

Original Research Article

Knowledge, attitude, and practices regarding visual impairment among adolescents in a rural area of Delhi

Manpreet Singh^{1*}, Punita Kumari Sodhi²

¹Department of Community Medicine, Maulana Azad Medical College, New Delhi, India

²Department of Ophthalmology, Guru Nanak Eye Centre, New Delhi, India

Received: 03 June 2025

Revised: 14 August 2025

Accepted: 19 August 2025

*Correspondence:

Dr. Manpreet Singh,

E-mail: msb.manpreet01@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Visual impairment is a major public health issue which affects, academic performance, quality of life especially of adolescents. This study aimed to assess the knowledge, attitudes, and practices (KAP) regarding visual impairment among adolescents in a rural area of Delhi.

Methods: It was a cross-sectional study conducted in an adolescent population of 748. The structured questionnaire assessing knowledge, attitude and practices regarding visual impairment was used in the study population.

Results: Around 45.98% of participants had heard terms like myopia, hypermetropia, or presbyopia. Awareness that low vision affects focus and concentration was seen in 46.39% participants. Only 64.3% believed that vision should be checked regularly, and 75.13% expressed willingness to undergo routine eye check-ups. There were some misconceptions that wearing glasses damage vision (8.68%). Around 25.4% had undergone visual check-up more than a year ago and only 10.42% wore their prescribed spectacles regularly.

Conclusions: The study highlights some gaps in knowledge of the study participants. There were also some misconceptions about visual impairment and some inadequate practices were found.

Keywords: Adolescents, Attitude, Knowledge, Practices, Visual impairment

INTRODUCTION

Vision is one of the most important of our senses, plays crucial roles in our lives by facilitating activities such as reading, watching, eating, finding directions, entertainment etc. "Globally, it is estimated that at least 2.2 billion people have a vision impairment, and of these, at least 1 billion people have a vision impairment that could have been prevented or is yet to be addressed." The burden of visual impairment is more in low to middle-income countries, almost four times higher than that of high-income countries. It is projected to increase in the coming decades due to increasing population and life expectancy, despite having effective strategies to control and treat the visual impairment such as health education, prevention, treatment and rehabilitation. If everyone lives long enough, they would experience at least one eye

condition in their lifetime which may require the necessary care.¹ According to National Blindness and Visual Impairment Survey of India (2015-2019), prevalence of early visual impairment in all age groups is 2.92%. The prevalence of moderate and severe visual impairment is 1.84% and 0.35% respectively.² It can affect the quality of life among adults and children. For adults it can lead to low employment opportunities, depression and anxiety. For older adults it can lead to increase chances of falls, fractures and injuries. Majority of the cases of visual impairment and blindness are avoidable and easy to correct.³⁻⁵ Despite being an important issue, very few studies have been done to explore the knowledge, attitude and practices regarding the visual impairment. Our study tried to assess this lacuna. The study was conducted with the objective to

determine the knowledge, attitude and practices regarding visual impairment among adolescents.

METHODS

It was a community based cross-sectional study conducted among adolescent (10-19 years age) population in a rural area of Delhi for a period of one year (September 2023 to September 2024). The aim of our study was to find out the prevalence of visual impairment and to determine the knowledge, attitude and practices of adolescents regarding the visual impairment. Our inclusion criterion consisted of study participants residing in the study area since last 6 months and more. Those who were critically ill were not included in the study. House to house visit was made in the village. In case the house was closed, two subsequent visits were made to the same house. If still closed, then next house was considered for our study. So, universal sampling was used. The eligible participants who consented to participate in the study were given a semi-structured, pre-tested questionnaire regarding the knowledge, attitude and practices regarding visual impairment. After that they underwent distal visual acuity using Snellen Chart and near visual acuity using Jaeger Chart. Participants having decreased visual acuity were referred to the higher centre nearby the village for further management. The collected data was entered in MS- Excel and analysed.

Sample size calculation

The study was a part of the parent study titled- “Visual Impairment and Associated Factors Among Adolescents in a Rural Area of Delhi”, which was registered under the Clinical Trial Registry of India (CTRI/2023/09/057543). The ethical approval was taken from Institutional Ethics

Committee. The sample size was calculated using the prevalence of visual impairment among adolescents which was 11.4%.⁶

Using the following formula, the final sample size of 748 was achieved- $N = Z^2 p * q / L^2$ (Where $Z\alpha = 1.96$, Value of standard normal variate corresponding to the level of significance, Where, n = sample size, p =proportion, $q = 1 - p$ and L = allowable relative error which was taken as 20%).

