

Report: Barriers to Pediatric Eye Care in Orissa, India

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Objective

This study aims to illuminate perceptions of pediatric eye care.

Background

The issue of pediatric eye care for preventable maladies has become a significant topic of discussion globally. The World Health Organization and the International Agency for Prevention of Blindness have instituted the Global Childhood Blindness Program internationally. Currently, schools and family members are the primary conduits to identifying a child's eye problem (1). The key to increasing the number of pediatric patients who are brought to the proper medical attention is familial education.

Previous studies have found several misconceptions among Indian parents and grandparents about eye care. One study (2) recorded a belief that children under the age of four should not wear spectacles. In addition, strabismus, a misalignment of the eyes, was thought to be a sign of good luck rather than a treatable visual impairment. In parental discussions about the most prevalent eye issues, visual impairment did not feature in the top ten eye problems for children.

Methods

The study was conducted at the Kalinga Eye Hospital in Orissa, India during June 20 - August 10, 2012. Patients with children (parents, grandparents or guardians) were eligible to participate. Informed consent was obtained verbally in the language spoken by the subject (with the help of a translator). A total of 154 individuals participated in the study. Participants were asked questions related to socio-economic status, their children's eye history and their perception of eye care. Interview questions were recorded and analyzed with Microsoft Word and Excel software.

Results

Descriptive Statistics

Sociodemographic Information. Of the 154 participants, 59.09% were male and 40.91% were female. Of participants with minors currently in the household, most were fathers (35.54%) and mothers (23.14%). A good number of grandparents (18.18%) and aunts and uncles (18.18%) also participated. The remaining 12.40% were siblings. Note: Patients could select more than one relationship (i.e. some male participants were a father to some children in the household and an uncle to others).

The majority of participants (66.88%) were professionals, while 27.92% were laborers and 5.19% were unemployed, retired or students.

Participants were asked how far they had travelled to get to Kalinga Eye Hospital. 47.40% of the participants had travelled 21-70 kilometers, 39.61% had travelled less than 20 kilometers, and the remaining 5.84% had travelled more than 70 kilometers.

When asked how they had heard of Kalinga Eye Hospital, 48.05% said they had heard through word of mouth and 13.64% said that they had heard through advertisements. Other means included a previous visit, a camp, and the local hospital.

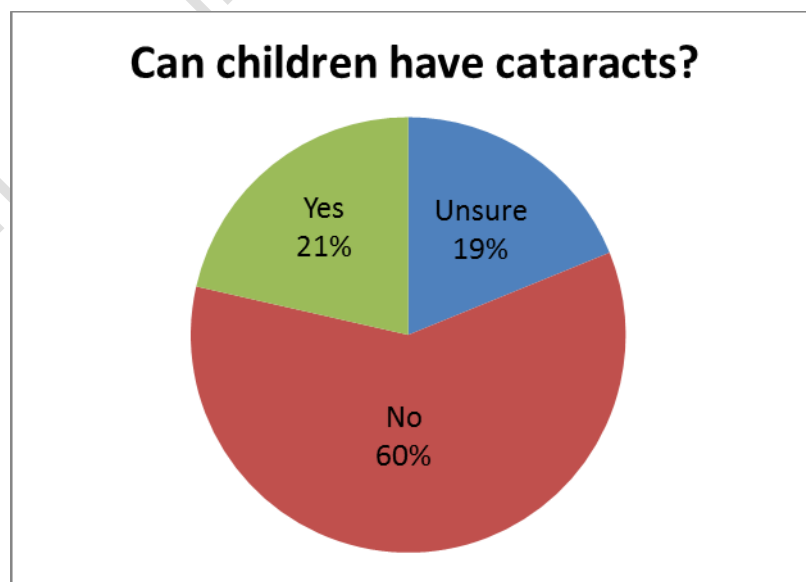
Eye Health History. Just 32.47% of respondents said that they or their children had received an eye exam in the past 12 months. Of those with minors currently in the household, 23.97% said that at least one child had experienced eye problems. 12.40% said that at least one child in their household wore eyeglasses.

