

Original Research Article

A study on eye health seeking behaviour among the rural communities in India

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ABSTRACT

Background: Eye health is a crucial yet under-prioritized aspect of global public health, with vision impairment affecting 2.2 billion people worldwide, over half of which is preventable or treatable. Despite advancements in eye care, health-seeking behavior remains low in developing regions due to socioeconomic and cultural barriers. Understanding these factors is essential for designing effective interventions. This study examines eye health-seeking behavior across multiple Indian states, identifying key motivators and barriers influencing individuals' decisions to seek eye care.

Methods: A cross-sectional study was conducted across eleven Indian states using a multistage random sampling method to ensure diverse representation. A total of 764 participants were surveyed through structured interviews in local languages. The questionnaire covered demographics, barriers, motivators, and eye care behaviours. Data analysis was performed using SPSS and R software.

Results: Among 764 participants, 47% were male and 53% female, with 34% aged 50–64 years. While 73% had experienced eye problems, only 14% sought treatment. Financial constraints (36%), lack of awareness (48%), and healthcare accessibility (29%) were major barriers. Cataract (16%), refractive errors (18%), and conjunctivitis (9%) were common diagnoses. Only 6% received free consultations, and 44% lacked health insurance. Cultural beliefs also influenced health-seeking behavior, while community and family support improved engagement.

Conclusions: Addressing financial, awareness, and accessibility barriers through targeted campaigns, affordable care, and telemedicine can enhance eye health-seeking behaviour. Community-based interventions and policy support are essential for improving eye care access in underserved regions.

Keywords: Accessibility, Barriers, Community outreach, Eye health, Health-seeking behaviour, Vision impairment

INTRODUCTION

Eye health is a fundamental aspect of overall well-being, yet it remains undervalued and underprioritized in many communities worldwide. Vision impairments, which affect at least 2.2 billion people globally, represent a significant public health challenge, with over half of these cases being preventable or treatable through timely intervention.¹ Despite advancements in eye care, the utilization of these services remains alarmingly low,

particularly in developing regions, where socioeconomic, cultural, and systemic barriers often deter individuals from seeking necessary care.² Health-seeking behavior, defined as the actions individuals take to address their health needs, plays a crucial role in determining the outcomes of eye care interventions. This behavior encompasses various activities, such as undergoing routine eye examinations, seeking treatment for ocular symptoms, and adhering to prescribed therapies. However, research shows that factors such as limited

awareness, financial constraints, and cultural misconceptions significantly hinder proactive engagement with eye care services.³ These barriers are especially pronounced in rural and underserved areas, where healthcare infrastructure is often inadequate and traditional beliefs about vision loss prevail.⁴

Cultural and gender-specific dynamics further compound the challenge of equitable access to eye health services. Women in low- and middle-income countries are disproportionately affected by avoidable vision impairments due to systemic gender inequalities and social norms.⁵ Additionally, the perception of vision impairment as an inevitable part of aging often leads to a lack of urgency in seeking care, delaying early intervention and treatment.⁶ Emerging technological innovations and public health initiatives have shown promise in addressing these disparities. For instance, telemedicine has facilitated access to eye care in remote areas by bridging geographic barriers and enabling early diagnosis and management.⁷ Similarly, community outreach programs tailored to local contexts have proven effective in raising awareness and improving the uptake of eye health services. A study found that such interventions not only enhance knowledge but also foster trust in healthcare systems, motivating individuals to seek timely care.⁴

However, despite these advancements, there remains a critical gap in understanding the interplay of individual, social, and systemic factors influencing eye health-seeking behaviour. While previous studies have explored various aspects of this behaviour, few have holistically examined the sociocultural and economic determinants within specific community contexts. Addressing this gap is essential for designing targeted strategies that promote equitable access to eye care and foster a culture of health consciousness.

This study aims to investigate the eye health-seeking behaviour of the community, identifying the motivators and barriers that shape these actions. This research aspires to contribute to the global effort to reduce the burden of preventable vision impairments and improve the quality of life for individuals and communities.

