

## AWARENESS OF CHILDHOOD BLINDNESS IN CAREGIVERS OF CHILDREN ATTENDING OPHTHALMOLOGY OPD IN A TERTIARY CARE HOSPITAL IN GOA

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### ABSTRACT

#### BACKGROUND

Childhood blindness is a significant problem worldwide. It is associated with child mortality and hence child survival is strongly linked to control of childhood blindness. Visual impairment in early childhood can have profound effect on the child's overall growth and development. The caregiver's awareness and perceptions about eye problems plays a crucial role in early detection and treatment of a child with visual impairment.

This study was conducted among caregivers of children visiting a tertiary care hospital in Goa with the objective of assessing their awareness, perceptions and practices about common causes of childhood blindness.

#### MATERIALS AND METHODS

This was a cross-sectional study conducted among caregivers of children who had been diagnosed with ophthalmological disease and attending Ophthalmology OPD. Data was collected from 300 cases using a pre-tested structured questionnaire.

#### RESULTS

Among the 300 caregivers who were enrolled in the study, 49% were mothers. The most common eye problem detected was refractive error (45.6%). On an average, 70.5% respondents had heard about common paediatric eye diseases. Of which 53.1% were aware that those diseases could lead to blindness. Majority of the caregivers opined that a balanced diet, Vitamin A rich diet, routine eye check-ups, use of spectacles, play an important role in the prevention of blindness. While 36.3% still believed in the use of traditional home remedies. Main source of information among caregivers regarding childhood blindness was found to be Paediatricians (39%), while mass media contributed to only 8.3%.

#### CONCLUSION

The study concludes that although caregivers were aware of occurrence of common paediatric eye diseases, the awareness that it can lead to blindness was low. Therefore, appropriate information, education and communication interventions need to be undertaken to improve the awareness of childhood blindness in the community.

#### KEYWORDS

Childhood Blindness, Awareness, Caregivers.

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#### BACKGROUND

UNICEF defines a child as 'an individual aged less than 16 years'. Blindness is defined by WHO as a corrected visual acuity of less than 3/ 60. Childhood blindness continues to be a significant problem worldwide. The causes and prevalence of childhood blindness shows wide regional variations. Prevalence in low income countries (with high under 5 mortality) is 1.5 per 1000 children, while in high income countries (with low under 5 mortality) it is 0.3 per 1000 children.<sup>[1]</sup> Amongst the causes of childhood blindness, cataract, retinal diseases (mainly hereditary dystrophies) and congenital anomalies are seen in all regions.

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Corneal scarring due to Vitamin A deficiency, measles, ophthalmia neonatorum and use of traditional remedies predominate in low income countries. Retinopathy of prematurity and lesions of central nervous system are common in high and middle income countries.<sup>[2]</sup> Causes of childhood blindness are associated with those of child mortality (prematurity, vitamin A deficiency, congenital rubella syndrome, meningitis) and hence child survival is strongly linked to control of childhood blindness.<sup>[2]</sup>

Although, the number of children with visual impairment is lower than the number of adults with visual impairment, childhood blindness ranks second only to cataract on burden due to eye diseases with respect to Disability Adjusted Life Years (DALY). Therefore, it is one of the priorities in "VISION 2020- the Right to Sight."<sup>[2]</sup>

Visual impairment in early childhood can have profound effect on the child's overall growth and development. In addition to the child, the family is also negatively affected.

Many causes of childhood blindness are either preventable or treatable. The parent's health seeking behaviour, which in turn depends on their awareness and perceptions about eye problems plays a crucial role in early detection and treatment of a child with visual impairment.

Therefore, this study was conducted among caregivers of children visiting a tertiary care hospital in Goa with the objective of assessing their awareness, perceptions and practices about common causes of childhood blindness.

