ISSN: 0976-3031

*Available Online at http://www.recentscientific.com*

**CODEN: IJRSFP (USA)**

*International Journal of Recent Scientific Research*
*Vol. 9, Issue, 3(L), pp. 25489-25492, March, 2018*

**International Journal of Recent Scientific Research**

**DOI: 10.24327/IJRSR**

**Research Article**

# A CROSS-SECTIONAL STUDY ON PREVALENCE OF EYE DISEASES IN CHILDREN ATTENDING THE AYURVEDICEYE CLINIC AT COIMBATORE

**PundareekakshaRaoP[1]* and Premsankar P[2]**

[1]Ayurveda College, 242- B, Trichy road, Sulur, Coimbatore-641402
[2]Physician, Ayurveda Netra Eye clinic, AVPRF, Coimbatore

**DOI: http://dx.doi.org/10.24327/ijrsr.2018.0903.1868**

**ARTICLE INFO**

***Article History:***

Received 12th December, 2017
Received in revised form 5th January, 2018
Accepted 23rd February, 2018
Published online 28th March, 2018

***Key Words:***

Refractive errors, Myopia, spectacles, Ayurveda, Netra OPD.

**ABSTRACT**

Refractive errors are the leading cause of blindness among children. Identification and intervention of major risk factors can reduce the burden of blindness among children. The present study was aimed to illuminate prevalence of refractive errors in children attending eye OPD and to enumerate reason for parents coming towards Ayurvedic treatment. A cross sectional study was conducted during June2016 to July 2017 in the Netra outpatient block. A convenient sample of 73 children, who are less than 15 years of age, was taken. Over usage of electronic devices, absence of awareness etc. was found to be statistically significantly associated as risk factors for refractive errors among the children. Nearly 79%parents bringing children to Ayurvedic eye clinic is children not to be with spectacles and71% children were reported that they willing to take medicines, instead of spectacles.



## INTRODUCTION

Cataract, refractive errors, glaucoma are the major eye problems effecting people worldwide as well as in Indian community. The prevalence of childhood blindness in India is 0.8/1000 (WHO, 1999). The most common eye diseases contributing to ocular morbidity in India are uncorrected refractive error, vitamin A deficiency, strabismus, amblyopia and conjunctivitis (Gupta M *et al*. (2009), ChaturvediS, *et al*. (1999); Kumar R, *et al*. (2007); Singh H. (2011); Gupta N, *et al*. (2014); Dandona L, *et al*. (1998)). Impaired vision in childhood can have a profound impact on a child's development, restricting participation in social, physical and educational and later, employment opportunities. Vision is an important requirement for learning and communication[8].In response to this situation, WHO developed the Global Action Plan for the prevention and control of Blindness.

Despite great improvement in ophthalmology in several ways, global problems still present. The burden of eye diseases is high for the disadvantaged and poor population groups. Moreover, general diseases often have eye manifestations i.e. diabetes etc. The study was conducted at the Netra OPD, at AVPRF, Coimbatore, Tamilnadu, India during June 2017 and June 2017. Almost all patients were come with parents or grandparents or others. Identification and intervention of major risk factors can reduce the burden of RE among children.

***Objectives***

1. To estimate the prevalence of RE in patients attending NetraOP of AVPRF.
2. To enumerate the risk factors contributing to the cause of RE.

## MATERIALS AND METHODS

The Netra OPD at AVPRF, Coimbatore serves to people who are willing to take Ayurvedic treatment in better way. It also provides primary eye care on OP and IP base. 73 patients aged below15years who presented to the O.P, between June 2016 and July 2017were retrospectively reviewed. Patients were grouped by age into a preschool (0-5 years):, school going (6-10 years) and older children (11-15 years) group. Eye examination was done using torch and loupe followed by slit lamp examination.

Tests were conducted to elicit a diagnosis, and management commenced as required. For the visual acuity, Snellen's chart (Test type, Landolt's broken ring chart, Tumbling E charts) were used. Those who are not able to follow, counting fingers

**Corresponding author:* **PundareekakshaRaoP**
Ayurveda College, 242- B, Trichy road, Sulur, Coimbatore-641402

is considered. Retinal examination was done using a direct ophthalmoscope. Intraocular pressure measurement was done with a Schiotz tonometer.