METHODS

This study employed a cross-sectional research design to explore the eye health-seeking behaviour of individuals across multiple states in India. The study period was May 2023 to September 2024. The study aimed to identify the motivators, barriers, and patterns influencing community decisions related to eye care. Data collection was conducted through field-based interviews, leveraging structured questionnaires to ensure consistency and comparability across diverse geographic and sociocultural contexts. As inclusion criteria, the research was conducted in eleven Indian states: Arunachal Pradesh, Assam, Bihar, Gujarat, Karnataka, Odisha, Punjab,

Rajasthan, Tamil Nadu, Uttar Pradesh, and Uttarakhand. These regions were selected to capture a representative sample of India's diverse socio-cultural, linguistic, and economic backgrounds. A multistage random sampling method was employed to select participants. At the first stage, districts within each state were chosen randomly. In the second stage, specific clusters (villages or urban wards) within these districts were identified. Finally, households within the clusters were selected systematically to ensure randomness and minimize selection bias. Field investigators approached one adult participant (aged 18 or older) from each selected household for the interview.

A total of 764 participants were surveyed. This sample size was determined based on power calculations to detect significant differences in health-seeking behaviour across regions, assuming a 95% confidence level and a margin of error of 5%.

Data collection was carried out by trained field investigators over a six-month period. A structured interview schedule was designed, consisting of both closed-ended and open-ended questions. The questionnaire included sections on:

Demographics

Age, gender, education level, occupation, and income.

Health-seeking behaviour

Frequency of eye examinations, awareness of eye diseases, and utilization of eye care services.

Barriers

Accessibility, affordability, cultural beliefs, and knowledge gaps.

Motivators

Family influence, community awareness campaigns, and previous healthcare experiences.

Interviews were conducted in the local languages of each region to ensure clarity and comprehension. The investigators were trained in cultural sensitivity and ethical practices to facilitate open communication and accurate data collection. All interview responses were recorded on paper forms and subsequently digitized for analysis. Data validation was performed by cross-checking a random subset of 10% of the forms for consistency. Regular field monitoring visits were conducted by the research supervisors to ensure adherence to the study protocol and data quality standards.

Written informed consent was obtained from all participants prior to data collection. Participants were

assured of confidentiality, and their responses were anonymized to protect privacy. Participation was entirely voluntary, and individuals could withdraw from the study at any time without any repercussions.

The collected data were analysed using statistical software (e.g., SPSS or R). Descriptive statistics were used to summarize the demographic characteristics and health-seeking behaviour patterns. Inferential statistics, such as chi-square tests, were employed to examine associations between demographic factors and eye health-seeking behaviour. Thematic analysis was conducted for qualitative responses to identify recurring themes and insights into community perceptions.

RESULTS

A total of 764 patients participated in the study. Among them, 358 (47%) were male and 406 (53%) were female. The age distribution showed that 65 (9%) participants were between 18-29 years, 250 (33%) were between 30-49 years, 263 (34%) were between 50-64 years, and 186 (24%) were 65 years and older. In terms of education, 386 (51%) participants were illiterate, 139 (18%) had completed primary schooling, 201 (26%) had secondary schooling, 31 (4%) had senior secondary schooling, and 7 (1%) belonged to the 'others' category. Most participants (577; 76%) were currently married, 127 (17%) were widowed, 53 (7%) had never married, and 7 (1%) were divorced or separated.

Table 1: The descriptive statistics of the study population.

		Number	%	
No. of patients	Male	358	47	
	Female	406	53	
Age (years)	18-29	65	9	
	30-49	250	33	
	50-64	263	34	
	65+	186	24	
Education	Illiterate	386	51	
	Primary schooling	139	18	
	Secondary schooling	201	26	
	Senior secondary schooling	31	4	
	Others	7	1	
Marital status	Never married	53	7	
	Currently married	577	75	
	Divorced or separated	7	1	
	Widowed / widower	127	17	
	Refused to answer	0	0	
Currently using a spectacle	Yes	218	29	
	No. of patients	546	71	
Duration of usage of the spectacle	<6 months	23	11	
	6-12 months	12	6	
	1-2 years	79	36	
	2-3 years	28	13	
	>3 years	76	35	
		Without pinhole (right eye)		Without pinhole (left eye)
Visual acuity classification in operative vision	Very good 6/6-6/12	482	63	464
	Good < 6/12-6/18	99	13	101
	Borderline <6/18-6/60	95	12	93
	Poor <6/60	88	12	106
		With pinhole (right eye)		With pinhole (left eye)
Visual acuity classification in operated eye	Very good 6/6-6/12	546	77	537
	Good < 6/12-6/18	59	8	43
	Borderline <6/18-6/60	52	7	63
	Poor <6/60	51	7	65
		Without pinhole (right eye)		With pinhole (left eye)
Visual acuity classification in operated eye	N6	267	35	267
	N8-N12	396	52	392
	N18-N36	83	11	78
	<N36	18	2	27

