

# Perception toward Ocular Health and Assessment of Visual Acuity among Adults Aged >30 Years Living in Rural Area of Jammu: A Cross-sectional Study

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## Abstract

**Purpose:** The purpose of this study was to determine the perception toward ocular health and assessment of visual acuity among adults aged >30 years, living in a rural area of Jammu.

**Materials and Methods:** The population-based study is based on the vision screening camp which was conducted at Panchayat Ghar of village Dhanu, Keri Zone, Block Kot Bhalwal. The study instrument consisted of sociodemographic data and pre-tested structured questionnaire. Eye examinations included vision testing using Snellen chart and Jaeger chart, and fundus examination using ophthalmoscope performed by ophthalmologists and optometrists.

**Results:** Among 139 participants who attended the screening camp, 76.97% (107 participants) reported trouble seeing near objects, whereas only 65.46% (91 participants) reported trouble seeing far objects. However, 85% (119 participants) and 74.1% (103 participants) had impaired near vision and far vision, respectively. All participants reported consulting a doctor for eye-related problems. Fifty-three patients reported that they never got any eye checkups before. As such, cases of cataract ( $n = 21$ ), glaucoma ( $n = 5$ ), hypertensive retinopathy ( $n = 6$ ), pterygium ( $n = 3$ ), and diabetic retinopathy ( $n = 2$ ) patients were detected during this screening.

**Conclusion:** The prevalence of visual impairment (VI) was quite high. Refractive error and cataract were the major cause of vision impairment. Screening the adult population of 30 years and above providing them with proper lens and timely referral can help in reducing VI and further improving their quality of life.

**Key words:** Cataract, Glaucoma, Pterygium, Refractive error, Visual acuity

## INTRODUCTION

There is ever-increasing aging population as the result of demographic transition and increased access to health-care services. Low vision and blindness are emerging as important public health problems.<sup>[1-3]</sup> They pose a threat to the healthy aging.

Low vision is defined as visual acuity (VA) <6/18 and equal to or better than 3/60 in the better eye with the best correction. A person with low vision is defined as one who has impairment of visual functioning even after treatment and/or standard refractive correction and has a VA of <6/18 to light perception or a visual field of <10° from the point of fixation, but who uses, or is potentially able to use, vision for the planning and/or execution of a task for which vision is essential.<sup>[4]</sup>

About 80% of the global visual impairment (VI) burden is preventable. It is estimated that more than 90% of the visually impaired people live in developing countries. This was conducted with aim of assessing VA and perceptions about ocular health among adults aged >30 years, living in the rural area of Jammu.

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## MATERIALS AND METHODS

After seeking ethical permission, vision screening camp was conducted at Panchayat Ghar of village Dhanu, Zone – Keri, Block Kot Bhalwal. Using non-probability sampling method, 139 eligible participants who attended this camp were interviewed by investigator after taking informed verbal consent.

The visual acuity test was performed by a trained ophthalmic assistant, using Snellen chart and Jaeger chart. Vision was recorded separately for each eye, with any distance correction that the person was using. For those participants who were unable to read the topmost line of Snellen chart, counting fingers, hand movements, and light perception were recorded.

After vision testing, participants received consultation by an ophthalmologist. Eye examinations included anterior segment and fundus examination. Those candidates who did not give their consent for interview to the investigator were excluded from the study. However, they received routine eye screening examination and treatment by ophthalmologists and ophthalmic assistants. Findings of eye examinations including VA were recorded by ophthalmologists and ophthalmic assistant. Blindness was defined as presenting VA  $<6/60$  in the better eye. VI was defined as presenting VA  $6/18-6/60$  in the better eye.

The study instrument used for interviewing consisted of questions related to sociodemographic data, perception of vision, and health-care-seeking behavior for ocular health issues.

All data recorded during this survey were entered into MS Excel and analyzed in the form of percentage and proportions whenever necessary.

## RESULTS

A total of 153 patients attended this screening camp, of which 144 eligible patients were briefed regarding this study. Only 139 patients, who agreed to participate in this study by giving informed verbal consent, were included in this study. Majority of the participants in our study were in the age group of 50–70 years, mostly Muslims (73.38%). More than half of the study respondents were illiterate (51.83%) [Table 1].

