CINEFORUM
ISSN: 0009-7039
Vol. 66. No. 2, 2026

KNOWLEDGE, ATTITUDE AND PRACTICE OF CORTICAL VISUAL IMPAIRMENT AMONG OPTOMETRISTS IN INDIA

Kavya S[1], Roshni Sengupta[2]
[1] *Master of Optometry Scholar, School of Healthcare & Allied Sciences, GD Goenka University, Gurugram, Haryana, India*
[2] *Assistant Professor, School of Healthcare & Allied Sciences, GD Goenka University, Gurugram, Haryana, India*
Corresponding Author: Roshni Sengupta,
GD Goenka University, Gurugram, Haryana, India.
Email: senguptaroshni20@gmail.com

Abstract

Background: Cerebral Visual Impairment (CVI) is the most common cause of visual impairment in children in the developed world and appears to be more prevalent in children with additional support needs. CVI is a brain-based visual dysfunction that may be missed when ocular findings are normal or minimal. Optometrists can contribute to early identification and referral, but evidence specific to Indian optometry is limited. The aim of the study is to assess knowledge, attitude and clinical practice related to CVI among optometrists in India.

Materials and Methods: A descriptive cross-sectional online KAP survey was conducted among 136 optometrists practicing in India between November 2024 to January 2025 using a structured online questionnaire circulated via social media. The questionnaire was face and content validated (S-CVI = 0.89). The questionnaire covered demographic details, knowledge, attitude and clinical practice of CVI scores of optometrists in India. Data were analysed using Jamovi version 2.3. Frequencies, percentages, mean, standard deviation, Cronbach's alpha, Shapiro-Wilk test, Spearman's rank correlation and multiple-response frequency analysis were used.

Results: Most respondents were aged 25-35 years (63.24%), female (68.38%) and Bachelor of Optometry qualified (66.18%); 95.59% was aware of CVI. Mean knowledge, attitude and practice scores were 6.20 ± 2.31, 10.81 ± 3.05, and 8.22 ± 10.61, respectively. Attitude correlated strongly with practice (r = 0.66) whereas, knowledge correlated weakly with practice (r = 0.24). Major barriers were a lack of awareness, training, diagnostic tools and optometry-specific guidelines.

Conclusion: Indian optometrists showed reasonable knowledge and positive attitude, but limited clinical implementation, highlighting the need for competency-based CVI training and clearer referral pathways.

Keywords: cortical visual impairment; cerebral visual impairment; knowledge-attitude-practice

1. Introduction

Historically known as cortical visual impairment (CVI), cerebral visual impairment is a disorder of visual functioning that results from abnormal development, injury or dysfunction of brain-based visual pathways and processing networks (Chang et al., 2024). A key clinical characteristic of CVI is that visual impairment is not solely due to ocular disease or anterior visual pathway anomaly, although ocular co-morbidity may be present (Sakki et al., 2018). This is important because the standard eye examination may be normal or may not fully explain the patient's functional visual problems. CVI is now acknowledged as a significant contributor to childhood visual disability, particularly as neonatal and paediatric survival improves among infants at risk because of prematurity, hypoxic-ischaemic injury, neonatal encephalopathy, seizure disorders and other neurological conditions (Philip & Dutton, 2014). Its phenotype is heterogeneous and may include reduced visual attention, poor object and face recognition, crowding difficulty, visuomotor difficulty, visual field loss, variable visual performance and difficulty interpreting complex visual scenes (Philip & Dutton, 2014), (Lehman et al., 2024). These features require clinicians to move beyond visual acuity, refraction and ocular media clarity, and to assess functional visual behaviour, developmental history and neurological risk. CVI is especially relevant in the Indian context. Cerebral visual impairment was reported as a major cause of profound visual impairment in children younger than three years in a South Indian tertiary eye-care study (Pehere et al., 2019). Delayed recognition may affect learning, mobility, communication, social participation and rehabilitation planning. Early detection can facilitate referral, family counselling, environmental modifications, neurodevelopmental assessment and multidisciplinary care (Pilling et al., 2023), (Lehman et al., 2024).

