



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

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**Abstract**

**Introduction:** Refractive errors are the leading cause of blindness among children. Children with Refractive errors may show less concentration on studies and poor performance at school. Poor eye care has a profound effect on general health and quality of life. Identification and intervention of major risk factors can reduce the burden of blindness among children.

**Objective:** The present study was aimed to illuminate perception of eye care and prevalence in refractive errors in children attending eye OPD and to enumerate reason for parents coming towards Ayurvedic treatment.

**Material and methods:** A cross sectional study was conducted during June 2016 to July 2017 in the Netra outpatient block of AVPRF. A convenient sample of 73 children, who are less than 15 years of age, was taken.

**Results:** The first major category of refractive errors was myopia (52%) among the children attended to Netra OPD. In our study, the highest frequency of eye diseases were recorded between 6-10 years of age (45.2%). Over usage of electronic devices, absence of awareness etc. was found to be statistically significantly associated as risk factors for refractive errors among children.

**Conclusions:** In the present study we observed parents of children with refractive errors are more willing to come to take Ayurvedic eye treatments. Nearly 71% children reported that they willing to take medicines, instead of spectacles. Main reasons for the parents bringing children to Ayurvedic eye clinic is not willing to children is to be with spectacles (79%).

**Keywords:** Refractive errors, Myopia, Netra OPD.

## **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<sup>1</sup>. The most common eye diseases contributing to ocular morbidity in India are uncorrected refractive error, vitamin A deficiency, strabismus, amblyopia and conjunctivitis<sup>2-7</sup>. 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<sup>8</sup>. 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 2016 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 Netra OP 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 below 15years who presented to the O.P, between June 2016 and July 2017 were 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 is considered.

Retinal examination was done using a direct ophthalmoscope. Intraocular pressure measurement was done with a Schiottz 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<sup>9</sup>. 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<sup>10</sup>. 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<sup>11,12,13</sup>, whereas, Limburg H et al. 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<sup>14</sup>.

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.

Of the 73 children, 59% were male and 41% were female. Regarding parents 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%).

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.

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

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.

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