



“EVALUATION AND ASSESMENT OF OCULAR MANIFESTATIONS IN STUDENTS FROM CLASS SIXTH TO TWELFTH IN A SCHOOL SETUP”

Ophthalmology

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KEYWORDS

INTRODUCTION

Humans are said to place a great deal of importance on vision. One of the key facets of every community health programme is school health.

During the school years, children undergo both physical and mental changes that prepare them to become potential adults with better futures. If a youngster has poor vision, it will damage their academic achievement and negatively impact their future. This age group of kids appears to be impacted by a variety of untreated eye conditions. One of the main factors contributing to vision impairment and blindness in India is uncorrected refractive errors. Due to the longer remaining life span than with adult-onset blindness, childhood blindness is much more bothersome and burdensome.⁽⁴⁾

It has been observed that refractive errors that have been left uncorrected are the main cause of visual deformities. Ocular symptoms that may be present in children of school age are-Color blindness, Deficiency of vitamin A, Errors of refraction, amblyopia, Blepharitis, Conjunctivitis infectious type, Conjunctivitis allergic type, Congenital cataract, cataract of traumatic origin, inflammatory disease of eyelid, ptosis, squint.

The World Health Organization (WHO) has come up with a conclusion that around 13 million children which are present from age 5-15 worldwide are visually impaired and are found to be one amongst the uncorrected refractive error. The prevalence of vision impairment among children in India ranged from 2.05 per 1,000 to 13.6 per 1,000.⁽⁶⁾ India has roughly 25% of the world's population between the ages of 0 and 15.⁽¹⁾

Worldwide, there are 1.4 million children who are blind, and 73% of them reside in low-income nations. With correctable refractive defect, 10 million people experience vision impairment (acuity less than 6 by 18 bilaterally), and nearly seven million people have poor vision.⁽²⁾ Children who are blind or have limited eyesight are thought to be 0.8 per 1000 across the country.⁽¹⁾

Recent estimates show that there are 1.14 million blind children and 19 million persons who are visually impaired globally.⁽²⁾

There is a dearth of literature in our population that addresses the current issue. Therefore, we thought about researching the likelihood of ocular symptoms in school-age children as well as the risk factors involved.

AIM AND OBJECTIVES

AIM

Evaluation And Assessment Of Ocular Symptoms In Students In Grades 6 To 12.

OBJECTIVES

- To gauge the frequency of ocular problems, which are common among school-age children in the district of Bareilly, 10 kilometres or less from the nearest hospital, including Meeraganj, Fatehganj, etc.
- To assess the contributing elements that affect ocular manifestations in those school-age children

MATERIALS AND METHODS

Study Design- It is a cross sectional type of clinical study.

Study Population- The study will be conducted at schools in the area of Bareilly, which is 10 kilometres from RMRI. Sixth- through twelfth-grade students made up the study's population..

Inclusion Criteria-

- Consent of respective schools to set an ophthalmic examination camp.
- All Students from class 6th to 12th.

Exclusion Criteria

- Children absent on the day of examination
- Children Referred to RMRI for follow-up and did not show up for examination.

Sampling Size:

Will be finalized according to convenience sampling.

Methodology:

In aim to assess the frequency of eye disease presentation among school-age children in district Bareilly and its associated variables, which is located about 10 kilometres from the hospital fraternity, this study will be undertaken as a school-based cross-sectional survey.

The school officials will grant the necessary approvals and get institutional ethical clearance. Each kid will have their full medical history collected, followed by a thorough eye examination of both of their eyes.

Eye Examination Of Each Student Included:

The eye and adnexa will be the main areas of diffuse torch light evaluation.

Using a vision chart named snellens at a distance of six metres, the acuity of vision for distant vision was assessed independently for each eye.

The visual acuity of kids who have previously worn glasses will be assessed with glasses.

The cover-uncover test will be used to confirm ocular deviation, including phoria and tropia.