Optometrists occupy an important clinical position in this pathway. They may encounter patients whose visual behaviour is out of proportion to ocular findings through their roles in refraction, paediatric visual assessment, binocular vision care, low-vision services, referral and patient education. Preparedness for CVI should therefore include more than awareness of the diagnosis; it should include readiness to recognize red flags, document functional visual behaviour, ask relevant history questions, guide families and initiate appropriate referral or supportive management. Previous professional-awareness research shows that CVI knowledge varies by discipline. Studies among ophthalmologists in Nepal and India found that many had heard of CVI, but gaps remained in diagnostic features and management implications (Lama et al., 2022), (Maitreya et al., 2018). Training gaps were also identified among teachers of visually impaired children (Mazel et al., 2019). Educational-video research shows that awareness interventions can improve understanding, but materials should be adapted to the intended professional group rather than delivered as a generic message (Tooth et al., 2025). The limited focus on CVI in postgraduate ophthalmology education in India has also been highlighted (Smitha et al., 2023). Additional systematic review, assessment, screening and neurodevelopmental literature further supports the need for structured CVI assessment, screening tools and multidisciplinary referral pathways. Despite these contributions, evidence specific to Indian optometrists remains limited. Previous research has mainly focused on ophthalmologists, educators or

general CVI awareness, rather than on how Indian optometrists understand CVI and translate this understanding into clinical practice (McConnell et al., 2021). A knowledge-attitude-practice (KAP) approach is appropriate because low clinical practice may arise not only from lack of knowledge, but also from lack of confidence, exposure, practical guidelines, equipment and referral pathways (Chokron et al., 2020).

The purpose of this study was to evaluate knowledge, attitude and clinical practice related to CVI among optometrists in India. The specific objectives were to assess CVI-related knowledge, attitudes toward optometric involvement in CVI care and current clinical practice when assessing, referring or managing patients with suspected CVI.

2. Materials and Methods

2.1. Questionnaire Development

The data-collection instrument was a closed-ended, structured KAP questionnaire that was created following a review of the literature on CVI awareness, clinical features, diagnostic considerations and professional training gaps. The final questionnaire included four parts: demographic and professional characteristics; CVI related knowledge; attitude towards CVI and clinical practice related to assessment, referral and management of suspected CVI. Response formats were yes/no items, multiple-choice items, multiple-response items and Likert-type items. The estimated time for completion was 10-15 minutes.

Face validation and an item-wise content validation was done with scale-level content validity index (S-CVI) 0.89. The questionnaire have high internal consistency (high internal consistency (as determined by Cronbach's alpha)

2.2. Study Design

A descriptive, cross-sectional, questionnaire-based KAP study was carried out to determine the preparedness of optometrists in India for CVI. A cross-sectional design was suitable for the purpose of describing the distribution of knowledge, professional attitude and self-reported clinical practice at a specific time point.

2.3. Study Setting and Sample Size

Data collection was conducted over a four-to-six-week period between November 2024 and January 2025. The questionnaire was administered nationwide in India as an online survey using a snowball sampling technique, distributed electronically via social media platforms. Participation was entirely voluntary; informed consent was obtained from all respondents, and strict data confidentiality was maintained. Utilizing Cochran's formula, the target sample size for the study was calculated to be 300.

2.4. Participants and eligibility criteria

The inclusion criteria for the participants were optometrists qualified with minimum of Bachelor's degree in Optometry or above and practicing in India with minimum 1 year experience. All optometrists in hospital, private clinic, corporate, academic, research settings were eligible. Students in the undergraduate course of optometry and optometrists practicing abroad were excluded. Demographic

variables included years of clinical experience, which was not used as an exclusion threshold in the analyzed data set and included the category of less than one year.

2.5. Data Management and Quality Assurance (QA)

Only complete responses were kept for the final analysis. To reduce duplicate responses, only one response per email address was allowed as per the study protocol; email restriction was used only for duplicate control and was not retained in the analysis dataset. No names, contact numbers or direct personal identifiers were collected for analysis. The data was exported to Microsoft Excel for preliminary organization and checking, and analysed in an aggregate form to maintain respondent confidentiality.