**MATERIALS AND METHODS**

This was a cross-sectional study (Survey) conducted among parents/ caregivers of children aged less than 16 years who had been diagnosed with ophthalmological disease and attending Ophthalmology OPD in Goa Medical College, Bambolim, Goa. Ethical clearance was obtained from Institutional Ethics Committee prior to commencement of the study. Data was collected from 300 cases after taking their informed consent, using a pretested structured questionnaire. The study was conducted over a period of 4 months (July 2017 to October 2017). The data was analysed using SPSS version 14.0 and results are presented in the form of percentages, tables, pie diagram and bar graphs.

**RESULTS**

Among the 300 caregivers who were enrolled in the study, 49% (n= 147) were mothers, 23% (n= 69) were fathers and remaining 28% (n= 84) were other relatives (such as grandmother, grandfather, aunt, uncle, brother and sister). Majority (62%, n= 186) had education higher than primary school level and 41.3% (n= 124) were in low income group. 58% (n= 174) caregivers were residing in urban areas and 12% (n= 36) were residing in slums as shown in Table 1.

The most common eye problem detected was refractive error (45.6%, n= 137) followed by strabismus (29%, n= 87) [Figure 1]. 5% (n= 15) of the children were amblyopic. Most (47.3%, n= 142) caregivers brought the child to an ophthalmologist when eye problem had occurred, 28.7% (n=86) were referred by Paediatricians, 13% (n= 39) were brought when told by school teacher and 11% (n= 33) caregivers brought their child for a routine eye check-up.

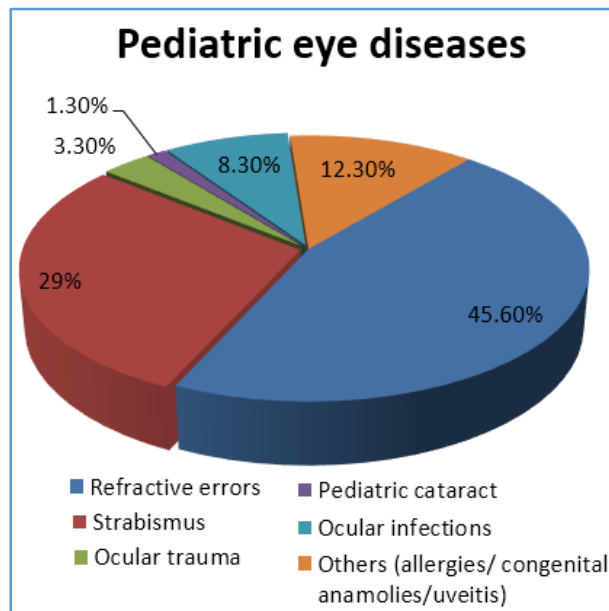
Caregivers were questioned regarding occurrence of common eye diseases affecting children. Those who had heard about a particular eye disease were further asked, whether it could cause blindness. Awareness about occurrence of ocular trauma, ocular infections, strabismus and refractive errors was high, while awareness about paediatric cataract and corneal opacity was found to be low. On an average 70.5% respondents had heard about common paediatric eye diseases. However, only 53.1% of these respondents were aware that those diseases could lead to blindness [Figure 2].

When asked about various methods of preventing childhood blindness, majority (98%, n= 294) believed that routine eye check-ups could help in preventing childhood blindness, while 36.3% (n= 109) still believed in the use of traditional home remedies [Figure 3].

