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# PAEDIATRIC OPHTHALMLOGY

**Congenital Upper Lid Eversion with Severe Conjunctival Chemosis in a New Born**

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**Introduction:** Congenital lid eversion is a rare clinical entity. It was first reported by Adams in 1896 who called it a double ectropion. The condition is typically bilateral, but unilateral cases have been described. The underlying cause for eversion remains obscure, several possible mechanisms have been proposed and associations have been recognized.[1]
**Case Report:** Baby OA is an 8-h male baby born to a primigravida mother of Ibo tribe. Baby was born after uneventful term pregnancy and there was no history of consanguinity. Mother complained of a rapidly growing fleshy growth over both eyes obscuring the eyes. There was no associated fever or other systemic abnormalities. Examination did not reveal any systemic abnormalities, and ocular examination showed massive conjunctival chemosis obscuring both globes. Using a lid retractor, the globes appeared normal sized, with a clear cornea, normal anterior chambers and a miosed, but sluggishly reacted pupils. At the insistence of the parents the baby was admitted into the Eye ward and started on ointment chloramphenicol tds, ciprofloxacin eye drops 2 hourly, 5% hypertonic saline patch over chemosed conjunctiva bd. A pediatrician was also invited to co-manage the patient. At 1 week post admission, the conjunctival chemosis completely resolved, and baby could open eyes occasionally. Fundoscopy done revealed normal posterior segments both eyes, and he was discharged home on ointment chloramphenicol and ciprofloxacin eye drops tds.
**Discussion:** Congenital lid eversion is a rare clinical entity. The incidence unknown but appears higher in black infants, trisomy 21, collodion skin disease, orbicularis hypotonia, birth trauma, vertical shortening of the anterior lamella, vertical elongation of the posterior lamella of the eyelid and cases of failure of the orbital septum to fuse with the levator aponeurosis. Conservative management involves use of ointments, lubricants, topical prophylactic antibiotics and patching with 5% hypertonic saline. Surgical management involves lateral tarsorhaphy with excision of redundant conjunctiva, fornix sutures, and full thickness skin graft of the upper lid or subconjunctival injection with hyaluronic acid.
**Conclusion:** Congenital upper eyelid eversion is a rare clinical entity even though it is said to be commoner in blacks. Knowledge of its complete resolution with conservative management will help in future management of such cases and prevent complications that may arise from poorly treated cases.

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**Ocular Findings in Children with Cerebral Palsy in University of Ilorin Teaching Hospital, Ilorin, Nigeria**

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**Background:** Disorders of visual function are common findings in children with cerebral palsy.[1] Early detection and treatment of ocular problems will enhance management in this group of children.
**Methods/Patients/Participants:** A cross-sectional survey of all children with cerebral palsy presenting at Pediatric Neurology clinic of UITH between January and December 2012 was done.
**Results:** Thirty-seven (42.5%) of 87 subjects seen within that period presented for ocular assessment. There were 24 males (64.9%) and 13 females (35.1%) with a male-female ratio of 1.8:1 Age range: 6–168 months with a mean of 50.11± 46.51 months. Thirty-three (89.2%) were full term children, while 4(10.8%) were preterm. Spastic cerebral palsy was more common than the other types; it constituted 45.9% of all cases seen. Visual acuity is as shown in Table 1. Strabismus was found in thirteen subjects (35.1%). This was esotropia in 7 (54%) and exotropia in 6 (46%) subjects. Refractive error was found in 32 (86.5%) subjects [Table 2]. CVI was found in 28 (75.7%) subjects.

**Table 1: Visual acuity of subjects**

| VA | Number (%) |
|---|---|
| >6/18 | 2 (5.4) |
| 6/18-3/60 | 3 (8.1) |
| <3/60-LP | 3 (8.1) |
| NLP | 5 (13.5) |
| CSM | 24 (64.9) |
| Total | 37 (100) |

**Discussion/Conclusion:** Similar to other studies, Spastic cerebral palsy is the common type[2] while birth asphyxia was the most common risk factor. Only 4 (10.8%) of subjects has history of prematurity despite the fact that increased prevalence has been reported in premature infants.[3] Furthermore like in other studies, Squint (mainly esotropia), refractive errors and cerebral visual impairment were the common ocular findings in cerebral palsy.[4,5] Early detection and early intervention is important to achieve best results. Therefore, multidisciplinary approach involving neurologists, ophthalmologists, and physiotherapist should be embarked upon in managing these children from the time of diagnosis. Parental/care givers education cannot be overemphasized.