## OBSERVATION AND DISCUSSION

The etiology of childhood blindness is multi-factorial and is influenced by socioeconomic status, available health care services and geographic locales (Gogate G, *et al*. (2007)). In high income countries of the world, such as the US, Canada, Western Europe, and Japan, the prevalence of childhood blindness is 0.3-0.4/1000 children, in middle income countries (Western Pacific region:, it is estimated at 0.2-0.7/1000 children, in low income countries (Asia), it is 0.9/1000 children, and in very low income countries (Africa), the prevalence is 1.2/1000 children (Gilbert C,(2007)). Rahi JS *et al*. study shows that, the most common causes of childhood blindness in Asia and Africa in the early 1990s were corneal scar, cataract, glaucoma and optic atrophy (Rahi JS, *et al*. (1995); Gilbert CE, *et al*. (1995); Gilbert C, *et.al*. (2001)) whereas, Limburg H *et al*. ((2012)) Study on population based sample and a sample from schools for the blind, found uncorrected refractive error and retinal causes as the major causes of blindness.

This study provides the first data on outcomes of parents of children with eye problems are coming toward Ayurveda. During the period from June 2016 and July 2017 a total of 22948 patients were attended to OPD. In that 875 patients came with eye problem. 94 Children attended the Eye O.P constituting, due to other reasons 73 children were continued. In the total study population of 73 are less than 15 year old children, which is 8.3% of total eye cases.

**Table 1** incidence of Age

| S.NO | Age (in years) | Male | Female | Total | Percentage |
|---|---|---|---|---|---|
| 1. | 0-5 years | 4 | 5 | 9 | 12.3% |
| 2. | 6-10 years | 17 | 16 | 33 | 45.2% |
| 3. | 11-15 years | 9 | 22 | 31 | 42.4% |

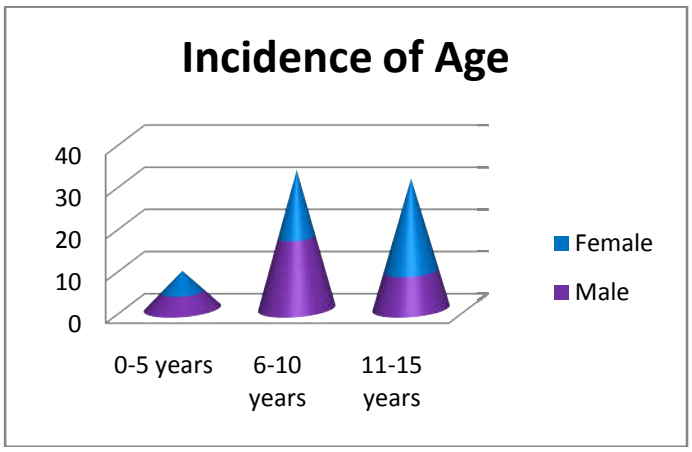


**Fig 1** incidence of Age

Of the 73 children, 59% were male and 41% were female. Regarding bystanders (who came along with children), most were fathers (35.54%) and mothers (23.14%). A few children came with grandparents (18.18%) and aunts and uncles (18.18%).

**Table 2** incidence of Sex

| S.NO | Sex | Male | Percentage |
|---|---|---|---|
| 1. | Male children | 30 | 41% |
| 2. | Female children | 43 | 59% |

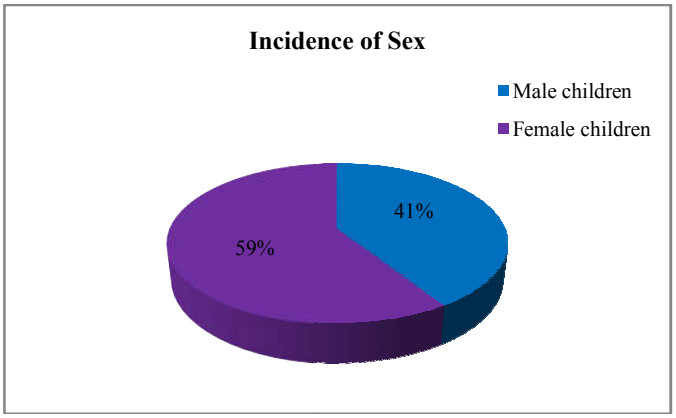


**Fig 2** incidence of Sex

Among those children, 12.3% of children were below 5 years, 45 % were 6-10 years of age and 42.4 % were 11-15 years of age. Around 38.3% came first time to Netra OPD, while 62% went to Eye hospitals and came to Netra OPD. In this study, majority of children belong to high and middle class conditions were found to be suffering from Refractive errors. Most 59% of them belong to middle socio-economic status. Predominantly 92%children are belongs to Hindu category. Regarding how far they had travelled to get to AVPRF Eye Hospital, 48% of the participants were belongs to Coimbatore, 25 % had travelled less than 20 kilometres, 16.4% had travelled less than 50 kilometres, and the remaining had travelled more than 100 kilometres.57 % of parents said they had heard of Eye clinic through word of mouth, 29% said that they had heard through net and remaining that they referred by allopathic hospital. Almost 72.7% of parents given complaint as children were spending much time with mobile etc. electronic devices and 42.46% of children were watching TV with sitting very near. It was observed that 79% of children were sitting in front row in class at school. 46.5% of parents told children having habit of reading while travelling.