Table 2: Eye complaints and treatment sought by the study population.

	Number	%	Number	%
Eye complaint summary	Yes (right eye)		No (right eye)	
Had eye problem/s in the past	556	73	208	27
Treatment sought	379	50	385	50
Have eye problem/s at present?	364	48	400	52
Having an eye problem and undergoing treatment	109	14	655	86
Eye complaint summary	Number	%	Number	%
	Yes (left eye)		No (left eye)	
Had eye problem/s in the past?	486	64	278	36
Treatment sought	320	42	20	3
Have eye problem/s at present?	366	48	398	52
Having an eye problem and undergoing treatment?	105	14	659	86
Ocular complaints	Number	%	Number	%
Types of eye complaints at present / in past	Right eye		Left eye	
Poor vision	370	48	362	47
Eye pain	85	11	50	7
Injury	82	11	52	7
Watering	220	29	399	52
Redness	152	20	130	17
No eye complaints	127	17	202	26
Have had eye examination				
Yes	379	59	299	53
No	259	41	263	47
If no, why not				
Did not have money	76	29	91	35
Cost	93	36	108	41
Lack of trust in medical service	10	4	12	5
Simple disease not to be worried about	124	48	111	42
Long distance to health facility	76	29	69	26
Longer waiting time	30	12	20	8
Others	80	31	89	34
If yes, type of eye disease				
Red eye infection (conjunctivitis)	71	9	59	8
Refractive error	140	18	151	20
Cataract	121	16	105	14
Squint	0	0	0	0
Pterygium	15	2	4	1
Glaucoma	0	0	0	0
Eye injury/foreign body	34	4	14	2
Stye (A blister on or in the eye lid)	3	0	0	0
Diabetic retinopathy (impact of diabetes on retina)	3	0	3	0
Night blindness	0	0	18	2
Others	25	3	16	2
Place of eye examination				
Hospital	277	36	215	28
Nearby clinic	37	5	32	4
Out-reach camps	71	9	61	8
Vision centre	5	1	6	1
Pharmacy	30	4	26	3
Optical shop	62	8	57	7
Others	4	1	0	0

Continued.

	Number	%	Number	%
Treatment received				
Medicine	238	31	187	24
Cataract surgery	101	13	76	10
Spectacle	178	23	165	22
Others	12	2	47	6
Doctors' fees paid				
Free	43	6	49	6
0-500	138	18	41	5
600-1000	3	0	2	0
1100-1500	2	0	2	0
More than 1500	0	0	0	0
Medicine cost				
Free	21	3	55	7
0-500	120	16	85	11
600-1000	14	2	6	1
1100-1500	1	0	5	1
More than 1500	11	1	0	0
Surgery cost				
Free	127	17	101	13
0-10000	9	1	2	0
10000-20000	9	1	3	0
21000-30000	1	0	0	0
More than 30000	0	0	0	0
Spectacle cost				
Free	65	9	58	8
500-1000	85	11	30	4
1000-2000	29	4	7	1
2000-2500.	2	0	3	0
More than 2500	7	1	0	0
Number of visits for the treatment				
One visit	165	22	128	17
Two visits	145	19	140	18
Three visits	53	7	45	6
Four visits	20	3	17	2
Five visits	1	0	0	0
More than five visits	6	1	6	1

Table 3: Eye health information.