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**Child Abuse and the Eye in Osogbo, South West Nigeria**

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**Introduction:** Child abuse simply describes a battered baby, physically abused or assaulted child, or injury from a non-accidental trauma.[1] In Africa and other developing countries, the culture, tradition and beliefs aid child abuse since the acts are usually seen as disciplining or correcting a child,[2-5] rather than being criminal.[6] Studies have documented that ocular injuries could occur as a result of these practices.[7-9] There is paucity of data on ocular manifestations on child abuse and the eye in this population, hence the need for this study.
**Methods/Patients/Participants:** A 3-year descriptive study of consecutive cases of eye disorders following child abuse was carried out. Socio-demographic characteristics were obtained, presenting and post visual acuity were assessed according to World Health Organization classification and full clinical examination was done. Ethical clearance was obtained from the institution's Ethical Committee.
**Results:** Twenty-eight eyes of 28 children were examined. Males 18 (64.3%) and females 10 (35.7%), with a mean age of 18.3 standard deviation 3.5 years and modal age group 6–10 years. Primary school children predominated 15 (53.6%). The commonest ocular disorders were lid laceration (14.3%), conjunctiva hyperemia (46.4%), corneal abrasion/ulcer (25.4%), scleral rupture (7.1%), uveitis (42.9%), hyphema (17.9%), cataract (25%), vitreous loss (14.3%), retinal detachment (7.1%), perforated globe (21.4%), and raised intraocular pressure (17.9%). Presenting versus post treatment visual acuities showed normal vision 2 (7.1%) versus 9 (32.1%), visual impairment 6 (21.4%) versus 3 (10.7%) and severe Visual impairment 10 (35.7%) versus 6 (21.4%), and blindness 6 (21.4%) versus 7 (25%), $P < 0.001$. The most common injurious agents were canestick (25%) and stick (17.9%). Persons inflicting the injury were self (accidents) 21.4% and uncle (14.3%). Circumstances that led to the events followed corporal punishment and hawking on the streets (14.3%) respectively and refusal to run errands (10.8%). Commonest complications were corneal opacity (25%) and phthisis bulbi (14.3%).
**Discussion/Conclusion:** The commonest ocular disorders resulted from canestick and stick injuries which were either used as a means of corporal punishment or arising as a result of accidents sustained by the child hawking on the streets. The proportion of blindness was seen to increase after treatment. Legislation needs to be made and laws effectively put in place to prevent these occurrences which could impact negatively on the psychological, social and economic well-being of the child, family and Country as a whole.

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**An Unusual Presentation of Epibulbar Dermoid in an 8 Weeks Old Male**

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**Introduction:** A cornea dermoid is a choristoma composed of fibrofatty tissue covered by keratinized epithelium. They may extend into the corneal stroma and adjacent sclera but seldom occupy the full thickness of either cornea or sclera. Anatomically, epibulbar dermoids have been classified from grade I to III depending on the size and extent of involvement in the cornea or the sclera. Grade III limbal dermoids, the least common of all the presenting dermoids, are large lesions covering the whole cornea and extending through the histological structures between the anterior surface of the eyeball.
**Aim:** To report an unusual presentation of epibulbar dermoid.
**Case Report:** A.O is an 8-week-old male infant with multiple facial