2.6. Statistical analysis

Jamovi version 2.3 was used for data analysis. Frequencies and percentages were used to summarize categorical variables. Knowledge, attitude and practice scores were summarized using mean, standard deviation, minimum and maximum values. Cronbach's alpha was used to assess internal consistency of the questionnaire domains. Shapiro-Wilk testing was performed to examine the distribution of KAP scores. Shapiro-Wilk testing indicated normal distribution of the KAP scores; therefore, Spearman's rank correlation was used for association analysis, while scores were summarized as mean and standard deviation according to the reporting requirement. Multiple-response frequency analysis was used to summarize the reported barriers to CVI practice. A p-value < 0.05 was considered statistically significant.

2.7. Ethical considerations

Participation was voluntary and electronic informed consent was obtained before survey completion. Participants were informed about the study purpose, voluntary nature of participation and confidentiality of responses. No names, contact numbers or direct personal identifiers were collected for analysis. The study was conducted in accordance with the tenets of the Declaration of Helsinki.

3. Results

3.1. Respondent characteristics

Due to temporal constraints, a total of 136 complete responses from practicing optometrists were included in the final analysis. The study cohort was predominantly comprised of young, female professionals holding a Bachelor of Optometry degree. Demographically, the largest age bracket was 25–35 years (63.24%), followed by respondents under 25 years (27.94%), with females accounting for 68.38% of the sample. In terms of education, a Bachelor of Optometry was the primary qualification (66.18%), followed by a Master of Optometry (28.68%). Early-career practitioners were heavily represented; 45.59% possessed 1–3 years of clinical experience. Regarding professional environments, hospital-based practice was the most prevalent setting (50.74%), followed by academic or research institutions (26.47%), private clinics (13.97%), and corporate practices (8.82%). Notably, a vast majority of the respondents (95.59%) reported prior awareness of CVI (as shown in Table 1).

Location-wise response distribution was uneven. The largest contribution was from Tamil Nadu (n = 61, 44.85%), followed by Delhi (n = 23, 16.91%). The remaining responses were grouped under other states/union territories (n = 52, 38.24%) because individual state-level frequencies were less in number to be analyzed. Supplementary regional mapping showed greater participation from South and North India than from other Indian regions (as shown in Table 2).

Table 1. Demographic and Professional Characteristics of Respondents

Demographic variable	Category	Frequency (n)	Percentage (%)
Age	25-35 years	86	63.24
	<25 years	38	27.94
	36-45 years	9	6.62
	>45 years	3	2.21
Gender	Female	93	68.38
	Male	43	31.62
Highest qualification	Bachelor of Optometry	90	66.18
	Master of Optometry	39	28.68
	Diploma / Others	7	5.14
Clinical experience	1-3 years	62	45.59
	4-7 years	34	25.00
	8+ years	22	16.18
	<1 year	18	13.24
Practice setting	Hospital	69	50.74
	Private clinic	19	13.97
	Corporate practice	12	8.82
	Others (academic/research)	36	26.47
Awareness of CVI	Yes	130	95.59
	No	6	4.41

Table 2. Major Practice-location Distribution of Respondents

State / practice location	Frequency (n)	Percentage (%)
Tamil Nadu	61	44.85
Delhi	23	16.91
Other states/UTs	52	38.24

3.2. Questionnaire Reliability and Score Distribution

The questionnaire was seen to have acceptable to good domain-level internal consistency based on Cronbach's alpha as 0.63 for knowledge, 0.64 for attitude and 0.71 for practice. Score summaries were reported as mean and standard deviation, with observed ranges and Shapiro-Wilk p-values shown in Table 3. The Shapiro-Wilk p-values indicated normal distribution of knowledge, attitude and practice scores; therefore, Spearsman's rank correlation was used to assess associations among the KAP domains.