Had any difficulty in getting eye health-related information	Number	%
Yes	193	25
No	571	75
Do you think getting the eyes checked once every year is necessary?		
Yes	474	62
No	77	10
Don't know	213	28
Sought advice from your peers or other community members or health worker regarding eye problem		
Yes	475	62
No	14	2
Not applicable	275	36
Discussed eye problem with the family		
Yes	589	77
No	159	21
Not applicable	16	2

Continued.

Had any difficulty in getting eye health-related information	Number	%
Have health insurance		
Yes	339	44
No	425	56

Table 4: Chi-square test.

Test	P value
Gender vs spectacle usage	0.5987
Age group vs eye problems	0.8513
Education level vs eye examination	0.2536
Financial barriers vs seeking eye care	0.1625

Out of 764 participants, 218 (29%) reported using spectacles, while 546 (71%) did not. Among spectacle users, 23 (11%) had been using them for less than six months, 12 (6%) for 6-12 months, 79 (36%) for 1-2 years, 28 (13%) for 2-3 years, and 76 (35%) for more than three years. A total of 556 (73%) participants reported having eye problems in the past, while 364 (48%) reported having current eye problems. However, only 109 (14%) were undergoing treatment for their eye conditions. The most commonly reported ocular complaints were poor vision (Right Eye: 370 [48%], Left Eye: 362 [47%]), watering (Right Eye: 220 [29%], Left Eye: 399 [52%]), and redness (Right Eye: 152 [20%], Left Eye: 130 [17%]).

A total of 379 (59%) participants had undergone an eye examination, while 259 (41%) had not. The primary reasons for not seeking an eye examination included financial constraints (Cost: 93 [36%], Lack of Money: 76 [29%]), perceived non-seriousness of the condition (124 [48%]), and long distance to the health facility (76 [29%]). Among those diagnosed with an eye condition, the most common diagnoses were refractive error (Right Eye: 140 [18%], Left Eye: 151 [20%]), cataract (Right Eye: 121 [16%], Left Eye: 105 [14%]), and conjunctivitis (Right Eye: 71 [9%], Left Eye: 59 [8%]). The treatments received included medication (Right Eye: 238 [31%], Left Eye: 187 [24%]), cataract surgery (Right Eye: 101 [13%], Left Eye: 76 [10%]), and spectacles (Right Eye: 178 [23%], Left Eye: 165 [22%]).

For doctor's fees, 43 (6%) patients received free consultations, while 138 (18%) paid between ₹0-500. Medication costs varied, with 21 (3%) receiving free medicines and 120 (16%) paying up to ₹500. Surgery costs were covered for 127 (17%) patients, while 9 (1%) paid between ₹0-10,000. Spectacle costs ranged from free (65 [9%]) to more than ₹2500 (7 [1%]). Most participants underwent an eye examination at a hospital (Right Eye: 277 [36%], Left Eye: 215 [28%]). Other locations included nearby clinics (Right Eye: 37 [5%], Left Eye: 32 [4%]), outreach camps (Right Eye: 71 [9%], Left Eye: 61 [8%]), and optical shops (Right Eye: 62 [8%], Left Eye: 57 [7%]).

Out of 764 participants, 193 (25%) reported having difficulty accessing eye health-related information. The most common reasons included financial concerns (70 [36%]), accessibility issues (49 [25%]), and transport limitations (45 [23%]). A total of 474 (62%) believed annual eye check-ups were necessary, while 213 (28%) were unsure. A significant number of participants (475 [62%]) sought advice from peers, community members, or health workers. Additionally, 589 (77%) discussed their eye problems with family members.

Of the total participants, 339 (44%) had health insurance, while 425 (56%) did not. The visual acuity assessment classified participants based on their right and left eye vision. Without pinhole correction, 482 (63%) of right eyes and 465 (61%) of left eyes had very good vision (6/6-6/12), while 88 (12%) of right eyes and 106 (14%) left eyes had poor vision (<6/60). With pinhole correction, visual acuity improved significantly, with 546 (77%) right eyes and 537 (76%) left eyes achieving very good vision.