When asked whether their children would benefit from an eye exam, the majority (90.26%) responded 'Yes'. Those that responded positively were then asked how often an eye exam should be done for children. 53.96% said whenever a problem arises, and 42.47% said between 1-7 times per year.

Most participants (69.49%) believed that people require spectacles only after 31 years of age. 21.43% were not sure about the use of spectacles.

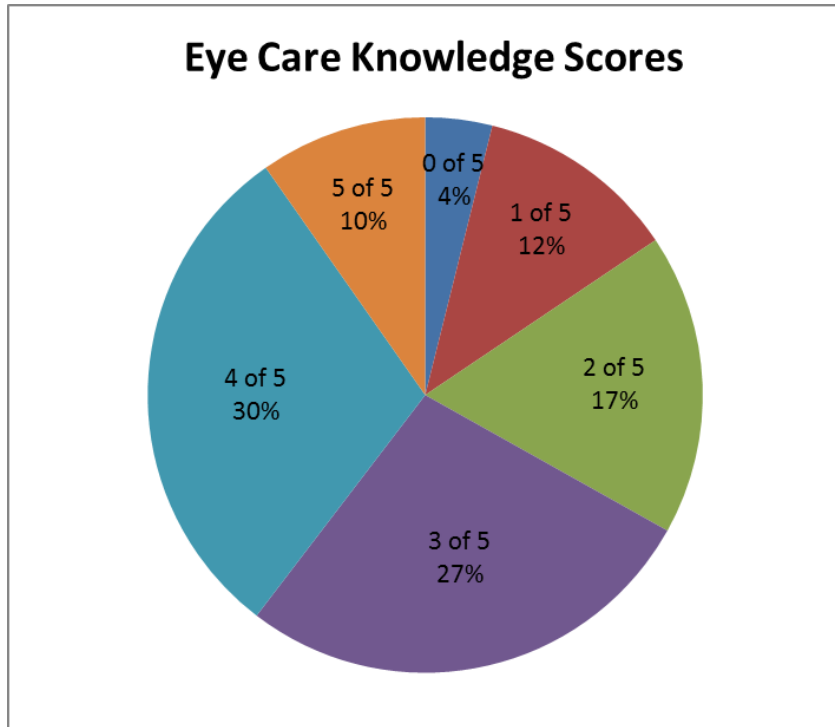
Perceptions of Eye Care. Nearly all participants (99.35%) reported that they would take a child to the eye doctor or local hospital if he or she experienced sudden trauma to the eye. The one remaining participant did not finish the questionnaire.

A majority (59.74%) of the participants believed that children do not get cataracts. 21.43% said that cataracts can occur in children, while 18.83% were not sure.



To assess eye care knowledge, participants were presented with a series of five symptoms (Question 23) and were asked to identify which could indicate eye problems. The most frequently missed symptoms were squinting (34.42% correct) and headache (59.09% correct).

On average, participants correctly answered 2.97 of 5 questions. 9.74% score 5/5, 29.87% score 4/5, 27.27% score 3/5, 17.53% score 2/5, 11.69% score 1/5 and 3.90% scored 0/5.



Patterns of Eye Health History

Several variables were further analyzed to determine trends in health-seeking behaviors. Of those who said that their children would benefit from an eye exam, only 34.78% said that they or the children in their household had received an eye exam in the past twelve months. There was no significant relationship between these variables ($p > 0.05$).

		Have you or your children received an eye exam in the last 12 months?		
		Yes	No	Total
Do you think that children in your household would benefit from an eye exam by a doctor?	Yes	48	90	138
	No	2	9	11
	Total	50	99	149

Whether a household member had received in eye exam in the past 12 months was then compared to the existence of eye problems at home. A chi-square analysis suggests that households where a child has an eye problem are more likely to have a household member who has received an eye exam in the last 12 months ($p < 0.001$). However, it is important to note that even in households where a child has had an eye problem, just 55.17% had at least one family member receive an eye exam.

