

## Pattern of Eye Problems in Paramedical Students.

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### Research Article

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#### ABSTRACT

To study the pattern of eye problems in paramedical students. 358 paramedical students of ages between 18 to 24 years were examined at our institute between January 2013 and March 2013. Detailed clinical history and complete ophthalmic examination including best corrected visual acuity, refraction, slit lamp biomicroscopy and fundus examination was conducted on all these students. Out of the 358 students, 53 (14.80%) students had eye problems with the commonest problems being refractive errors (18.44%). 43 students were using spectacles, out of which 36 (83.72%) had residual refractive error with spectacle correction. The others had common eye conditions such as allergic conjunctivitis and blepharitis. Majority of these eye problems need attention as they are preventable and treatable. Hence we recommend health education, regular eye checkup and screening to reduce ocular morbidity among university students.

#### INTRODUCTION

Eye problems are frequently noted in the student community can affect the student's performance in University and restricts their chances in educational and occupational opportunities. Studies on eye problems amongst University students are few and largely confined to school children. This study was therefore designed to estimate the prevalence of ocular disorders amongst students of a large residential university and to suggest possible intervention and preventive strategies. Information obtained from the study will help university administration in planning primary eye care in university student's health care complex.

#### MATERIALS AND METHOD

This prospective, non-randomized, selectively analyzed, single-center pilot study was conducted amongst university students of A. J. Institute Of Medical Sciences, Mangalore. 358 paramedical students of ages between 18 to 24 years were included between January 2013 and March 2013.

All the students underwent a detailed clinical history including present and past complaints, their routine study hours, use of computers and spectacles history. Ocular examination included visual acuity (unaided, pinhole and with glasses) assessed by using Snellens chart from a distance of six meters, extra ocular movements, retinoscopy under mydriasis and subjective refraction. Color vision test with the help of Ishihara chart, anterior segment examination with slit lamp biomicroscopy, fundus examination with direct and indirect ophthalmoscope were also done. The particulars were recorded and data was analyzed using Epi info 7.1.4 version.

#### RESULTS

Out of 358 paramedical students 191 (53.35%) were females and rest 167 (46.65%) were males (Table 1). The major ocular disorders observed in the study were refractive errors, computer vision syndrome, conjunctival disorders, lid disorders and others (Table 2).

Refractive error was the most prevalent ocular disorder occurring in 66 (18.44%) students. (Table 3). 43 (12.01%) students were already using spectacles, out of which 36 (83.72%) had residual refractive error i.e. not able to read 6/6 with spectacles (Table 4 and 5).

**Table 1: Distribution of paramedical students according to gender**

Gender	Frequency (n)	Percentage (%)
F	191	53.35
M	167	46.65
Total	358	100

**Table 2: Distribution of paramedical students according to eye problems**

Eye problems	Frequency (n)	Percentage (%)
Computer vision syndrome	16	4.47
Conjunctivitis	17	4.74
Blepharitis	6	1.68
Chalazion	3	0.84
Stye	2	0.56
Watering	6	1.68
Foreign body sensation	3	0.84

**Table 3: Distribution according to best corrected visual acuity (BCVA)**

BCVA	Frequency (n)	Percentage (%)
Refractive error	66	18.44
Normal	292	81.56
Total	358	100

**Table 4: Distribution according to spectacle use**

Spectacle use	Frequency (n)	Percentage (%)
NO	315	87.99
YES	43	12.01
Total	358	100

**Table 5: Distribution according to presence of residual refractive error with spectacles**

Visual acuity	Frequency (n)	Percentage (%)
Refractive error	36	83.72
Normal	7	16.28
Total	43	100

