of eye health. To make the vision screening program more organized, more effective, and more reachable to more students. Thus, the management of refractive error and the correction is important which is significantly high for the management of visual impairment. In this study a pre-questionnaire form is given with 21 questions along with the options to the students and a pamphlet is given to create awareness followed by a post-assessment of questionnaires among 278 subjects. In this present study majority of 82.37% agreed that the importance of visual examination was necessary while 17.63% stated that a visual examination was optional or unnecessary. Health care students were aware of the need and importance of comprehensive eye examination but despite that majority failed to have their eyes examined by an eye care professional.

A study done by Hekimligi T. D on Awareness, Attitudes, and Behaviours of Medicine, Dentistry, Nursing and Midwifery Students on Eye Health. Students' response rate was very low (76.2%-10.1%), even if they voluntarily participated in the survey (27.8%). Concluded that general examination before graduation can help tackle this problem.

A study done by Karn R R, Singh S, Singh S K on Awareness and knowledge level on eye health among students of government school. The objective of the study was to find out the knowledge level about eye health overall knowledge before intervention was 44% which was low and was increased to 71% after the intervention. Knowledge level increases significantly from pre to post in all cases knowledge level increases significantly except knowledge about the injury in the eye. There is a need to conduct an awareness program on eye health for school-going children.

A study done by Heidari, S and Simian, on Knowledge of Primary Eye Care among Medical Students. About 90% of electronic device users didn't know about the PEC and related educational programs for reducing computer vision syndrome ($p=0.018$). They had a weak knowledge about PEC and regular eye visits, and paid more attention to treatment than prevention among considerable number of participants. Educational ECPs recommended for

preparation and implementation to raise the level of PEC knowledge for improving eye health.

5. Conclusion

This study suggests that awareness programs in eye care can have a positive effect on raising the profile of eye health services within health systems, increasing the knowledge, confidence, and motivation in health care students and the number of referrals to specialist care will be increased. Students scored themselves above-average a high level of knowledge in awareness about visual health. Awareness of visual examination and eye care education should be emphasized in the health care students. There is a need that all health care students undergo visual and ocular assessment and maintain annual follow-up examinations with an optometrist to ensure that any visual problems are acted on expeditiously and early, thus providing them the best visual functions.

6. Source of Funding

None.

7. Conflict of Interest

None.

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