**Figure 1:** Dermoid involving the right eye with bilateral cleft lip and palate

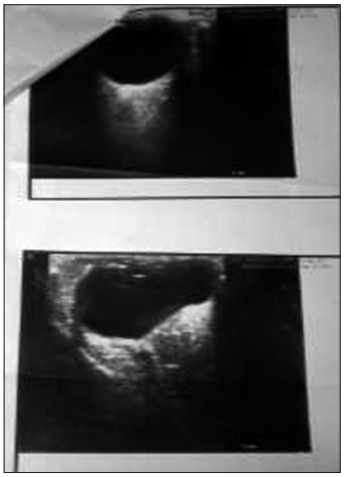

**Figure 2:** Ocular ultrasound showing communication between the lesion and the anterior chamber of the right eye

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anomalies and ocular anomalies present from birth. He had bilateral cleft lip, right cleft palate and a fleshy growth on the right eye, extending from the medial canthus onto the cornea. He had no other congenital anomalies. None of his older siblings had a similar problem. His mother is 32 years old. Ocular examination revealed a large growth on the right eye measuring 1.5 cm by 2 cm, extending from the medial canthus onto the clear cornea. The anterior chamber was shallow. Fundoscopy revealed a red reflex with a normal pink disc. A diagnosis of right epibulbar dermoid with cleft lip and palate was made. Ocular ultrasound revealed a cystic structure with calcifications which was continuous with the right eye ball. His parents were counseled for evisceration of the right eye for cosmetic reasons but the patient was lost to follow-up.
**Discussion:** Epibulbar dermoid is a common episcleral choristoma. There are few reported cases of large corneal dermoids in literature. Mohammed and Kroosh have reported a case of a huge corneal dermoid involving the entire corneal diameter of the left eye extending into the sclera with a well formed anterior chamber. Henkind *et al*. observed that when the entire corneal diameter is replaced by tumor, there is anterior chamber involvement. Management is excision if the lesion is large reducing vision by inducing astigmatism. Lamellar keratosclerectomy is done if the defect is superficial or together with a corneal graft if the defect is deep or of full thickness. Enucleation was an option in this patient because of the communication between the tumor and the anterior chamber
**Conclusion:** When the entire cornea is replaced by the tumor, there is likely to be anterior chamber involvement. In such cases, enucleation may be an option in the management of these patients.

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**Impact Assessment of a Funding Grant on Paediatric Ophthalmic Services in a Community Vision Institute in Southwestern Nigeria**

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**Background:** Childhood blindness is responsible for 70 million blind person years globally. 1.4 million blind children exist worldwide, 73–90% of whom live in low-income countries. Childhood blindness elimination is a priority of Vision 2020.
**Methodology:** The main aim was to evaluate impact of a funding grant on pediatric ophthalmic services in Deseret Community Vision Institute, a community arm of Eye Foundation Group Hospitals located in Ogun state, Nigeria. It was a retrospective study with data extracted from case notes of children who benefited from ocular surgery during the study period April 2013 to March 2014. The grant was by the Excellence in Ophthalmology Vision Award (XOVA), sponsored by Novartis to enhance pediatric ophthalmic services in Ogun State. A childhood blindness coordinator was employed as a link to the community as well as key informants who identified blind and visually impaired children and referred them to the base hospital. A 14 seater Toyota Hiace van was purchased to help bus the patients to the hospital.
**Results:** A total of 135 pediatric surgeries were done over 12 months as opposed to about 8 documented prior to the funds. Patients were from 8 different states in Nigeria. Over 1200 children were seen at the Pediatric Clinic in this period with diverse ocular presentations. Surgeries performed included lensectomy with anterior and posterior curvilinear capsulorrhexis and anterior vitrectomy for pediatric cataracts with posterior chamber intraocular lenses implanted in the bag or sulcus in children over 2 years. Children under 2 years were refracted and given aphakic glasses. Combined trabeculotomy-trabeculectomy surgery was done for pediatric glaucoma cases. A few cases of lid and ocular trauma, including excision of a limbal dermoid cyst were performed. All surgeries were performed under general anesthesia. 93 surgeries (91.2%) were performed for childhood cataracts with 33 bilateral and 27 unilateral. 59.1% (55 eyes) due to congenital cataract 22.6% developmental cataract 12.9% traumatic cataract 3.2% were part of congenital rubella syndrome and 2.2% post uveitic cataracts. 8 eyes (7.8%) had surgery for glaucoma.
**Discussion:** There was a dramatic increase in the number of patients attending the clinic as well as pediatric surgeries performed at the base hospital compared to before funding, where an average of 8 surgeries were done per year. The employment of a Childhood Blindness coordinator, key informants, as well as procurement of a van were game changers in this scenario.
**Conclusion:** Childhood blindness is very challenging, in terms of finding the cases, as well as cost of the service. Funding will continue to play a major role in its control.