**Figure 1: Distribution of paramedical students according to gender**

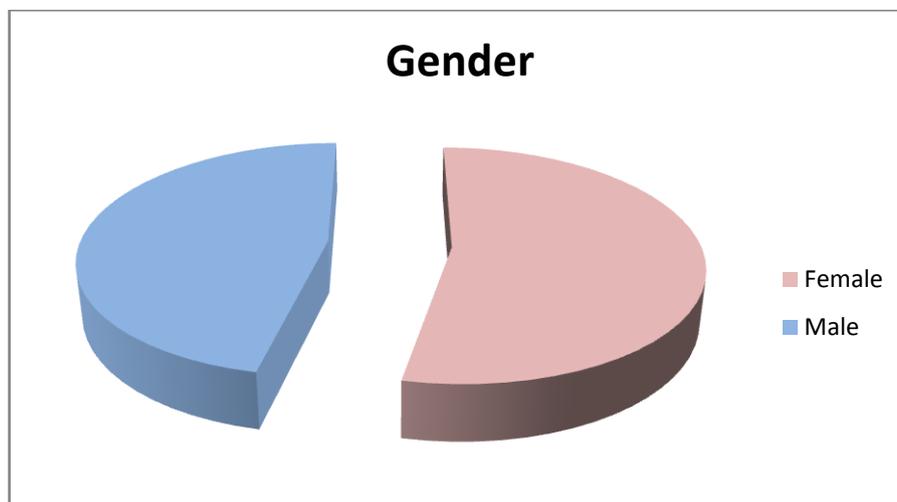


Figure 2: Distribution of paramedical students according to eye problems

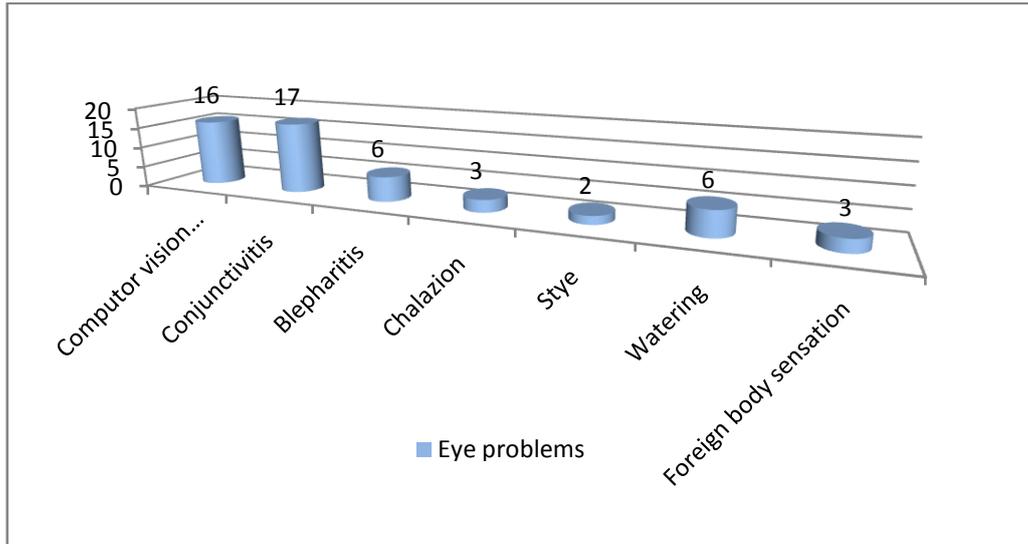


Figure 3 : Distribution according to best corrected visual acuity (BCVA)

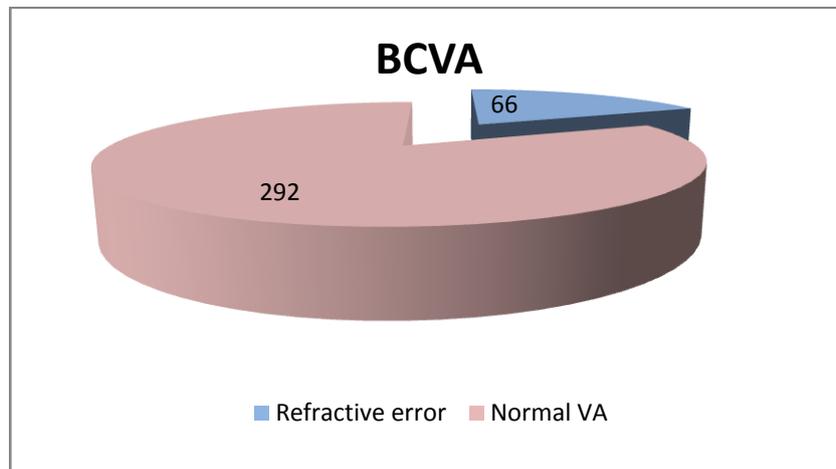
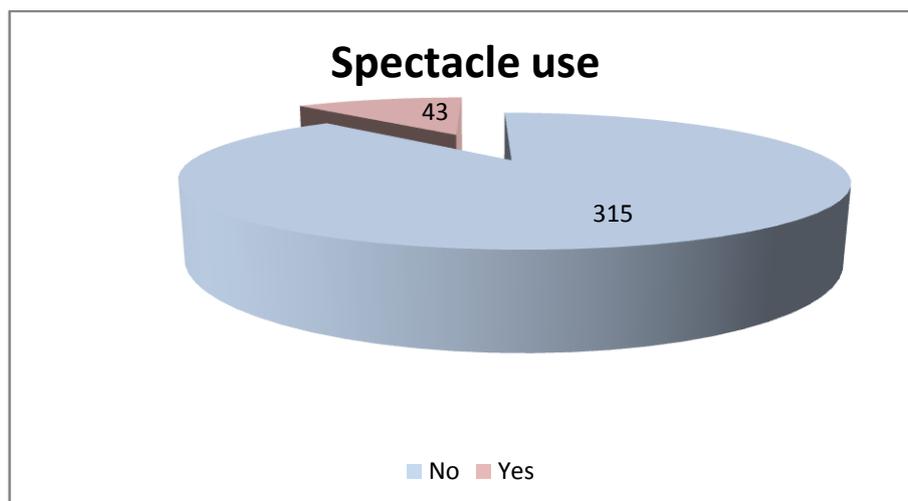