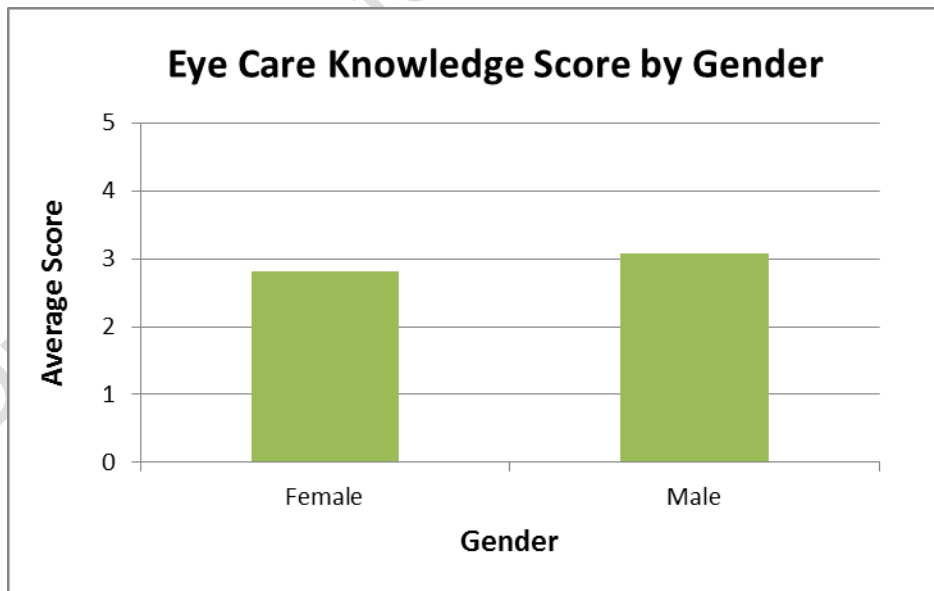
Have you or your children received an eye exam in the last 12 months?

		Yes	No	Total
Have any children in your household had any eye problems?	Yes	16	13	29
	No	21	71	92
	Total	37	84	121

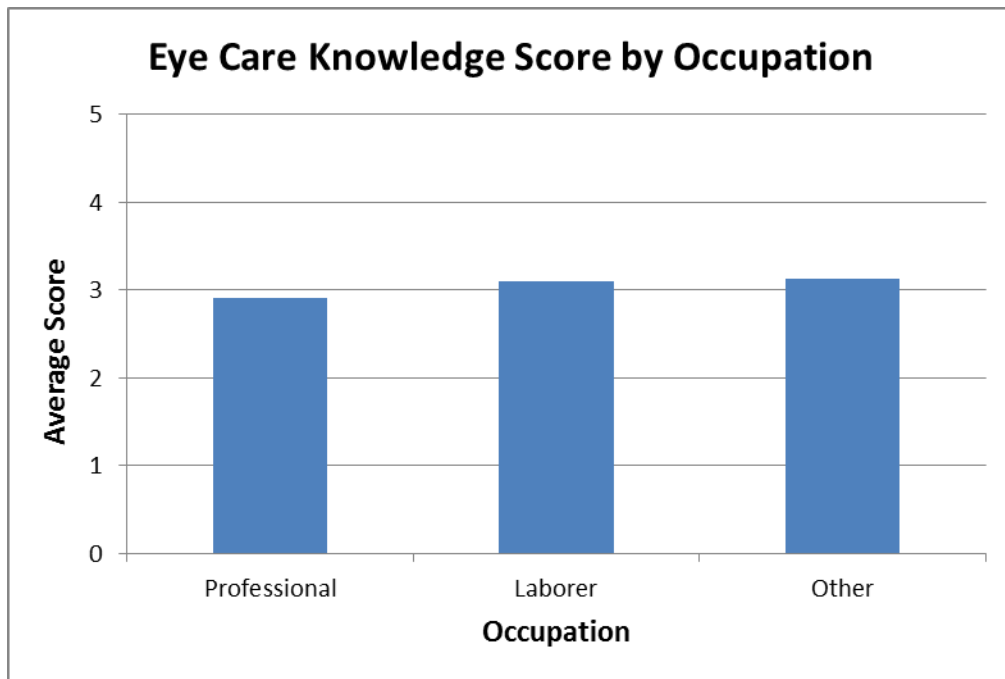
Patterns in Eye Care Knowledge

The data was also analyzed to identify the ways in which background characteristics influenced eye care knowledge.

