

Survey of Patient Opinions on Eyeglasses and Eye Care in Rural and Slum Populations in Chennai

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Citation

K Chawla, J Rovers. *Survey of Patient Opinions on Eyeglasses and Eye Care in Rural and Slum Populations in Chennai*. The Internet Journal of Epidemiology. 2009 Volume 8 Number 2.

Abstract

Background: Uncorrected refractive error is a common cause of avoidable visual impairment that can be corrected with eyeglasses. Patients must wear their eyeglasses to correct such refractive errors and their perceptions of eyeglasses and eye health may affect their compliance with wearing their spectacles. **Objectives:** This study was conducted to learn about people's basic perspectives and knowledge of eye glasses and eye health in Chennai. **Methods:** Non-randomized 7 question survey of patients attending Uma Clinic Eye Camps in slums and rural areas of Chennai. **Results:** 78 subjects completed the survey. Most subjects were women (85.6%), had presbyopia (75.6%), required corrective lenses (82.1%) and their average age was 45 +/- 8.7 years. Most subjects (66.7%) had heard of eyeglasses and understood why they may wear them. However, 9-47.4% did not know why glasses may be worn, did not know what was wrong with their eyes, were unsure if they needed eyeglasses or why people may lose their eyesight. 16.7% of subjects believed eyeglasses were an effective treatment for headache. **Conclusions:** We conclude that providing basic education on the types of refractive error and other causes of low vision, how eyeglasses may or may not help, discussion of common treatments for eye problems and clear instructions on when and when not to wear eyeglasses would be useful.

INTRODUCTION

An estimated 80% of the blindness worldwide is avoidable.¹ Avoidable blindness may be defined as blindness which could be either treated or prevented by known, cost-effective means. In order to reduce this, the United Nations created the VISION 2020: The Right to Sight program. One of the aims of this initiative is to obtain information about the epidemiology of eye health care globally in order to analyze the causes.² This will allow health care practitioners to effectively approach the problem and have the greatest impact in resolving this issue.

Uncorrected refractive error is a major cause of visual impairment.³ In 2006, 153 million people were living with uncorrected refractive error, as reported by the World Health Organization. Of these, 13 million are children and 45 million are adults. Furthermore, ninety percent of people with uncorrected refractive error live in low income countries.¹ Due to their impaired vision, people may not be able to complete their education, find it difficult to obtain employment, and may not be able to lead a full life. However, this can easily be corrected using glasses. Due to this global need and simple solution, uncorrected refractive error is a priority of the VISION 2020: The Right to Sight

program.

In 2000 it was reported that the number of people living with avoidable blindness in India was 18.7 million.² Of these, 3 million cases of blindness were due to refractive error. If this trend continues, then there could be up to 31.6 million blind people in India by 2020. However, in order to correct refractive error, patients must wear their eyeglasses appropriately. Patients' understanding of and attitudes toward spectacles and eye health would be expected to influence compliance with wearing them. Several previous studies have evaluated the attitudes of patients in both the developed and the developing world towards their eyeglasses and eye health.

A study of spectacle use in urban and rural areas in Andhra Pradesh by Dandonda et al. reported that people who did not use their spectacles did so because: they believed the prescription was not appropriate; they felt the glasses were not comfortable; or they were not able to buy a new pair due to economic reasons.⁴ Another study by Dandona et al. surveyed awareness and knowledge about eye diseases and treatments in urban populations in Southern India. They found there was greater awareness of cataract and night

blindness than awareness of diabetic retinopathy and glaucoma.⁵ The main sources of awareness of eye diseases were a family member, friend, or relative suffering from that eye disease.

Congdon et al. found that a majority of rural Chinese students were not wearing eyeglasses with the proper prescription.⁶ Patients believed that glasses weaken the eyes and only wore them only when it was necessary or for special occasions.

A study on the beliefs of hospital professionals in a hospital in Brazil found that many health care workers believed that glasses cure vision problems, that watching too much television and poor lighting damages eyesight, and that certain foods would improve eyesight.⁷

Studies of eyeglasses in the developed world reveal entirely different perceptions about them. In studies of British presbyopic patients, Fylan et al found that patients were primarily concerned about eyeglasses as fashion items and as a means to maintain vision and eye health.⁸ Conversely, the opticians surveyed believed that the most important factor about glasses to patients was the cost and that opticians' recommendations were less important.⁹

This study was conducted in order to learn about people's basic perspectives and knowledge of eye glasses and eye health in Chennai. Our objectives were to assess:

1. the knowledge and perceptions of eye glasses of the rural and slum populations around Chennai;
2. their knowledge about the treatment of different eye diseases;
3. their knowledge about different types of eye diseases.
4. their use of spectacles;
5. the common causes of the need for eye glasses.