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**Trabeculectomy for Congenital Glaucoma in UCH, Ibadan: A 7 Year Review of Cases**

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**Introduction:** Congenital glaucoma is a group of heterogeneous disorders characterized by the maldevelopment of the eye's aqueous outflow system.[1] The incidence is about 1 in 15,000 births with males accounting for 65% of cases.[1] 75% are bilateral disease.[2] Pathology remains controversial: However, it is probably due to a developmental anomaly of the anterior chamber tissue derived from neural crest cells.[2] Surgical intervention is the treatment of choice. Goniotomy and trabeculotomy are the initial preferred methods of treatment while trabeculectomy is usually reserved for refractory cases. Other surgical options include combined trabeculotomy and trabeculectomy, glaucoma filtration devices. This study aims to determine the outcome of trabeculectomy in patients with congenital glaucoma between 2007 and 2013 in the University College Hospital, Ibadan.
**Methodology:** Medical records of all patients diagnosed with congenital glaucoma between 2007 and 2013 were retrieved. A total of 34 eyes of 18 patients were reviewed. Data collected include age at onset of symptoms, age at presentation, age at surgery, pre and postoperative cornea clarity, pre and post-operative intraocular pressure (IOP), horizontal cornea diameter (HCD), follow up duration, use of anti-glaucoma medications. All patients had an examination under anesthesia. The HCD was measured using calipers and IOP was measured using the Perkins goldman's applanation tonometer. Surgery was performed by the same surgeon throughout the study period. Patients with bilateral disease had surgery in both eyes at the same sitting or at least one week apart. Postoperative examination was done under light sedation with P.O chloral hydrate at a dose of 50 mg/kg. IOP, cornea clarity and bleb characteristics were assessed at all visits. Success criteria were defined as IOP <21 mmHg as at the last clinic visit with or without medications. Late Presentation was defined as a presentation after 3 months of onset of symptoms. Data were analyzed by Statistical Package for Social Sciences, version 21.
**Results:** The mean age at onset was 1.08 months (±1.47) with an M: F of 3.5:1, 77.8% of the patients had bilateral disease. The mean age at presentation and at surgery were 12.31 months (±17.13)

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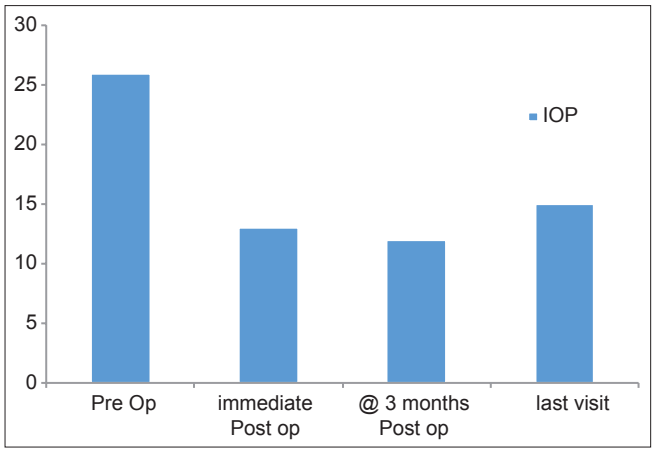