As seen in Table 2, about three-quarters of participants reported trouble seeing near objects, while nearly two-third (65.46%) of the participants reported experiencing difficulty in distant vision. About 100% agreed that they

would visit vision-related issues, but only 32.45% were using corrected glasses for near or distant vision.

The prevalence of blindness, based on VA worse than  $6/60$  in both eyes, was 6.47% with presenting vision and 2.5% with the best correction. Impaired near vision was seen in 85% of the sample population. Nearly 47% were found to have presenting VA worse than  $6/18$  in the better eye. As such, cases of cataract ( $n = 21$  patients), glaucoma ( $n = 5$ ), hypertensive retinopathy ( $n = 6$ ), pterygium ( $n = 3$ ), and diabetic retinopathy ( $n = 2$ ) patients were detected during this screening [Table 3].

**Table 1: Sociodemographic profile of the study participants**

Variable	Category	n (%)
Age groups (in years)	<40*	9 (6.48)
	40–49	34 (24.46)
	50–59	44 (31.65)
	60–69	36 (25.9)
	$\geq 70$	16 (11.51)
Religion	Hindu	37 (26.62)
	Muslim	102 (73.38)
Sex	Male	60 (43.17)
	Female	79 (56.83)
Education	Illiterate	71 (51.08)
	Up to middle	53 (38.13)
	Up to higher secondary	12 (8.63)
	Higher education/degree	3 (2.16)

**Table 2: Ocular health perceptions and access to care of the total sample population**

Question	Answer	n (%)
Trouble seeing near objects	Yes	107 (76.97)
	No	32 (23.02)
Trouble seeing far object	Yes	91 (65.46)
	No	48 (34.53)
Time since last eyes were examination	1 year	19 (13.66)
	1–5 years	23 (16.54)
	5+years	44 (31.66)
	Never	53 (38.12)
Ever corrected vision (glasses or contacts)?	Yes	45 (32.37)
	No	94 (67.62)
For vision-related issues whom you would consult	Doctor/hospital/clinic	100
	Faith healers/quack	0
	I do not know	0

**Table 3: Pattern of ocular morbidities**

Ocular morbidity	n (%)
Impaired near vision	119 (85)
Impaired far vision	65 (46.7)
Blindness	9 (6.47)
Dryness	91 (65.46)
Cataract (one/both eye)	21 (15.1)
Glaucoma (one/both eye)	5 (3.6)
Hypertensive retinopathy	6 (4.3)
Pterygium	3 (2.18)
Diabetic retinopathy	2 (1.43)

## DISCUSSION

In this study, the prevalence of VI (for distant vision) was found quite high. All the participants reported that they would consult none other than a doctor in case of any eye-related problem which is welcoming. However, it is worth mentioning that despite the fact that nearly two-third of participants in our study reported difficulty in seeing far object, but only 13.66% has got last checkup within 1 year.

Similar results were reported by Fletcher *et al.* (2012)<sup>[5]</sup> (43.8%). However, Nirmalan *et al.* (2002) reported that 59.4% presenting VA >6/18 in both eyes was 59.4%. Kovai *et al.* (2007)<sup>[6]</sup> reported the prevalence of VI 16.2% in the subjects >15 years of age. This variation of results could be explained by difference in sample population and size. The prevalence of blindness reported in our study was similar with the prevalence of blindness reported by the studies conducted in Southern India.<sup>[7,8]</sup> The possible explanations for this discrepancy which we discovered were old age, dependency, poverty, lack of awareness, ignorance, and difficulty in traveling due to hilly terrain. Although, more concrete efforts are needed to enhance their awareness regarding ocular health.

The main limitations of the study were cross-sectional design and small sample size which has inherent limitations regarding generalizability of the results. However, the main strength of the study was that it was exploratory and we conducted this screening camp in a remote village which recently got blacktop road for 1<sup>st</sup> time; thus, this study can be seen as insight view of ocular health perception and visual acuity status of people from such areas. All documented patients were provided free medicines and referral services for treatment in tertiary hospital settings with the help of a local non-governmental organization.

## CONCLUSION

The need of the hour is to provide health education and conduction of regular information, education, and communication activities regarding ocular health and preventable causes of VI along with screening camps, especially in the rural community setting. The prevalence and severity of VI were found to be quite high. Population-based screening and generating awareness regarding VI along with timely referral can contribute in enhancing and improvement in quality of life, especially in those who are above 50 years of age.

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