Later, a fundus examination utilising direct or indirect ophthalmoscopy will be performed, and other tests will be performed as needed.

Students whose vision is determined to be 6/9 or less will undergo additional testing at a tertiary medical facility (rajshree medical college and hospital). With 1% cyclopentolate eye drops, these students will endure cycloplegic refraction.

On addition to performing a post-mydriatic exam on every student, a streak retinoscopy will be done.

Statistical Evaluation:

All the data collected will be compiled and will be evaluated using

appropriate statistical tools.

RESULTS

Table 1. Distribution Of Study Participants As Per The Presence Of Ocular Morbidity

Ocular Morbidity	Frequency (n)	Percentage (%)
Present	382	25.5
Absent	1118	74.5
Total	1500	100

Table 2. Distribution Of Study Participants As Per The Type Of Ocular Morbidity Present

Type of Ocular Morbidity	Frequency (n)	Percentage (%)
Refractive Error	137	35.9
Conjunctivitis	96	25.1
VKC	42	0.8
Blepharitis	28	7.3
Stye	27	11.0
Chalazion	22	1.46
Amblyopia	13	0.2
Squint	13	0.01
Bitots Spots	12	0.3
Ocular Trauma	9	7.1
Corneal Opacity	5	0.6
Cataract	3	3.4
Coloboma	2	3.4

Table 3: Association Of Ocular Morbidity With Gender

Gender	Ocular Morbidity				Total		X ² = 1.791 df = 1 p-value = 0.18
	Present		Absent		No.	%	
	No.	%	No.	%			
Male	167	23.9	533	76.1	700	46.7	
Female	215	26.9	585	73.1	800	53.3	
Total	382	25.5	1118	74.5	1500	100	

Table 4: Association Of Ocular Morbidity With Type Of Family

Type of Family	Ocular Morbidity				Total		
	Present		Absent				
	No.	%	No.	%	No.	%	
Nuclear Family	179	25.9	511	74.1	690	46.0	X ² = 1.038 df = 2 p- value = 0.5950
Joint Family	77	27.0	208	73.0	285	19.0	
3- Generation Family	126	24.0	399	76.0	525	35.0	
Total	382	25.5	1118	74.5	1500	100	

Table 5: Association Of Ocular Morbidity With Fathers Educational Status

Fathers Educational Status	Ocular Morbidity				Total		X ² = 3.545 df = 5 p- value = 0.6165
	Present		Absent				
	No.	%	No.	%	No.	%	
Illiterate	81	26.0	231	74.0	312	20.8	
Primary School	46	26.4	128	73.6	174	11.6	
Middle School	27	20.4	105	79.5	132	8.8	
High School	80	23.5	260	76.5	340	22.7	
Intermediate	97	27.6	255	72.4	352	23.5	
Graduate	51	26.8	139	73.2	190	12.6	
Total	382	25.5	1118	74.5	1500	100	

Table 6: Association of Ocular Morbidity with Mothers Educational Status

Mothers	Ocular Morbidity				Total		X ² =
Educational	Present		Absent				
	No.	%	No.	%	No.	%	
Illiterate	69	18.4	306	81.6	375	24.7	df = 5
Primary School	36	24.0	114	76.0	150	10.0	
Middle School	124	26.7	341	73.3	465	31.0	
High School	84	31.1	186	68.9	270	18.1	
Intermediate	60	28.6	150	17.4	210	14.1	
Graduate	9	30.0	21	70.0	30	2.1	p-value
Total	382	25.5	1118	74.5	1500	100	<0.05