MATERIALS AND METHODS

This study was conducted in December 2008 and January 2009 while one of the investigators (KC) volunteered with Unite For Sight, a non-profit organization that works to eliminate preventable blindness in India, Africa, and Latin America.¹⁰ The survey was conducted with patients who attended the free cataract screening camps set up by Unite for Sight and the Uma Eye Clinic in the slum and rural areas

around Chennai.

We conducted a survey consisting of 7 open ended questions. The survey is included in Table 1. We also reviewed patients' medical records to accurately document the diagnosis of the eye health of the patient and need for eyeglasses.

Figure 1

Table 1 – Survey Questions

- Have you heard of eyeglasses?
- What do you believe eyeglasses are used for?
- What do you believe is wrong with your eyes?
- What treatment do you think will fix this?
- Do you think that you need eyeglasses? Why?
- When would you wear eyeglasses? (reading, cooking, walking, etc).
- Why do you think people may lose their eyesight?

Subjects had to be ≥ 18 of age and provide informed consent to be eligible to participate in the survey. This study was approved by the Drake University Institutional Review Board and the subjects signed informed consent forms (provided in English and Tamil).

The participants were chosen by approaching patients during the eye camps and requesting their participation. The investigator conducted the study in English and questions were translated into Tamil by an interpreter who was a staff member of the Uma Eye Clinic. Surveys were conducted after the patient had been evaluated by the optometrist and ophthalmologist, and had attended the eyeglasses station.

RESULTS

A total of 78 subjects were surveyed. Of these, a majority of the participants were female housewives. The mean age of the participants was 45 +/- 8.7 years. (See Table 2)

Figure 2

Table 2 – Demographics

Over 75% of subjects suffered from presbyopia and over 80% were diagnosed as requiring corrective lenses. (See Table 3)

Demographic	Number
Age (mean years +/- Std Dev)	45 +/- 8.7
Sex (number/%)	
Female	67(85.9)
Male	11(14.1)
Occupation (number)	
Housewife	50
Employed	15
Business	11
Unemployed	1
Not stated	1

Figure 3

Table 3. Responses to the Survey Questions (n=78)

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Question/Responses	Number of Responses (Number(%))*
Have You Heard of Eyeglasses?	
Yes	52 (66.7)
No	26 (33.3)
What do you believe eyeglasses are used for?	
To better/ clear vision	23 (29.5)
Near vision difficult/ reading	17 (21.8)
Poor eyesight/ bad vision	17 (21.8)
Head pain/ eye pain/ headache	13 (16.7)
Do not know	9 (11.5)
Other (cataract, sugar problem, eye strain, dust prevention, etc.)	4 (5.1)
Near and far vision	3 (3.8)
What do you believe is wrong with your eyes?	
Reading/ short sight problem/ near vision	24 (30.8)
Eye pain/ irritation/ watering	14 (17.9)
Nothing	12 (15.4)
Vision not clear/ good/ power	8 (10.3)
Do not know	7 (9.0)
Far vision problem	5 (6.4)
Headache	2 (2.6)
Miscellaneous	2 (2.6)
What treatment do you think will fix this?	
Do not know	37 (47.4)
Glasses	29 (37.2)
Drops/ medication/ tablets	5 (6.4)
Vitamins/ diet	3 (3.8)
Surgery/ other intervention	2 (2.6)
Nothing	2 (2.6)
Go to doctor	2 (2.6)
Do you think that you need eyeglasses? Why?	
Yes	43 (55.1)
No	28 (35.9)
Do not know	7 (9.0)
When would you wear eyeglasses?	
Reading/ writing/ long distance	51 (65.4)
Work (cooking/ tailoring)	16 (20.5)
Do not know	7 (9.0)
Headache/ pain	6 (7.7)
Watch television	3 (3.8)
Miscellaneous	3 (3.8)
Walking	2 (2.6)
All the time	2 (2.6)
Why do you think people may lose their eyesight?	
Do not know	26 (33.3)
Less vitamins/ diet	19 (24.4)
Miscellaneous eye problems/ vision problems	10 (12.8)
Sugar problem	8 (10.3)
Old age	8 (10.3)
Miscellaneous non eye problems	5 (6.4)
Watching television	4 (5.1)
Headache/ too much thinking	4 (5.1)
Bad habits (drinking, smoking, etc.)	3 (3.8)
Hereditary	2 (2.6)
Accident	2 (2.6)
None of the above	2 (2.6)
What is the actual diagnosis of the eye health of the subject?	
Presbyopia	59 (75.6)
Not known	7 (9.0)
Cataracts	6 (7.7)
Other	3 (3.8)
None	3 (3.8)
Does this subject need eyeglasses?	
Needs glasses	64 (82.1)
Needs other treatment	9 (11.5)
No treatment needed	5 (6.4)

* Responses may add up to ≥ 100% if subjects offered ≥ 1 response.

The results of our survey are shown in Table 3 and demonstrate that participants have an inconsistent understanding of eye health.