Figure 4: Distribution according to spectacle use



Conjunctival diseases were the second mostcommon ocular morbidity observed in 17 (4.74%) students. Allergic conjunctivitis was observed in 9 (2.51%) students. Infective (bacterial/viral) conjunctivitis was seen in 8 (2.23%) students. (Table 2)

Disorders of the lid were the third common cause of ocular morbidity. 6 (1.68%) students had blepharitis, 3 (0.84%) had chalazion, 2 (0.56%) had stye while 16 (4.47%) students had computer vision syndrome. 9 (2.52%) study subjects had various eye injuries including watering of eyes and foreign body sensation (Table 2)

## DISCUSSION

Out of 358 paramedical students 191 (53.35%) were females and rest 167 (46.65%) were males. The major ocular disorders observed in the study were refractive errors, computer vision syndrome, conjunctival disorders, lid disorders and others. Prevalence rate of ocular morbidity amongst school going children as reported in various studies were Rajesh Kumar et al. (24.6%)<sup>1</sup>, Nepal BP et al. (11.0%)<sup>2</sup>, Ajaiyeoba AI et al. (15.5%)<sup>3</sup> and Rose K et al. (28.8%)<sup>4</sup>.

The distribution of ocular morbidities in this study were refractive errors (18.44%), Conjunctivitis (4.74%), Blepharitis (0.84%), computer vision syndrome (2.52%), Stye (4.47%) and others (2.52%) quite in contrast to the study done in school children where refractive errors (5.4%) are followed by conjunctivitis (4.6%), trachoma (4.3%) and vitamin A deficiency (4.1%)<sup>1</sup>.

In this study, refractive error was the most prevalent ocular disorder seen in 66 (18.44%) students, which is greater than the WHO's range of 2-10%<sup>5</sup>. Refractive errors were the most common ocular problems in the various studies conducted by Ajaiyeoba AI et al (5.8%)<sup>3</sup>, Rajesh Kumar et al (5.4%)<sup>1</sup>, Nepal BP et al (8.1%)<sup>2</sup>, Adegbehingbe BO et al (13.5%)<sup>6</sup> and Ho C-SD et al (22.3%)<sup>7</sup>.

Amongst diseases of conjunctiva, infective (2.23%) and allergic conjunctivitis (2.51%) was the most common, which may be due to increase in concentration of allergens in University campus, over-crowding and poor ocular hygiene among students. Contrary to our finding prevalence of allergic conjunctivitis was reported to be 49% by Adegbehingbe BO et al<sup>6</sup> and 7.4% by Ajaiyeoba AI et al<sup>3</sup>.

Third common cause of ocular disorders was diseases of lids like blepharitis (1.68%), chalazion (0.84%) and stye (0.56%), which did not pose any threat to vision. The environmental factors including poor ocular hygiene, acne, seborrheic dermatitis or dandruff may contribute to the etiology of above diseases of the eyelids in our study. Computer vision syndrome was seen in 4.47% university students, majority of whom belonged to technical students having tendency of late night study and prolonged work on computer.

## CONCLUSIONS

Majority of eye problems observed in our study were either preventable or treatable. To reduce ocular morbidity amongst university students, health education towards eye care, regular eye examination, correction of refractive errors and use of protective eyewear are advocated.

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