



# **A rapid appraisal of factors influencing utilization of primary eye health services among the residents in a rural community**

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**How to cite this article:** Shama Prakash, Manpreet Kaur, Bikramjeet Singh, Abhishek Singh, Pooja Goyal, Avinash Surana, Shewtank Goel, Sanjeet Panesar, Anurag Ambroz Singh, Richa Chaturvedi, Lalit kumar singh. A rapid appraisal of factors influencing utilization of primary eye health services among the residents in a rural community. IAIM, 2015; 2(4): 83-89.

**Available online at [www.iaimjournal.com](http://www.iaimjournal.com)**

**Received on:** 21-03-2015

**Accepted on:** 28-03-2015

## **Abstract**

**Background:** Identification of factors affecting utilization of primary eye health services would help the government and other eye care providers to address inequity issues in their eye care program.



**Aim:** Therefore this study was planned to find out barrier to utilization of eye health services among people living in rural western Uttar Pradesh.

**Material and methods:** The current community based cross-sectional survey which involved both qualitative and quantitative methods, was conducted among the residents. A total of 216 study subjects participated in the study. Factors in the supply side influencing utilization of eye health services by people from the community were sought through Focus Group Discussion (FGD) and Key Informant Interview (KII).

**Results:** Almost 80% of the respondents had agriculture as their major occupation and > 1/4<sup>th</sup> were from lower caste community. Regarding the seeking of eye care services, 52.4% respondents who gave a positive history of an eye problem in the family told they attended the nearest health facility; CHC, PHC or SC while 19.2% did actually go to the eye health center. Only 4.8% respondent did not seek any service. Among 112 respondents who were aware of one or other eye diseases, 74.6% identified dirty things fallen into the eyes as the cause of an eye problem followed by 50.3% of the respondents who pointed out injury to the eyes as the culprit. For emergency problem in the eyes 79.2% respondents told that they sought services from health facilities without delay, while 15.4% gave priority to starting household treatment.

**Conclusion:** Raising awareness of the community about eye diseases and the services available together with strengthening of primary eye health services available at the local health facilities could help bring eye health services in closer proximity to the rural population.

### Key words

Factors, Utilization, Primary, Eye health services, Community.

### Introduction

“Vision 2020: The Right to Sight” is committed to integrate a sustainable, comprehensive, high-quality; equitable eye care system into strengthened national health-care systems [1, 2]. The initiative sets a major challenge requiring a significant increase in the provision and uptake of eye care services. If the increasing trend in blindness is to be reversed, then eye care services should not only be available but also be increasingly easily accessible and affordable [3, 4]. In such a scenario it becomes extremely important to understand the nature and social context of indirect cost barrier.

A huge proportion of blindness is preventable/avoidable or easily treatable. To address this situation, interventions specific to blindness are required, which will include prevention, eye health promotion, protection,

treatment and rehabilitation. This is increasingly recognized as an important attribute of modern health care system [5]. The problem of blindness is acute in rural areas and hence the program must try to expand the accessibility of ophthalmic services in these areas.

India is committed to the goal of Vision 2020 and elimination of avoidable blindness is of primary concern. Establishment of primary, secondary and tertiary eye care centers in areas where services were most needed was one of the most important strategies in this regard. Availability, accessibility, accommodation, affordability, and acceptability are five key elements of access. Patients and providers could have different perspectives regarding access to care. Providers may care much more about outcomes, whereas patients also value convenience, timeliness, a comfortable



environment, the provider's attitude, communication, and other aspects of care. Any mismatch between provision of services and need is regarded as evidence of inequitable access to health care [6, 7].

Identification of factors affecting utilization of primary eye health services would help the government and other eye care providers to address inequity issues in their eye care program. Some studies on awareness of cataract and surgical service utilization for the condition have been done in the area but there is no study available on availability and utilization of primary eye health services. Therefore this study was planned to find out barrier to utilization of eye health services among people living in rural western Uttar Pradesh.

### Material and methods

The current community based cross-sectional survey which involved both qualitative and quantitative methods, was conducted among the residents of rural western Uttar Pradesh. Factors influencing utilization of eye health services on demand side were collected by quantitative methods while those on the supply side were collected by qualitative methods. For blindness prevalence rate of 0.85 in the region (unpublished data from CMO office); allowable error of 5% and assumption of a non response rate of 10%, the sample size for quantitative data was calculated to be 224. Households from two villages were taken using PPS sampling. One member from each household above the age of 18 years, who consented to participate in the study, was enrolled for the study.

A structured proforma was designed in consultation with subject experts to collect quantitative data on various socio demographic, socio economic, geographic and cultural variables influencing access to eye health

services. Regular supervision and monitoring was done at the household level by the principal investigator on every alternate day. With a non response rate of 4%, data from 216 households was included in the analysis. Similarly factors in the supply side influencing utilization of eye health services by people from the community were sought through Focus Group Discussion (FGD) and Key Informant Interview (KII).