**Figure 1:** Mean intraocular pressure among patients, pre operatively and post operatively

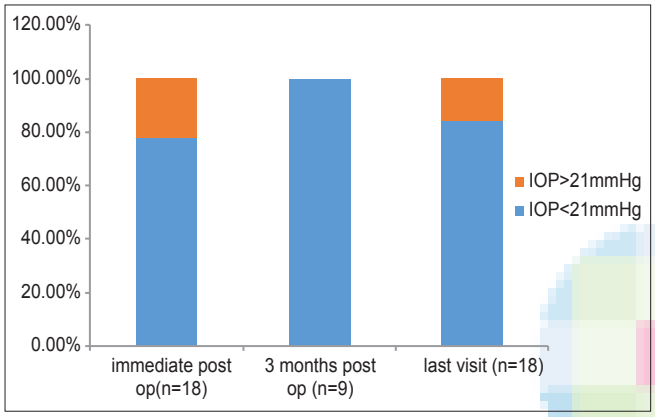


**Figure 2:** Distribution of intraocular pressure among patients post operatively

and 18.88 months (±19.97) respectively with the mean HCD at presentation being 14.04 mm (±1.38). The mean IOP pre-operatively was 26.31 mmHg (±9.07) while the mean IOP in the immediate post-operative period, at 3 months post operatively and at last visit were 13.31 mmHg (±9.20), 12.78 mmHg (±4.41) and 15.89 mmHg (±8.10) respectively, as shown in Figure 1. As at last follow up visit, 26 (83.9%) eyes had IOP <21 mmHg in keeping with our success criteria as shown in Figure 2. Half of the patients presented late and 77.9% of these had HCD of ≥14 mm as well as IOP of ≥25 mmHg. All eyes had cornea edema with or without cornea opacity (Haab's striae) prior to surgery. Success rate was 83.9% (as at last visit) although 22.3% of patients required post-operative anti-glaucoma medications. Of the 67.8% of our patients who had complete resolution of corneal edema, 40.8% had residual opacity. The mean duration of follow up was 9.19 months (range 0.5–38 months).

**Discussion:** Late presentation among our patients despite early onset in majority resulted in presentation with advanced disease. Advanced disease is a risk factor for poor outcome in congenital glaucoma.[1,2] The laterality of disease and the male to female ratio from our study is similar to findings from other populations[1,2] Our success rate was 83.9% which is similar to findings from Nigeria[3,4] and Ireland[5] but, an earlier study[6] from this center had a success rate of 66.7% which can be explained by the longer duration of follow up of patients in that study. The main limitation of this study was poor follow up.

**Conclusion:** Trabeculectomy for congenital glaucoma has a good success rate in the short term and may be an effective primary surgical option in our environment. Education of health workers in the antenatal clinic and well-baby clinics about common childhood eye diseases is recommended to encourage early presentation.

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**Pattern of Refractive Error among Children Attending the Eye Clinic of a Tertiary Hospital in Ibadan, Nigeria**

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**Introduction:** It is estimated that 285 million people are visually impaired worldwide: 39 million are blind and 246 have low vision.[1] Globally, uncorrected refractive errors are the leading cause of visual impairment representing 43%.[1] An estimated 19 million children are visually impaired.[1] Of these, 12 million children are visually impaired due to refractive errors.[1] This study was aimed at determining the pattern of refractive errors seen in children attending the eye clinic at the University College Hospital, Ibadan, Nigeria.

**Materials and Methods:** A descriptive retrospective study. Records of children aged 1–15 diagnosed with refractive errors between January 2011 and December 2012 were retrieved. Information on age, sex, presenting and corrected visual acuity, type of refractive error, degree of error (spherical equivalent), presenting complaint, previous spectacle use and return for follow up visit were retrieved and data were analyzed with SPSS version 20.

**Results:** A total of 366 children were diagnosed with refractive error during this period accounting for 34.6% of a total 1058 children seen. 267 records were successfully retrieved of which 90 (33.7%) were males and 177 (66.3%) females, mean age of 10.58 ± 3.14 years. The commonest refractive error noted was astigmatism accounting for 321 (60.2%) of 534 eyes followed by myopia and hyperopia with 125 (23.3%) and 88 (16.5%) eyes respectively. Spherical equivalents of refractive errors ranged from +6.00 DS to −18.00DS. Previous spectacle use was noted in only 38 (14.2%) patients while 80(30%) returned for follow up visit.

**Discussion:** Hospital based studies in Kano, Bayelsa and Ilesa found prevalence rates of 29%,[2] 22.5%[3] and 14.3%[4] respectively while a higher prevalence rate (34.6%) is noted in this study. This is probably due to a wider age range captured in this study. Expectedly, community based prevalence rates were lower; 2.2% in Bayelsa;[5] 1.97% in Enugu;[6] 7.3% in Bonny Camp, Lagos.[7] Most patients had no history of spectacle use despite blurred vision being the commonest presentation. This points to poor refractive error services in our environment and may increase the risk for development of amblyopia. Many also did not return for follow up assessment post spectacle prescription which is particularly important in children for proper monitoring of vision. Astigmatism was the most common refractive error noted in this study similar to studies in Onitsha[8] and Kano.[2] However Opubiri in Bayelsa[3] found myopia to be most common while

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Faderin[7] in Lagos found hyperopia to be most common.
**Conclusion:** Refractive error is a common reason for ophthalmic consultation in our center. Astigmatism was the commonest refractive error observed in this population of children. School eye health program is encouraged for early detection and treatment. In addition, adequate counseling on the need for follow up is essential.