RESULTS

The prevalence of visual impairment was found to be 13.9% in the study population. Table 1 shows the knowledge of study participants regarding visual impairment. It was observed that around 344 (45.98%) had heard the terms either myopia, hypermetropia or presbyopia. Around 347 (46.39%) had the awareness that low vision hampers focus, concentration and studies. Around 431 (57.62%) of the participants knew that different spectacles are used for different visual impairments. About 530 (70.85%) participants felt that low vision can have impact on our daily lives. Around 319 (42.64%) were taught about visual impairment in school. Only a few, 26 (3.47%) had awareness that most of the causes of low vision are reversible.

Table 2 shows the attitudes of study participants regarding visual impairment. Around 481 (64.30%) said that vision should be checked regularly. Around 549 (73.39%) preferred health centres as the site of eye sight check-up. Around 562 (75.13%) said that they will be getting regular vision check-up from now on. About 215 (28.74%) participants felt that glasses make appearance better and 65 (8.68%) felt that glasses damage vision.

Table 1: Knowledge of study participants regarding visual impairment.

Question	Total N (%)	Total N (%)
Heard the term either ‘myopia’ or ‘hypermetropia’ or ‘presbyopia’.	344 (45.98)	748 (100.00)
Awareness of participants that low vision hampers focus, concentration and studies	347 (46.39)	748 (100.00)
Awareness of participants that different spectacles are used for different visual impairments	431 (57.62)	748 (100.00)
Aware of participants that low vision can influence our daily lives	530 (70.85)	748 (100.00)
Awareness of participants that most of the causes of low vision are reversible	26 (3.47)	748 (100.00)
Taught about visual impairment in school	319 (42.64)	748 (100.00)

Table 2: Attitude of participants regarding visual impairment.

Question	Total N (%)	Total N (%)
Think that vision should be checked regularly	481 (64.30)	748 (100.00)
Prefer health centres as the site of eye sight checking	549 (73.39)	748 (100.00)
Will be getting vision checked regularly from now on	562 (75.13)	748 (100.00)
Think that glasses make appearance better	215 (28.74)	748 (100.00)
Think that glasses damage vision	65 (8.68)	748 (100.00)

Table 3: Practices of the participants regarding visual impairment.

Question	Total N (%)	Total N (%)
The last time study participant got their vision checked	6 months	93 (12.43)
	6 months -1 year	465 (62.17)
	>1 year	190 (25.40)
Prescribed spectacles	104 (13.90)	748 (100.00)
Wear spectacles	Regularly	78 (10.42)
	Sometimes	26 (3.47)

As shown in table 3, the practices of the study participants regarding visual impairment were observed. Majority of the study participants 465 (62.16%) had undergone examination for visual acuity in the last 6 months to 1-year duration. Around 190 (25.40%) have had their vision checked more than a year ago. Out of 748 participants, 104 (13.90%) were prescribed spectacles beforehand. Around 78 (10.42%) wore spectacles regularly and around 26 (3.47%) used spectacles sometimes.

DISCUSSION

Our findings were different from the study conducted by Khan et al where 29% of the participants reported using spectacles all the time whereas it was 10.42% in our study. 22% in the study used spectacles only some of the time whereas it was 3.47% in our study. This could be due to difference in attitudes and practices in different geographical areas (South Africa vs India). This suggests the need of IEC (Information, Education and Communication) sessions to be conducted in the study area. There is a need to educate both parents and the children regarding visual impairment and tackling it.⁷

Our findings were different from the study conducted by Pallerla et al where 74.3% participants were aware of the visual impairment whereas it was 41.7% in our study. This could be due to difference in health care system and education system. This necessitates robust implementation of IEC activities in the study area.⁸