Three health workers served as source of information for qualitative data. Data collection was done by the investigators. For quantitative data, the data entry was done in Epi-info version 3.5.1 software and analyzed using SPSS version 20 software; simple frequencies and relationships between variables were calculated. Chi-square test was used as the test of significance. Finding with p-value less than 0.05 was considered statistically significant at 95% level of confidence. For qualitative data, all the data was read carefully, transcribed and a category system was constructed based on the homogeneity of data. Data was coded according to the category system and data belonging to each category was sorted, retrieved, assembled manually and viewed. Interpretation was made in a descriptive way making reference to field notes.

### Results

A total of 216 study subjects participated in the study. Median age of the respondents was 45 years and the age range was from 18 to 72 years. Almost 80% of the respondents had agriculture as their major occupation and > 1/4<sup>th</sup> were from lower caste (dalit) community. Low level of educational attainment and poverty among respondents were found to be significantly associated with low level of awareness on eye diseases.



Regarding the seeking of eye care services, 52.4% respondents who gave a positive history of an eye problem in the family told they attended the nearest health facility; CHC, PHC or SC while 19.2 % did actually go to the eye health center. Only 1 (4.8%) respondent did not seek any service. The reason for service not been sought was the belief that the condition was normal. On the prevention aspects, 71.1% gave importance to regular ocular hygiene however 1.5% emphasized on superstitious belief (pay respect to gods, goddesses).

The risk of not knowing about eye diseases (mainly cataract, glaucoma and night blindness which are more common) increased more than 3.5 times when people were illiterate and this finding was found to be statistically significant for all the 3 diseases taken in to account in this study as per **Table – 1**.

The risk of not knowing about eye diseases (mainly cataract, glaucoma and night blindness which are more common) increased more than 4 times when people were unemployed. This finding was found to be statistically significant for 2 diseases taken in to account in this study namely cataract and night blindness as per **Table – 2**.

The relation and caste of the respondents were not found to be significantly associated either with awareness or with knowledge on eye diseases. Among 112 respondents who were aware of one or other eye diseases, 74.6% identified dirty things fallen into the eyes as the cause of an eye problem followed by 50.3% of the respondents who pointed out injury to the eyes as the culprit. For emergency problem in the eyes 79.2% respondents told that they sought services from health facilities without delay, while 15.4% gave priority to starting household treatment.

Regarding the accessibility 51.7% of the respondents said that the nearest health facility was at a walking distance of more than half an hour from their place of living. Eye health services were utilized when the distance to health facility from home was less ( $p=0.05$ ). Eye health services were believed to be available in those health facilities by 75% of the respondents. However, KII with health workers and FGD revealed that the availability of primary eye health services in the study area was very poor. Upon probing for the availability of eye health services and adequacy of human resource for eye care delivery the study subjects shared that the services available at health facilities were inadequate. "Our health facilities do not have basic services for eye health care delivery. They cannot deliver eye health services." as per a 42 years old study subject.

Upon further inquiring for the instruments and medicines available at their health facility for the management of eye disease, health workers reported that they only had 2 varieties of antibiotics and/or eye drops, with is usually not sufficient for a period till next stock of medicine comes. Vision charts for testing of visual acuity were unavailable. They admitted to not having sufficient skills for removal of even foreign body in the eyes. "How can we provide treatment to several kinds of diseases in the eye even if we know how to treat a case when only 1-2 medicines are available for treatment in the whole area." as per health worker from a local health facility.

## Discussion

This study was the first community based study on evaluating the access to eye health services in rural communities of western Uttar Pradesh, though several studies have been done in the past to find the barriers in access to cataract surgical services among people of the older age



group [8]. The data from the supply side are of particular importance as it gives the true picture of the services at the rural health facilities of the area where there are inadequate provision not only for eye care but also for general health services.

In this study, it was observed that almost two third (62%) of the respondents to be aware of one or more diseases of the eyes. The level of knowledge regarding specific eye diseases though was less, it is comparable to a similar study from Australia where 77% of the people reported they were aware of one or more of the three eye conditions; cataract, glaucoma and AMD. The correct knowledge was found to be associated significantly with age (younger), sex (females), higher levels of formal education and a recent visit to an eye practitioner [9, 10].

Another study observed that 69.8% of the respondents aware of cataract, 55.8% aware of night blindness and 2.3% aware of glaucoma. Level of education was found to be a significant predictor for the knowledge on aforementioned eye conditions [11].

Not surprisingly our study shows cataract as an eye disease was known to 41% respondents while 37% respondents had knowledge on night blindness. Glaucoma as an eye disease was known to 8.2% respondents only. For glaucoma, early detection and prevention may prevent progression of the disease, but because of its “silent” nature early detection of glaucoma is difficult unless the patient undergoes an eye examination [12]. Hence, raise in the level of awareness of glaucoma in general population is essential if more people are to be screened for the disease.

