

Figure 2: Age group Distribution

Students in the age groups of 5-20 years were included in this study. Of the 40 students, 23 were below the age group of 15 years and 17 students above the age group of 16 years (Fig 2).

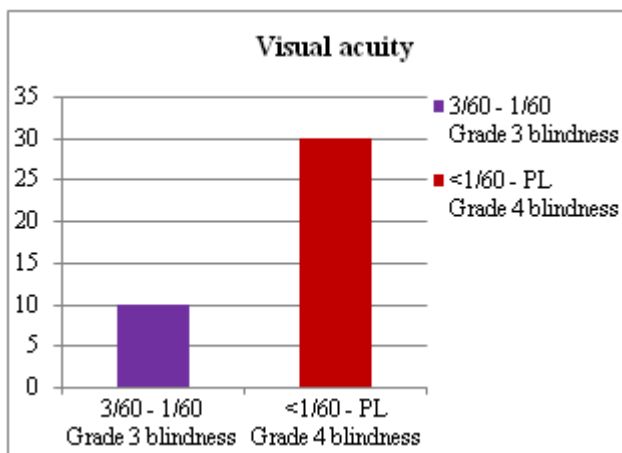


Figure 3: Visual acuity

Only 10 students out of 40 had visual acuity of 3/60 to 1/60 and less than 1/60 in 30 students (Fig 3).

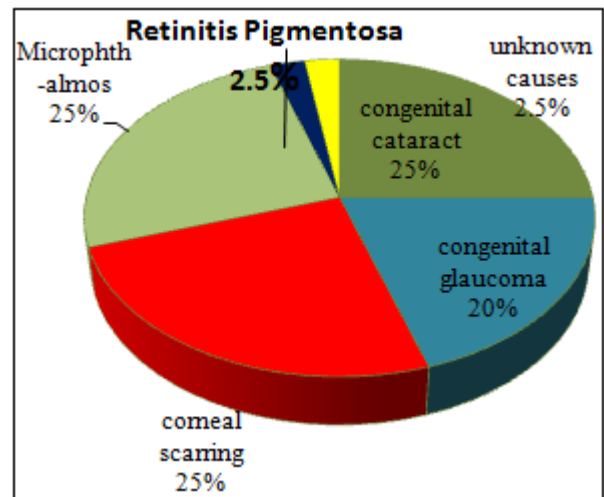


Figure 4: Causes of blindness

Table 1: Showing causes of blindness

Diagnosis	No of cases
Congenital cataract	10
Congenital glaucoma	8
Corneal scarring (secondary to Vit A deficiency, corneal infection and trauma)	10
Congenital Microph-thalmos with or without Coloboma of iris and choroid	10
Retinitis pigmentosa	1
Unknown cause	1
Total	40

In this study congenital cataract, corneal scarring and congenital microphthalmos were responsible for 75% of visual loss, congenital glaucoma 20% and 2.5% in case of retinitis pigmentosa. In 1 child (2.5%) the underlying cause is not known. (Fig 4). On diagnosis, out of the 40 students each of the 10 students presented with cataract, glaucoma and corneal scarring. Congenital glaucoma was seen in 8 cases, 1 case in retinitis pigmentosa and 1 unknown cause. (Table 1)

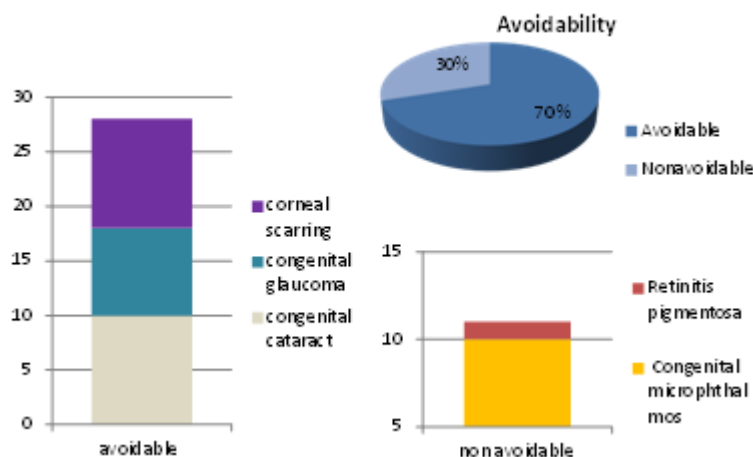


Figure 5: Distribution of avoidability

Overall 28 children had potentially avoidable cause of blindness (congenital cataract, congenital glaucoma and corneal scarring) and non avoidable in 12 children (retinitis pigmentosa and congenital microphthalmos). (Fig5) 10 children had preventable causes of blindness and treatable causes in 28 children.



Figure 6: Cataract



Figure 7: Glaucoma



Figure 8: Corneal Scarring



Figure 9: Microphthalmos

4. Discussion

In the present study, amongst children attending schools for the blind congenital cataract, corneal scarring and congenital abnormalities was the most common cause of blindness (25% each). In case of corneal scarring, it was difficult to distinguish the different infectious causes of corneal blindness. VAD (vitamin A deficiency) is also one important contributing factors for corneal blindness. It is an easily preventable cause of blindness and the incidence has decreased in the more prosperous states like Maharashtra in west India .[4] Congenital abnormalities of the globe (microphthalmos, anophthalmos and coloboma) were responsible for 25% blindness in this study. This is comparable with the results of the blind school study in Delhi in north India (27.4%), [5] Karnataka (28.7%) and Tamil Nadu in south India (20.6%), were as higher in Maharashtra in west India (35%) .[4]

Treatable causes of blindness includes congenital cataract 25% and glaucoma 20%. The reasons for the high proportion of cases of glaucoma in this study are unknown. Congenital cataract was the most important treatable cause of childhood blindness for which early diagnosis and referral, surgery by an experienced ophthalmologist, and long-term follow-up and management of aphakia and amblyopia are essential. Thus in this section there is a need to expand specialist pediatric ophthalmic services.

A study of schools for the blind in south India had identified retinal dystrophies (including albinism) as the most common single cause of SVI (severe visual impairment) and blindness, accounting for 26.1% .[6] Retinal dystrophies accounted for 2.5% of visual loss in our study.

Similar studies have been done worldwide. Studies in African countries have shown the major anatomical cause of blindness or severe visual impairment was corneal pathology/phthisis followed by lens pathology, uveal lesions and optic nerve lesions .[7] Whereas in Nepal the major etiological factors were those of childhood such as Vitamin A deficiency, measles and similar causes followed by the hereditary causes .[8] The findings of the studies done in India are consistent with the results of this study. In all the above studies more than 50% of the cases, the cause of blindness was avoidable, as also suggested by this study.

5. Conclusion

In common with other developing countries, a large proportion of the childhood blindness in India is avoidable. The present study shows three important avoidable causes of blindness, cataract, corneal scarring and glaucoma as common cause of visual loss. These findings suggest that a need for screening for early detection of cataract and glaucoma by specialist paediatrics, as early referral and management would improve the prognosis from surgery. Thus to prevent childhood blindness we need to set up a separate unit/ subdivision of paediatric ophthalmology in every medical institute. We need to train young ophthalmologist and PGs students with advanced teaching methods and equipment. It would also be useful to document the changing patterns in the causes of childhood blindness in individual states to allow early action against emerging avoidable causes.

References

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