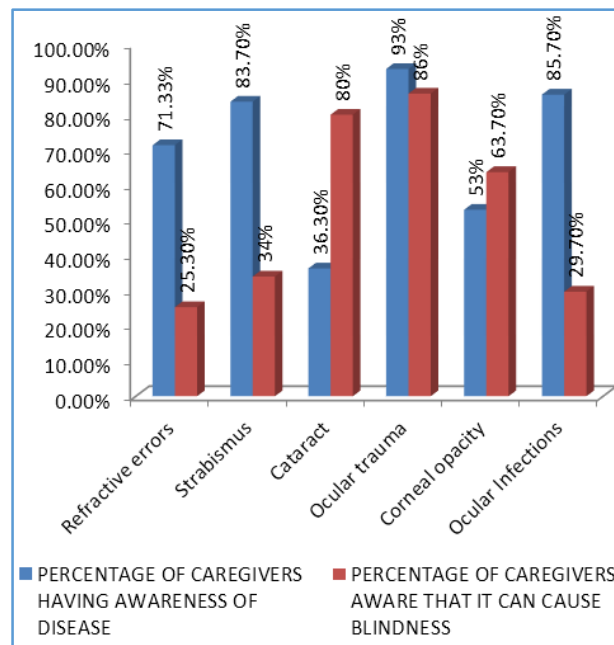
Main source of information among caregivers regarding childhood blindness in this study was found to be Paediatricians (39%, n= 117). In the era of mass communication, mass media contributed to only 8.3% (n=25) [Figure 4].

1.	<b>Education</b> Uneducated Upto Primary Higher than Primary	11% (n= 33) 27% (n= 81) 62% (n= 186)
2.	<b>Income (In Rupees)</b> < 25,000 25,000 - 75,000 > 75,000	41.3% (n= 124) 44.3% (n= 133) 14.3% (n= 43)
3.	<b>Residence</b> Rural Urban Urban Slums	30% (n= 90) 58% (n= 174) 12% (n= 36)

**Table 1. Education, Income and Residence of Caregivers attending Ophthalmology OPD with the Child**



**Figure 1. Common Paediatric Eye Diseases**



**Figure 2. Percentage of Caregivers having Awareness of the Paediatric Eye Disease (BLUE) versus Percentage of Caregivers who were aware that it can cause Blindness (RED)**