Our study recognized 2 important factors hindering access to eye health services as poor knowledge of eye diseases and greater distance

to health facilities. However positive attitude of people towards eye problems was encouraging. A study done in a rural population of India found low uptake of eye camp services mostly due to fear reasons. Access to eye health services was not found to be affected by socioeconomic and other socio demographic variables as age, ethnicity, and occupation of the respondent [13]. Rational planning and implementation of eye health services is essential with due attention to the barriers to overcome poor service utilization.

The study revealed that health facilities in the study area to be poorly equipped. Unavailability of eye health service provider in their locality, inadequate eye care services in their local health facilities, unavailability of professionals for eye health delivery and inadequate skills among general health workers were some of the factors identified in the supply side which negatively influenced the access of eye health services among people [14].

## Conclusion

It can be concluded on the basis of findings of the current study that knowledge on common eye diseases was poor among the people studied. This indicates the need for efficient eye health awareness programs which helps in prevention and timely seeking of eye care services. Raising awareness of the community about eye diseases and the services available together with strengthening of primary eye health services available at the local health facilities could help bring eye health services in closer proximity to the rural population.

## References

1. Ashaye A, Ajuwon AJ, Adeoti C. Perception of blindness and blinding eye conditions in rural communities. J Natl Med Assoc, 2006; 98(6): 887-893.



2. Vision 2020: The Right to Sight, Global initiative for the elimination of avoidable blindness, Action Plan 2006-2011: 201.
3. Nedgwa LK, Karimurio J, Okelo RO, Adala HS. Barriers to utilization of eye care services in Kibera slums of Nairobi. *East Afr Med J*, 2005; 82: 506-509.
4. Zhang X, Andersen R, Saaddine JB. Measuring Access to Eye Care: A Public Health Perspective. *Ophthalmic Epidemiology*, 2008; 15: 418-425.
5. Ayanniyi AA, Bob-Egbe S, Olatunji FO, Omolase CO, Omolade E, Ojehomon F, Edward MK. Social marketing potential of qualitative cost-free-to patient eye care programme in a Nigerian community. *Ann Afr Med*, 2009; 8: 225-228.
6. Fletcher AE. Low uptake of eye health in rural India. A cultural challenge of blindness prevention. *Arch Ophthalmol*, 1999; 117: 1393-1399.
7. Bhagwan J, Rastogi I, Malik J, Dhull C. Knowledge, attitude and practices regarding cataract surgery among severe cataract cases in Haryana. *Indian J Comm Med*, 2006; 31: 66-68.
8. Ashaye A, Ajuwon A, Adeoti C. Perceptions of blindness and blinding conditions in rural communities. *J Nat Med Assoc*, 2006; 98: 887-893.
9. Rao GV. Bridging the gap: Barriers at community level, between service providers and receivers. *Com Eye Health J*, 2004; 17: 49-50.
10. Pokharel G P, Regmi G, Shrestha SK. Prevalence of blindness and cataract surgery in Nepal. *Br J Ophthalmol*, 1998; 82: 600-605.
11. Majeed M, C Williams, K Northstone. Are there inequities in the utilization of childhood eye-care services in relation to socio-economic status? Evidence from the ALSPAC cohort. *Br J Ophthalmol*, 2008; 92: 965-969.
12. Livingston PM, McCarty CA, Taylor HR. Knowledge, attitudes and self care practices associated with age related eye disease in Australia. *Br J Ophthalmol*, 1999; 82: 780-785.
13. Kyndt M. Importance of affordable eye care. *Comm Eye Health J*, 2001; 14(37): 1-3.
14. Dandona R, Dandona L, John RK. Awareness of eye diseases in an urban population in southern India. *Bull World Health Organ*, 2001; 79: 96-102.

**Source of support:** Nil

**Conflict of interest:** None declared.

**Table - 1:** Association between level of education and knowledge of eye disease among the study subjects.

Knowledge on eye disease	Level of education		Chi square	p-value*	OR* 95 % CI
	Illiterate	Literate			
<b>Cataract</b>					
No	58	73	19.62	0.000	4.40 2.21-8.72
Yes	13	72			
<b>Glaucoma</b>					
No	70	128	6.64**	0.010	9.30 1.21-71.33
Yes	1	17			
<b>Night Blindness</b>					
No	58	81	13.86	0.000	3.53 1.78-6.99
Yes	13	64			
*OR- Odds Ratio, p-value- Level of significance, **Mantel-Haenszel Test					

**Table - 2:** Association between occupation and knowledge of eye disease among the study subjects.

Knowledge on eye disease	Occupation		Chi square	p-value*	OR* 95 % CI
	Unemployed	Employed			
<b>Cataract</b>					
No	55	76	18.71	0.000	4.4 2.08-9.47
Yes	12	73			
<b>Glaucoma</b>					
No	65	133	3.62**	0.057	3.91 0.82-25.4
Yes	2	16			
<b>Night Blindness</b>					
No	61	78	23.45	0.000	5.91 2.61-13.8
Yes	9	68			
*OR- Odds Ratio, p-value- Level of significance, **Mantel-Haenszel Test					