**Table 3** incidence of Refractive errors

| S.No | Refractive error | Male | Female | Total | Percentage |
|---|---|---|---|---|---|
| 1. | Myopia | 16 | 22 | 38 | 52% |
| 2. | Astigmatism | 3 | 4 | 7 | 9% |
| 3. | Myopia and Astigmatism | 1 | 1 | 2 | 2.7% |
| 4. | Myopia and Strabismus | 1 | 0 | 1 | 1.3% |
| 5. | Cataract with Hypermetropia | 1 | 0 | 1 | 1.3% |
| 6. | Astigmatism and Strabismus | 1 | 0 | 1 | 1.3% |
| 7. | Astigmatism and Ambhyopia | 0 | 1 | 1 | 1.3% |

The most frequent refractive error observed was myopia, followed by astigmatism and hyperopia. Extra ocular diseases were another frequent condition in our patients.

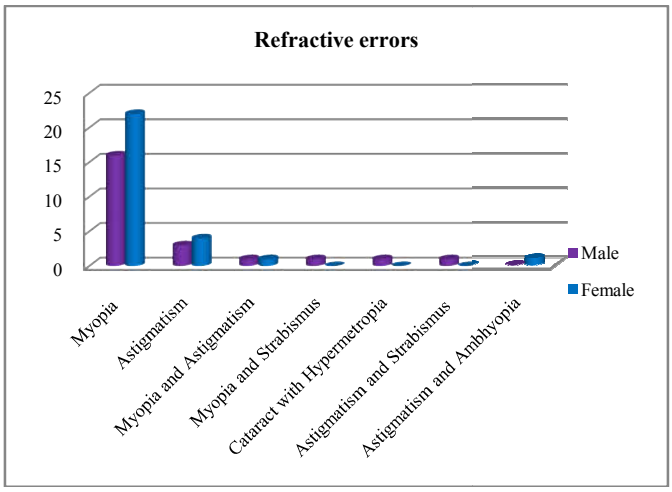


**Fig 3** incidence of Refractive errors

**Table 4** incidence of other eye diseases

| S.No | Other eye diseases | Male | Female | Total | Percentage |
|---|---|---|---|---|---|
| 1. | Amblyopia | 0 | 3 | 3 | 4.1% |
| 2. | Strabismus | 0 | 1 | 1 | 1.3% |
| 3. | Blepharitis | 1 | 0 | 1 | 1.3% |
| 4. | Tumour | 0 | 1 | 1 | 1.3% |
| 5. | Dacrocystitis | 1 | 0 | 1 | 1.3% |
| 6. | Retinoblastoma | 0 | 1 | 1 | 1.3% |
| 7. | Conjunctivitis | 4 | 5 | 9 | 12.3% |
| 8. | Lumps | 1 | 4 | 5 | 6.8% |

In the present study, the most 51 children were found to be suffering from refractive errors, constituting 69.9 % of total cases, followed by the diseases of the conjunctiva (conjunctivitis 12.3%). Children with only myopic were 52% and with Astigmatism 9%. Some children were diagnosed with two diseases (8.2 %). We noticed that 43% of parents were not using spectacles.

**Table 5** Reason for parents coming towards Ayurveda

| S.No | Reason for parents coming towards Ayurveda | No. of parents | Percentage |
|---|---|---|---|
| 1. | no adverse reaction | 54 | 74% |
| 2. | not willing to children is to be with spectacles | 58 | 79% |
| 3. | to prevent further progression | 30 | 41% |
| 4. | to try alternate method | 45 | 61% |