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### Prevalence of Amblyopia in Children with Refractive Error: A Retrospective Study

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**Introduction:** Amblyopia is defined as "a reduction in best corrected visual acuity that cannot be attributed directly to the effect of any structural abnormality of the eye or the posterior visual pathways."[1] Risk factors include high refractive errors, anisometropia, strabismus, ptosis and opacities of the ocular media. It is said to be responsible for more unilaterally reduced vision of childhood onset than all other causes combined.[2] In different community studies, the prevalence is between 1.8% and 4%,[2,3] while hospital-based studies have shown its prevalence to range from 2% to 5.7%.[4-6] This study aims to determine the proportion of children seen in the eye clinic of a tertiary hospital in Nigeria with refractive errors who had amblyopia.
**Methodology:** A retrospective descriptive study conducted at the pediatric eye clinic of UCH, Ibadan. Case notes of all children aged 1–15 years with a diagnosis of refractive error seen between January 2012 and December 2013 were retrieved. Information retrieved was sociodemographic data, presenting visual acuity, and corrected visual acuity after refraction, type of refractive errors and spherical equivalent. Visual acuity was assessed with Leas symbols for children aged 3–5 years while Snellen's alphabet chart was used for the older children. Children ≤5 years and all those who had hyperopic errors had cycloplegic retinoscopy. Of the children with refractive errors seen within the study period, 267 had complete records. 8 of these were excluded due to lack of an objective assessment of vision.
Case definitions
1. Amblyopia: corrected visual acuity in any eye of ≤6/9 in the absence of any organic cause.
2. Myopia: spherical error of ≥−0.5
3. Hyperopia: spherical error of ≥+2.00
4. Astigmatism as a cylindrical error of ≥±0.75.

Data were analyzed with the Statistical Package for Social Science version 20.
**Results:** Out of the 259 children who had objective assessment of visual acuity, 39 (15.1%) had corrected visual acuity ≤6/9.
The age range was 3–15 years with a mean age of 9.33 ± 3.7 years.
There were 20 (51.3%) males and 19 (48.7%) females, ratio of 1.1:1.
The mean spherical error −3.45 ± 6.25 DS
maximum hyperopic spherical equivalent was +6.00 DS, maximum myopic spherical equivalent of −18.00 DS.
The most common type of refractive error was astigmatism with a large proportion being myopic astigmatism.
Frequency of different types of refractive errors.

**Table: Frequency of different types of refractive errors**

| | RIGHT EYE | | LEFT EYE | |
|---|---|---|---|---|
| TYPE OF REFRACTIVE ERROR | FREQ | PERCENT (%) | FREQ | PERCENT (%) |
| Myopic Astigmatism | 19 | 48.7 | | 51.2 |
| Hyperopic Astigmatism | 8 | 20.5 | 7 | 18.0 |
| Simple Myopia | 7 | 18.0 | 6 | 15.4 |
| Simple Hyperopia | 5 | 12.8 | 6 | 15.4 |
| Total | 39 | 100 | 39 | 100 |

**Discussion:** Prevalence of amblyopia among children with refractive error in this study of 15.1% is higher than reported values from hospital based studies[5-7] in other environment (1–6%). This can be due to the little or no screening program. Half of the children with amblyopia had myopic astigmatism. Reports from similar studies[6,7] also showed a high prevalence of astigmatism among ametropic children with amblyopia.
**Recommendation:** We recommend preschool and school eye screening for children to ensure prevention or early detection and treatment of amblyopia due to refractive errors.
**Limitations:** Spectacle adaptation was not allowed before diagnosing amblyopia. This may have affected the prevalence.

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