There was no significant relationship between gender and eye care knowledge ($p > 0.05$). The mean score of female participants (2.81 out of 5) was not very different from the mean score of the male participants (3.08 out of 5).



Participants' eye care knowledge score was not significantly related to their occupation ($p>0.05$). The mean score for professionals (2.90 out of 5) was not very different from that of laborers (3.09 out of 5).



Recommendations

This study offered important insight into perceptions of eye care among adults that care for children in Orissa, India. Participants generally demonstrated limited knowledge of eye care symptoms, with a minority scoring above 60% on the knowledge assessment. The average score was 2.97 out of 5. Given the connection between parent (or caretaker) perceptions of eye care and pediatric eye care attainment, this trend is cause for concern.

This investigator left out two questions (Question 9 and 10) from the Poverty Score Card and thus the Poverty score could not be calculated for this sample. Future investigations related to this topic should be sure to include all questions.

Additionally, future studies should always collect information at the individual level rather than the household level. For example, rather than asking whether anyone in the household has had an eye problem, the questionnaire should ask whether each specific family member has had an eye problem.

Furthermore, it would be interesting to compare each participant's perceptions of eye care to their family's attendance at Kalinga Eye Hospital. Future studies might ask participants who in their family accompanied them for care and who did not, and why.

Finally, this particular topic might be further explored through a qualitative study. Open-ended questions and focus groups would likely yield more in-depth explanations of barriers to care in the local community.

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Questionnaire

Demographic Information

1. How many people aged 0 to 17 live in the household?
2. What are their ages?
3. What is your relationship with each child?
4. What is the household's principle occupation?
5. Is the residence all pucca (burnt bricks, stone, cement, concrete, jack board/cement, plastered reeds, timber, tiles, galvanized tin or asbestos cement sheets)?
6. What is the household's primary source of energy for cooking?
7. Does the household own a television?
8. Does the household own a bicycle, scooter, or motorcycle?
9. Does the household own an almirah/dressing table? (not asked)
10. Does the household own a sewing machine? (not asked)
11. How many pressure cookers or pressure pans does the household own?
12. How many electric fans does the household own?

Children's Eye History

13. Have any children in your household had any problems with their eyes?
14. If yes, which age?
15. If yes, please describe the problem.
13. Do any children in your household wear eyeglasses?
14. If yes, which age?
15. Where did you receive the glasses?
16. How did you find out about Kalinga Eye Hospital?
17. Have you or your children received an eye exam in the last twelve months?
18. Why or why not?

Perceptions of Eye Care

19. Can children have cataracts?
20. At what age may people require spectacles?
21. What do sunglasses do?
22. Do you or your children wear sunglasses when outside?
23. Please say whether these symptoms could be caused by an eye problem.
 - Squinting
 - Rubbing eyes
 - Headache
 - Trouble in school
 - Pain in ear
24. Do you think that children benefit from an eye exam by an eye doctor?
25. How often should an exam be done?
26. If a child has sudden trauma to the eye (hit with stone, etc.), where would you take them?

Works Cited

1. Dandona, R, L Dandona, T Naduvilath, C McCarty, and G Rao. "Utilisation of Eyecare Services in an Urban Population in Southern India: The Andhra Pradesh Eye Disease Study." *The British Journal of Ophthalmology* 84, no. 1 (January 2000): 22–27.
2. Nirmalan, PK, S Sheeladevi, V Tamilselvi, AC Victor, P Vijayalakshmi, and L Rahmathullah. "Perceptions of Eye Diseases and Eye Care Needs of Children Among Parents in Rural South India: The Kariapatti Pediatric Eye Evaluation Project (KEEP)." *Indian Journal of Ophthalmology* 52, no. 2 (June 1, 2004): 163.

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