DISCUSSION

We can learn a lot about the research population's demographics and clinical aspects from these results. Our study explores the socio-demographic characteristics of 1,500 participants, focusing on their age, gender, and family structure. Gender-wise, our findings reveal a slight female predominance within the sample. Out of 1,500

participants, 700 (46.7%) are male and 800 (53.3%) are female. This indicates a relatively balanced but slightly female-skewed gender ratio among the study population. In terms of family structure, the study highlights diverse living arrangements. Of the 1,500 respondents, 690 (46.0%) belong to nuclear families, 525 (35.0%) to three-generation families, and 285 (19.0%) to joint families. This distribution suggests that nuclear families are the most common, followed by multi-generational households, reflecting contemporary family dynamics. In our study, we examined the prevalence of ocular morbidity across different types of family structures: nuclear, joint, and three-generation families. The total sample included 1,500 individuals. In nuclear families, which comprised 46% of the sample (690 individuals), 25.9% (179 individuals) presented with ocular morbidity, while 74.1% (511 individuals) did not. Joint families, representing 19% of the total sample (285 individuals), had a slightly higher prevalence of ocular morbidity at 27% (77 individuals), with 73% (208 individuals) showing no ocular issues. Three-generation families accounted for 35% of the sample (525 individuals), with 24% (126 individuals) experiencing ocular morbidity and 76% (399 individuals) absent of it. To determine if there were significant differences in the prevalence of ocular morbidity across these family types, a Chi-square test of independence was conducted. The Chi-square statistic was 1.038 with 2 degrees of freedom. The associated p-value was 0.595, indicating that there is no statistically significant difference in ocular morbidity rates among the different family types. This suggests that family structure does not significantly influence the occurrence of ocular issues within the populations studied. The authors did not find any relevant study which is related to Association of Ocular Morbidity with Type of Family. In our study examining the educational status of parents, we observed distinct differences between the educational achievements of fathers and mothers among the participants. The data reveals that a substantial number of parents have not received formal education, with 20.8% of fathers and 24.7% of mothers categorized as illiterate. This underscores a higher prevalence of illiteracy among mothers compared to fathers. Education levels beyond illiteracy also show varying trends between genders. For instance, only 11.6% of fathers have completed primary school, slightly higher than the 10% of mothers who have reached the same level. A notable disparity is seen in middle school education; 31% of mothers have completed this stage, which is significantly higher than the 8.8% of fathers, suggesting a gender-specific educational gap at this level. High school education levels are more comparable, with 22.7% of fathers and 18.1% of mothers having completed this level of education. However, intermediate education shows a divergence again, with 23.5% of fathers versus 14.1% of mothers, indicating that more fathers pursue education beyond high school compared to mothers. At the graduate level, there is a marked discrepancy where 12.6% of fathers hold degrees, compared to only 2.1% of mothers. This significant gap highlights potential socio-economic barriers and cultural dynamics that influence educational attainment for mothers differently than fathers. Interplay of familial, socio-economic, and educational factors in the health and well-being of children, particularly in relation to ocular health.

CONCLUSION

- The study comprehensively included a total of 1500 participants, ensuring a broad representation across various socio-demographic factors such as age, gender, type of family, and the educational status of parents. This extensive coverage enhances the reliability and validity of the study's findings, providing a solid foundation for the conclusions drawn.
- A significant percentage, specifically 25.5%, of the study participants were found to suffer from ocular morbidity, with conditions such as refractive errors, conjunctivitis, and stye being the most frequently observed. This indicates a substantial prevalence of eye-related health issues within the population examined, underscoring the need for targeted eye health initiatives.
- The analysis revealed no statistically significant associations between ocular morbidity and various demographic factors including age, gender, family structure, and the educational and occupational status of the participants' parents. This suggests that ocular health challenges are uniformly distributed across different demographic groups within the study sample, highlighting the ubiquitous nature of these health issues.
- A notable finding of the study was the significant correlation between lower educational levels in mothers and higher rates of ocular morbidity among the participants. This suggests that educational attainment in mothers could be a factor in the prevalence of eye health

issues, pointing towards the potential benefits of educational enhancement as part of public health strategies

- Overall, this detailed analysis provides a deep insight into the prevalence and distribution of ocular morbidity and refractive errors within the studied population. The findings serve as a foundation for public health officials and policymakers to develop effective health interventions that can address and mitigate the impact of eye health issues in similar populations

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