Table 3. Distribution, Internal Consistency and Score Aummary of KAP Domains

Domain	Possible range	Mean	SD	Observed range	Cronbach's alpha	Shapiro-Wilk p
Knowledge	0-9	6.20	2.31	2-9	0.63	<0.001
Attitude	2-16	10.81	3.05	2-16	0.64	0.002
Practice	0-31	8.22	10.61	0-31	0.71	<0.001

Knowledge findings

The mean knowledge score was 6.20 ± 2.31 out of 9. A full score of 9 was obtained by 31 respondents (22.79%), and 40 respondents (29.41%) scored 7-8 (as shown in Table 4). Thus, 71 respondents (52.20%) were in the full-score or high-knowledge groups. However, 37 respondents (27.21%) scored 4-6 and 28 respondents (20.59%) scored 2-3, indicating that knowledge was not uniformly distributed. The distribution suggested a bimodal or u-shaped tendency, with one highly knowledgeable subgroup and another subgroup with basic-to-low knowledge, consistent with uneven exposure to CVI training.

Table 4. Knowledge Score Categories

Knowledge score category	Interpretation	n	%
9 (full score)	Highly knowledgeable subgroup	31	22.79
7-8	High knowledge level	40	29.41
4-6	Moderate knowledge level	37	27.21
2-3	Significant knowledge gap identified	28	20.59

Attitude findings

The mean attitude score was 10.81 ± 3.05 out of 16, indicating a generally positive orientation toward CVI care. Under the perception category, A1 represented role perception, corresponding to how strongly respondents believed optometrists have a role in CVI assessment. A2 represented self-

efficacy/confidence, corresponding to confidence in identifying and managing patients with CVI. The attitude pattern indicates that professional role perception was present, but confidence and implementation required further strengthening through training and clinical exposure. The sub-scale Likert distribution for A1 and A2 is presented in Figure 1.

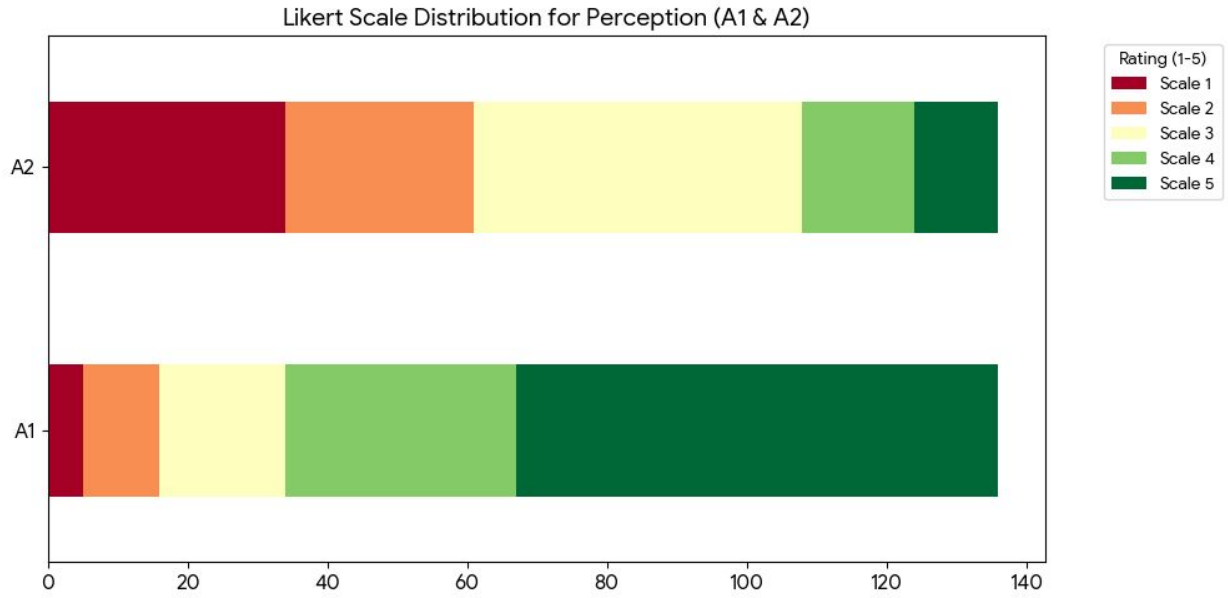

Figure 1. Likert Sub-scale Distribution for Perception Items A1 (role perception) and A2 (self-efficacy/confidence)

Practice findings

The practice domain showed the most clinically important gap. The mean practice score was 8.22 ± 10.61 out of 31. Seventy-eight respondents were in the 0.0–1.0 practice-score range, representing minimal to no clinical practice involving CVI. The remaining respondents were grouped into low-to-moderate and high practice categories to avoid gaps in score-range classification (as shown in Table 5).