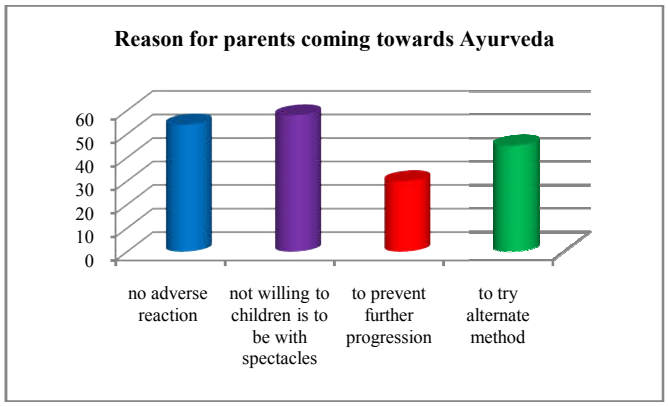


**Fig 4** Reason for parents coming towards Ayurveda

While during history taking we asked the parents regarding the reason to bringing children to Ayurvedic eye clinic. Interestingly, almost all parents were told to two or three reasons for this. Main reasons are categorised here. i.e. no adverse reaction (73%), not willing to children is to be with spectacles (79%),to prevent further progression (41%)and to try alternate method (61%). Nearly 71% children reported that they willing to take medicines, instead of spectacles.

## CONCLUSION

This study offered important insight into perceptions of eye care among parents that care for children. However, it is important to note that even advanced ophthalmic hospitals, parents of children with refractive errors are coming towards the Ayurveda due to no adverse reaction, not willing to be with spectacles etc. Nearly 71% children reported that they willing to take medicines, instead of spectacles. This study is limited to one small geographic region with small sample. However this study is an appendix to modern ophthalmological reports. Additionally, future studies should collect information at different hospitals. Further studies on a larger population are needed to support this hypothesis and to demonstrate the possible role of Ayurvedic treatment in the development of upcoming generation.

## References

Chaturvedi S and Aggarwal OP. (1999): Pattern and distribution of ocular morbidity in primary school children of rural Delhi. *Asia Pac J Public Health*, 11:30-33.

Dandona L, Williams JD, Williams BC, *et al*. (1998): Population based assessment of childhood blindness in southern India. *Arch Ophthalmol*, 116:545-546.

Gilbert C, (2007): Changing challenges in the control of blindness in children. *Eye* (Lond), 21:1338-1343.

Gilbert C and Foster A. (2001): Childhood blindness in the context of vision 20-20 - The right to sight. *Bull World Health Organ,* 79:227-232.

Gilbert CE, Wood M, Waddel K, *et al*. (1995): Causes of childhood blindness in east Africa: results in 491 pupils attending 17 schools for the blind in Malawi, Kenya and Uganda. *Ophthalmic Epidemiol*, 2:77-84.

Gogate G, Deshpande M, Sudrik S, *et al*. (2007): Changing pattern of childhood blindness in Maharashtra, India. *Br J Ophthalmol*, 91:8-12.

Gupta M, Gupta BP, Chauhan A, *et al*. (2009): Ocular morbidity prevalence among school children in Shimla, Himachal, North India. *Indian J Ophthalmol*, 57:133-138.

Gupta N, Arya SK, Walia D, *et al*. (2014): Ocular morbidity among school children in the union territory of Chandigarh. *IntOphthalmol*, 34(2):251-7.

Kumar R, Dabas P, Mehra M, *et al*. (2007): Ocular morbidity amongst primary school children in Delhi. *Health PopulPerspect Issues*, 30:222-229.

Limburg H, Gilbert C, Hon DN, *et al*. (2012): Prevalence and causes of blindness in children in Vietnam. *Ophthalmology*, 119:355-361.

Narayana KM, Bora A, Biswas J. (2003): Pattern of uveitis in children presenting at a tertiary eye care centre in south India. *India J Ophthalmol*., 52:129-32.

Rahi JS, Sripathi S, Gilbert CE, *et al*. (1995): Childhood blindness in India: causes in 1318 blind school students in nine states. *Eye*, 9:545-550.

Singh H. (2011) Pattern of ocular morbidity in school children in central India. *Natl J Community Med*, 2:429-431.

World Health Organization. (1999): Preventing blindness in children: Report of a WHO/IAPB scientific meeting. Hyderabad, India: WHO,. WHO/PBL/00.77.

**How to cite this article:**

PundareekakshaRaoP and Premsankar P.2018, A Cross-Sectional Study on Prevalence of Eye Diseases In Children Attending The Ayurvediceye Clinic At Coimbatore. *Int J Recent Sci Res.* 9(3), pp. 25489-25492.
DOI: http://dx.doi.org/10.24327/ijrsr.2018.0903.1868

*******