Regarding recommendations for further treatment, 263 (34%) participants were not given any advice, 132 (17%) were advised to visit an eye camp, 52 (7%) were directed to a vision centre, and 308 (40%) were recommended to visit an eye hospital. The chi-square relationship between gender vs spectacle usage ($p=0.59$) implies that gender does not significantly influence spectacle usage. Similarly, age group vs eye problems ($p=0.85$) suggests that eye problems are not strongly associated with age groups. The education level vs eye examination ($p=0.25$) result indicates that the level of education does not significantly impact the likelihood of undergoing an eye examination. Lastly, financial barriers vs seeking eye care ($p=0.16$) suggests that financial constraints do not have a statistically significant effect on seeking eye care services.

DISCUSSION

The findings of this study align with previous research indicating a high prevalence of refractive errors and ocular complaints in similar demographic groups. A study by found that uncorrected refractive errors were the leading cause of visual impairment in India, which is

consistent with our findings showing that only 29% of participants used spectacles despite significant visual complaints.¹¹ Similarly, a study conducted, reported that financial barriers and lack of awareness were the most common reasons for not seeking eye care, comparable to our study's findings where 41% of respondents cited cost as a barrier.⁹ The study highlights significant demographic disparities, with a higher proportion of older individuals and illiterate participants. The dominance of older age groups suggests an increased burden of age-related ocular diseases, such as cataract and presbyopia. The high percentage of illiterate participants (51%) also points to the need for targeted awareness campaigns, as education is a key determinant of healthcare utilization.¹⁰

The prevalence of spectacle use (29%) is lower than expected, considering the high burden of refractive errors. The study findings suggest that many individuals with vision problems do not seek corrective measures due to financial constraints or a lack of awareness. Poor vision (48% right, 47% left) was the most commonly reported ocular complaint, reinforcing the need for increased access to affordable refractive services.¹² Financial barriers emerged as a major challenge to eye healthcare utilization. A significant portion of respondents cited cost (41%) as the primary reason for not seeking treatment. Even though free services were available, their uptake was relatively low. This could be due to a lack of awareness or logistical challenges such as travel expenses and time constraints. The high percentage of individuals who deemed their condition as "simple" and not requiring attention (42%) also suggests a need for greater health education to change perceptions regarding eye diseases. Geographical accessibility also played a role, with 26% citing long distances to healthcare facilities as a deterrent. This finding is consistent with studies conducted by Marmamula et al, which emphasized the impact of geographic barriers on eye care utilization in rural populations. While 59% of participants had undergone an eye examination, a substantial 41% had never had their eyes checked. Hospitals were the most preferred healthcare providers, but a notable proportion sought care at optical shops and pharmacies, indicating a reliance on non-specialist services. This trend raises concerns about the quality of eye care received, as these locations may not offer comprehensive diagnostic services.¹³

The data also showed that while cataract surgery was provided free of charge to some patients (17% right, 13% left), the overall rate of surgical intervention was lower than expected given the prevalence of cataract-related complaints. Further research is needed to determine whether surgical hesitancy stems from fear, financial concerns, or lack of trust in medical services. The study found that 62% of participants recognized the importance of annual eye examinations, yet a substantial 38% either disagreed or were unsure. This highlights an urgent need for community-based awareness programs. Moreover, while 77% discussed eye health concerns with family, only 62% sought advice from peers or health workers.

Encouraging community engagement and leveraging social networks could enhance eye health literacy and prompt timely medical intervention.¹⁴

Limitations

A potential limitation of the study is the reliance on participants' recall, which may introduce recall bias, particularly when health-seeking behaviours occurred in the distant past. Additionally, the study may not have adequately captured deeply ingrained cultural beliefs, taboos, and traditional practices that influence eye health-related decision-making. However, a key strength of the study lies in its inclusion of participants from diverse geographical regions, thereby offering a broader and more representative perspective on the issue.

CONCLUSION

The findings underscore the urgent need for improved access to affordable eye care services, particularly for economically disadvantaged and geographically isolated populations. Strengthening community awareness programs, expanding outreach initiatives, and integrating financial support mechanisms can significantly enhance eye health outcomes. Addressing the identified barriers will be crucial in reducing preventable vision impairment and ensuring comprehensive eye care for all.

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