In another study conducted by Pallerla et al in South Indian population, around 41.8% of the participants were wearing glasses for vision whereas it was around 10.42 % in our study. This could suggest a need for an improvement in IEC activities and strengthening of early detection of visual impairment in primary care. 37.8% of the participants have gotten their vision within the last two years unlike our study where around 62.16% had their vision checked in the last one year. This difference is obvious due to different questions involving different duration (2 years and 1 year) of vision examination, but ideally it should be 6 monthly check-ups.⁹

In another study conducted by Garg et al in North India, around 23.2% of the participants were aware about the

visual impairment unlike our study where it was 58.28%. Around 21.6% were spectacle users unlike our study where 10.42% used them. This could be due to difference in sample size of studies and different age groups selection.¹⁰

There were two main limitations of the study. The study design was cross-sectional in nature; hence causality cannot be established for any of the associated factors. As the study was conducted in Delhi, results may not be extrapolated to all the rural areas in different parts of the country because of difference in geographical areas, environmental factors.

CONCLUSION

More than half of the participants had knowledge that different spectacles are used for different visual impairment and low vision can affect daily lives. The attitude of participants regarding visual impairment was that vision should be checked regularly, health-centres were preferred for eye check-ups and they will get their vision checked regularly in future. In our study 13.90% were prescribed spectacles beforehand and around 10.42% were using spectacles regularly and 3.47% used spectacles sometimes. More than half of the participants had got their eye check-up in the last 1 year.

The study advances the knowledge in the field of public health by analysing the knowledge, attitude and practices of adolescents regarding visual impairment. There are still some misconceptions that glasses damage vision. Also, a low adherence to wearing the prescribed spectacles was noted. This highlights the need for Information, Education and Communication (IEC) activities to educate adolescents regarding visual impairment and importance of getting regular eye check-ups. This could be done through the use of social media, television, creating awareness in school assembly time. On-going school health programmes need to be strengthened for the early detection of cases of visual impairment in adolescents.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. World Health Organisation. Blindness and visual impairment. Available at: <https://www.who.int/news-room/fact-sheets/detail/blindness-and-visual-impairment>. Accessed 22 March 2023.
2. Ministry of Health and Family Welfare. National Blindness and Visual Impairment Survey of India. New Delhi:MoHFW; 2019. Available at: <https://npcbvi.mohfw.gov.in/writeReadData/mainlinkFile/File341.pdf>. Accessed 01 January 2025.
3. Salomão SR, Mitsuhiro MR, Belfort Jr R. Visual impairment and blindness: an overview of prevalence and causes in Brazil. *An Acad Bras Cienc*. 2009;81:539-49.
4. Khorrami-Nejad M, Sarabandi A, Akbari MR, Askarizadeh F. The impact of visual impairment on quality of life. *Med Hypothesis Discov Innov Ophthalmol*. 2016;5(3):96.
5. Habib F, Irshad E. Impact of visual impairment on quality of life among adolescents. *FWU J Soci Sci*. 2018;12(1).
6. Gupta N, Vashist P, Malhotra S, Senjam SS, Misra V, Bhardwaj A. Rapid assessment of visual impairment in urban population of Delhi, India. *PLoS One*. 2015;10(4):e0124206.
7. Khan NE, Mahomedy M, Mngadi L, Moola Z, Moosa Z, Ndwandwe G, et al. Knowledge, attitudes and practices towards refractive error amongst students. *African Vision Eye Health*. 2022;81(1):7.
8. Pallerla SR, Khanna RC, Krishnaiah S, Keeffe J. Awareness and knowledge about refractive errors and strabismus in South Indian population. *Int J Commu Med Publ Heal*. 2022;9(3):1312.
9. Pallerla SR, Khanna RC, Sannapaneni K, Keeffe J. Public knowledge, attitudes and practices related to eye diseases in Southern Indian population. *Int J Commu Med Publ Heal*. 2020;7(12):4993.
10. Jadoon MZ, Dineen B, Bourne RR, Shah SP, Khan MA, Johnson GJ, et al. Prevalence of blindness and visual impairment in Pakistan: the Pakistan National Blindness and Visual Impairment Survey. *Invest Ophthalmol Vis Sci*. 2006;47(11):4749-55.

Cite this article as: Singh M, Sodhi PK. Knowledge, attitude, and practices regarding visual impairment among adolescents in a rural area of Delhi. *Int J Community Med Public Health* 2025;12:4024-7.