Journal of Cardiovascular Disease Research
ISSN: 0975-3583, 0976-2833 VOL 17, ISSUE 06, 2026

The Amblyopia prevalence in childhood between 5-15 years in Kurnool district rural population Andhra Pradesh, India.

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Introduction: Amblyopia[8] has been defined as a unilateral or bilateral decrease of visual acuity caused by deprivation of pattern vision or abnormal binocular interaction[8]. Even though no cause can be detected by physical examination of the eye, some cases will improve with the treatment clinically. Amblyopia is defined by one or more line difference in visual acuity between the eyes. Amblyopia is one of the common causes of childhood visual impairment. The causes of amblyopia are strabismus, high refractive error, anisometropia[8] and opacities of the ocular media or a combination of two or more etiologies in the same patient. In spite of different causes the basic mechanisms in all cases are either abnormal binocular interaction between eyes or from deprivation in one or both eye. The upper limit of the critical time when children are most vulnerable to amblyopic disorders is around 8 years in humans (2,3,4). Visual loss due to amblyopia can be permanent if corrective measures are not taken in time. The burden of disability due to this problem can become massive when one takes into account the duration of life with visual disability (5, 6). Early detection of refractive error defect and strabismic and ocular causes will prevent from amblyopia. Simon observed that screening for strabismic, refractive and ocular disease conditions directly associated with Amblyopia is clearly proven. Stager suggested that Amblyopia is one of the most common in children. Early treatment can eliminate Amblyopia.[12]

Material and Methods.: We analyzed 29,351 school children in government schools in Kurnool district (AP) from April 2025 to May 2026.The children less than 6/12 or less than underwent ophthalmic examination by Objective method using streak retinoscope, subjective refraction and ophthalmoscopic examination in order to rule out the organic pathology and mental retardation. Diagnostic criteria for Amblyopia were best corrected visual acuity 6/12 or less are referred to regional eye Hospital Kurnool for

refractive error correction among 29,351 students examined and prescribed the spectacle correction for 5415 and 589 children referred to REH, Kurnool ,409 children given spectacle correction for refractive errors at Regional Eye Hospital, Kurnool and remaining 180 children are investigated and found that 12 children are amblyopic.

Distribution of patients according to Amblyopia

Amblyopia	Frequency	percent
No	168	93.33
yes	12	6.66

Gender wise prevalence

gender	Amblyopia	total	percentage
male	04	12	33.33
female	08	12	66.66

LATERALITY OF AMBLYOPIA

Amblyopia cases identified	Frequency	Percentage %
	12	
Unilateral	7	58.33
Bilateral	5	41.66
Total	12	100

Proportion of various types of Amblyopia

Type	frequency	percent
ametropic	2	16.66
Anisometropic	2	16.66
meridional	6	50
strabismic	2	16.66

total	12	

Discussion:

The world organization has grouped uncorrected refractive errors, cataract, macular, degeneration, infectious diseases and vitamin A deficiency among the leading causes of blindness and vision impairment in the world. A global initiative for the elimination of avoidable blindness by the world health organization (WHO), International Agency for Prevention of Blindness and other partner organizations, also included refractive errors among the five conditions of immediate priority. Amblyopia is mainly caused by uncorrected refractive errors during the 1st decade of life. After this sensitive period, refractive correction does not improve with correction and the eye becomes amblyopic. It is necessary to correct the refractive error to prevent the amblyopia.

The results revealed that out of 180 students referred to Regional Eye Hospital Kurnool only 12 cases were amblyopic .out of these 12 cases, 4 were boys and 8 were girls. Meridional type of amblyopia is the common type amblyopia being 50 %, Ametropic 16.66%, anisometric 16.66 % and strabismic 16.66 % and Unilateral amblyopia were 58.33%, and Bilateral amblyopia 41.66%.

According to age wise distribution from 6-9years of age the incidence is 6 (50%) and from 10-15 years of age 6 (50%).

Gender wise prevalence

Sapkota et al the prevalence of uncorrected, presenting and best-corrected visual impairment in the better eye18.6%, 9.1% and 0.86%. Refractive error was a cause in 93.3% of children with uncorrected visual impairment. Amblyopia 1.8%, retinal disorders 1.3%, other causes 0.3% and unexplained causes 4.4%."

Timely diagnosis and treatment is likely to reduce the prevalence of amblyopia as it has been seen in many other countries that have taken up mass education and visual screening at community levels (3,4,5,6,7)

CONCLUSION:

Lack of awareness of parents because of illiteracy and ignorance. By this study it is mandatory to screen the children for refractive errors and correction of refractive error. And lack of facility for check-up and frequent eye screening for refractive errors and strabismic examination and corneal blindness and cataract.

References:

1. Simons K. Preschool vision screening: rationale, methodology and outcome survey Ophthalmol.1996 Jul-Aug:41(1):3-30 (Online) cited on 30th August 2008.available at URL http://www.ncbi.nlm.nih.gov/pubmed8827927.
2. . Ann L Webber, Joanne Wood Amblyopia: prevalence, natural history, functional effects and treatment Clin Exp 2005; 88: 6: 365–375.
3. Rahi JS, Sripathi S, and Gilbert CE, Foster A. 12. Rahi JS, Sripathi S, and Gilbert CE, Foster A. Childhood blindness in India: Causes in 1318 blind school children in 9states. Eye 1995; 9:545-50.
4. Brown SA, Weih LM, Fu CL, Dimitrov P, Taylor HR, McCarty CA. Prevalence of amblyopia and associated refractive errors in an adult population in Victoria, Australia. Ophthalmic Epidemiol 2000; 7: 249-258.
5. . Menon V, Chaudhuri Z, Saxena R, Gill K, Sachdev MM. Profile of amblyopia in a hospital referral practice. Indian J Ophthalmology 2005; 53:227-34
6. . . Von Noorden GK. Binocular Vision and Ocular Motility: Theory and Management of Strabismus, 5th ed. St Louis, Missouri: Mosby-Year Book Inc; 1996
7. Thompson JR, Woodruff G, Hiscox F, Strong N, Minshull C. The incidence and prevalence of amblyopia detected in child-hood. Public Health 1991; 105:455-462

ISSN: 0975-3583, 0976-2833 VOL 17, ISSUE 06, 2026

8. Woodruff G, Hiscox FA, Thompson JR, Smith LK. Factors affecting the outcome of children treated for amblyopia Eye 1994; 8:627-31

9. Shaw DE, Fielder AR, Minshull C, and Rosenthal AR. Amblyopia: Factors influencing the age of presentation. Lancet 1988; 2:207-9

10. Stager DR. Amblyopia and the pediatrician. Paedo ann.1983 Aug; 12(8):574-6, 578-84. [Online], cited on 30th August 2008. Available at URL http://www.ncbi.nlm.nih.gov/pubmed/6622077