Most participants had heard of eyeglasses. Their responses for why eyeglasses may be worn suggest a good understanding of the indications for spectacles. Although 24.4% of participants either reported there was nothing wrong with their eyes or they did not know, subjects reported a wide variety of eye problems. It was apparent that few participants felt that eyeglasses were a common solution to their eye problems. Nevertheless, most subjects believed they needed glasses. The majority of responses indicated that a wide number of treatments including eye drops, vitamins or no treatment were felt to be viable therapeutic options. When asked when they would wear their glasses, most responded they would wear them for an appropriate reason, including reading, writing and distance vision. Subjects' responses for why people may lose their eyesight demonstrated a poor understanding of the causes of low vision. Common misconceptions included beliefs that excessive thought, watching television and bad habits contribute to poor eye health.

We examined the medical record for each subject and compared the treatment prescribed with what the subject believed was appropriate treatment for his/her condition. The subjects' beliefs were congruent with the prescribed therapy only 34.6% of the time. (See Table 4)

Figure 4

Table 4 – Patient's Expected Treatment Compared to Actual Treatment

	(Number/%)
Did not know	38(48.7)
Expected treatment similar to actual treatment	27(34.6)
Expected treatment not similar to actual treatment	13(16.7)

DISCUSSION

Our results suggest there is an opportunity to improve patient education concerning eyeglasses and eye health in this patient population. Overall, participants demonstrated only a moderate understanding of these issues.

Consider, for example, the results shown in Table 4. Only 34.6% of subjects reported that the treatment they received corresponded with the treatment that they believed they needed. When actual treatments do not correspond well to

patient expectations, there is a risk that the patient will be dissatisfied with their encounter with the medical system. Such dissatisfaction may result in poor adherence with prescribed therapy, such as eyeglasses. Providing adequate patient education at the time of the encounter may be one means to counter any potentially unmet patient expectations and promote adherence with medical instructions.

A common response to all survey questions was “do not know”. Although most participants (66.7%) had heard of eyeglasses, between 9 – 47.4% did not know what glasses were used for, did not know what was wrong with their eyes, were unaware of appropriate treatments, were unsure if they needed glasses or when they would wear them and were unsure why people may lose their eyesight.

A third of the patients did not know possible causes of blindness. This suggests that greater awareness and knowledge of eye diseases and treatments are necessary. Educating patients on the causes of and treatments for vision loss may improve their understanding of the importance of eye health practices and eye exams⁶ This may lead to early detection and prevention of low vision. This in turn lowers the burden of disease and related health care costs⁶

Information on the effects of lifestyle on eye health may be especially important since some participants (3.8 – 5.1%) believed that excessive thinking, watching television or smoking and drinking may damage vision. Although patients should be encouraged to stop smoking and be prudent about alcohol use, limiting time spent in thought or watching television may negatively impact education and knowledge. And if patients correct a perceived lifestyle concern, they may conclude this has also corrected their vision problem and discontinue wearing their eyeglasses.

We note that 16.7% of participants believed that eyeglasses were helpful in treating headaches. A few (2.6%) stated their chief complaint was a headache, and 7.7% stated they would wear their glasses to treat a headache. It appears that clinicians should ensure that patients understand that, although a headache may be relieved by spectacles, this is a result of reducing the underlying eye strain and not a primary effect on headache. If the headache is not relieved, patients may simply stop wearing their eyeglasses. We concur with the recommendation of Jayanand who has recommended that other, more serious causes, for headache be ruled out when prescribing eyeglasses.¹¹

Based on our results, we conclude that providing basic

education on the types of refractive error and other causes of low vision, how eyeglasses may or may not help, discussion of common treatments for eye problems and clear instructions on when and when not to wear eyeglasses would be useful. We believe that patients would welcome such education. Since many of our subjects gave an appropriate response when asked when they would wear their glasses, it appears patients do have an appreciation for how eyeglasses and eye health may improve their lives.

The eye camps may be an effective way to provide this education. A majority of the attendants were women. They may take the information learned at the camps and share it with their families.

We note several potential limitations to this study. The survey instrument was written and the questions posed by the investigator in English. Although the interpreters were native Tamil speakers and fluent in English, none were formally trained as interpreters. This may have resulted in inconsistencies in understanding by both study subjects as well as the investigator.

Since subjects were interviewed after they had completed their evaluation by the eye camp staff, their responses may have been influenced by information obtained during their visit to the eye camp.

Patients were not randomly selected for an interview, but were usually chosen by the interpreter when prompted by the investigator. We would also note that patients with refractive error were over-represented in our results. Finally, although we attempted to review the diagnosis and indication for eyeglasses in the patient's chart, this information was not

consistently documented.

ACKNOWLEDGEMENT

We gratefully acknowledge the support of Dr. Tamilarasan Senthilof the Uma Eye Clinic and the assistance of Thanraj Amballam, the Eye Camp Manager.

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