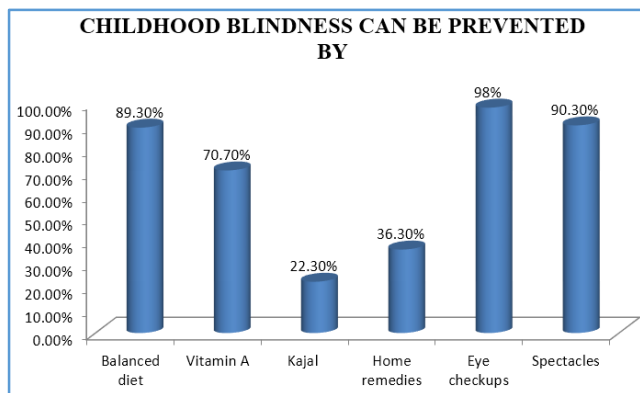


Figure 3. Childhood Blindness can be prevented by as told by Caregivers

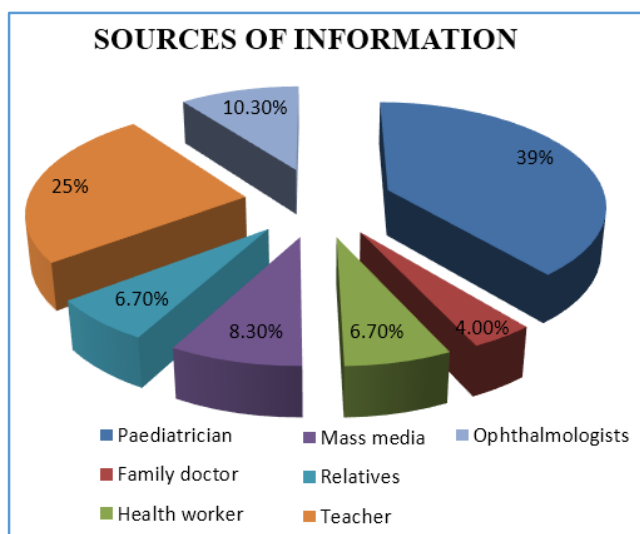


Figure 4. Sources of Information about Childhood Blindness as told by Caregivers

**DISCUSSION**

Most (49%) of caregivers accompanying the child to OPD were found to be mothers. This finding is similar to a study conducted by Paranjape R et al, which concluded that since number of mothers attending ophthalmology OPD with their children was high, educating them about their child’s eye condition is essential.<sup>[3]</sup> Literacy level of the mother strongly influences child’s health and healthcare utilisation. Awareness among caregivers about conditions that can lead to childhood blindness was high (70.5%), which is probably related to 62% of respondents having a higher than primary level of education and 58% residing in urban areas with good access to health care services. The findings being comparable to a study conducted by Kumar et al in a tertiary level children hospital in Delhi.<sup>[4]</sup> However, these studies being hospital based, results cannot be applied to the general population. Majority (71.33%) caregivers were aware about occurrence of refractive errors in children; however, only 25.3% of these were aware that uncorrected refractive errors could lead to blindness. Again, this finding is comparable to a study conducted by Kumar et al.<sup>[4]</sup> Most caregivers perceived watching television for long hours and fussy eating habits as the reason to develop refractive errors in childhood. Parents were apprehensive about the use of spectacles in their child and were more interested in knowing by what age they would have spectacle free vision. Only 34% caregivers were

aware that strabismus can cause blindness. A child with strabismus was mostly brought to OPD for cosmetic correction, more so if the child is a female.

Majority of the caregivers opined that a balanced diet, Vitamin A rich diet, routine eye check-ups, use of spectacles play an important role in the prevention of blindness. This was in contrast to studies conducted by Jain et al, which ascertained that traditional practices, home-based medical treatment and poor economic conditions were main barriers preventing parents from accessing eye care services for their children.<sup>[5]</sup> However, our study sample has been taken from a tertiary level hospital in Goa with majority of respondents hailing from urban areas with monthly family income of Rs. 25,000 - 75,000/- and having literacy level of higher than primary education. Hence, these results cannot be applied to the general population. 36.3% caregivers still believed in the use of traditional home remedies for the treatment of ocular infections. Some practices enumerated by caregivers included instillation of honey/ milk/ turmeric/ castor oil/ coriander water in the affected eyes to soothe and treat conjunctivitis.

The main source of information about childhood eye diseases was Paediatricians who referred 28.7% children to Ophthalmology OPD. 13% children were referred by school teachers. Paranjape et al found out in their study that 53% parents came to know about the eye problem of their child from the school teacher.<sup>[3]</sup> Thus teacher training programs incorporated into school vision screening programs are necessary to educate them about childhood eye diseases and their early detection. Only 11% caregivers brought their child for a routine eye check-up. The American Academy of Ophthalmology recommends that all infants and children be routinely screened even in the absence of specific signs and symptoms. Very few caregivers (8.3%) got information about childhood eye disease from mass media. In the present era, awareness programs popularised through mass media can lead to better eye care seeking behaviour in the general population.

Refractive errors and strabismus were the most common paediatric eye diseases, which is similar to the study conducted by Paranjape et al.<sup>[3]</sup> Ocular injuries were diagnosed in 13% of children, thus emphasising the need to increase awareness about ways of preventing ocular trauma in children.

In communities with blindness due to corneal scarring, 6 monthly Vitamin A supplementation for all children between 9 months and 5 years with consumption of Vitamin A rich diet should be encouraged.<sup>[6]</sup> Use of traditional home remedies for treating eye problems should be discouraged.

**CONCLUSION**

This study concludes that although most caregivers had knowledge regarding the occurrence of common paediatric eye diseases, the awareness that it can lead to blindness was low.

Paediatricians and school teachers play an important role in detection of eye problems in children and serve as a crucial link in referral to an Ophthalmologist. Eye care seeking behaviour is mainly related to parental knowledge and perception about eye problems in their children. Therefore, appropriate Information Education and Communication (IEC) interventions need to be undertaken to improve the awareness of childhood blindness in the community.

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