Table 5. Practice Score Categories

Practice score range	Interpretation	n	%
0.0-1.0	Minimal to no clinical practice involving CVI	78	57.35
>1.0–15.0	Low-to-moderate practice; performs some referral, assessment, testing or rehabilitation-related activities	22	16.18
16.0-31.0	High practice; likely reflects specialized CVI-related or advanced clinical practice	36	26.47

Correlation findings

Exploratory Spearsman's rank correlation showed that attitude was more strongly related to practice than knowledge was to practice. Attitude and practice had a strong positive association (r = 0.66). Knowledge and attitude had a moderate positive association (r = 0.32), whereas knowledge and practice had only a weak positive association (r = 0.24). These findings support the interpretation that theoretical knowledge alone did not translate into routine CVI-related clinical implementation (as shown in Table 6 and Figure 2).

Table 6. Spearman's Rank Correlation Summary

Relationship	Spearman's (r)	Strength of relationship	Interpretation
Attitude vs. practice	0.66	Strong positive	More positive attitude and higher confidence were associated with greater reported CVI-related clinical practice.
Knowledge vs. attitude	0.32	Moderate positive	Higher knowledge tended to accompany more positive attitude/confidence, although other factors may also influence attitude.
Knowledge vs. practice	0.24	Weak positive	Knowledge alone was only weakly related to reported practice, supporting a knowledge-practice gap.

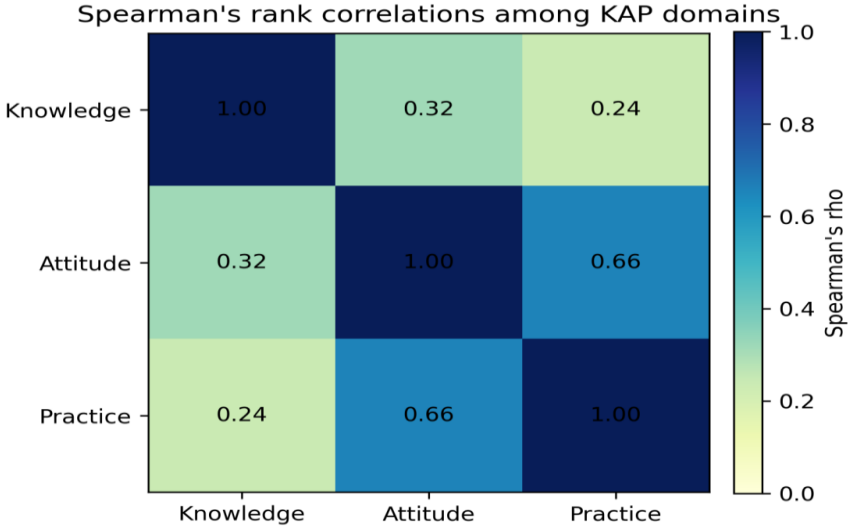

Figure 2. Spearman's Rank Correlations Among Knowledge, Attitude and Practice domains

3.3. Barriers to CVI practice

Barriers were analyzed as multiple-response endorsements because respondents could select more than one reason. The most commonly cited barrier was lack of awareness among optometrists (n = 50), followed by lack of training (n = 47), limited access to diagnostic tools (n = 38), and absence of clear optometry-specific guidelines (n = 27). Additional barriers included lack of interest or limited engagement in vision therapy-related CVI care (n = 25), time constraints (n = 24), difficulty meeting patient or family expectations (n = 22), lack of manpower (n = 20), low financial remuneration or low perceived financial value (n = 19), and institutional restrictions on performing CVI-related assessment or management (n = 18), as shown in Figure 3.

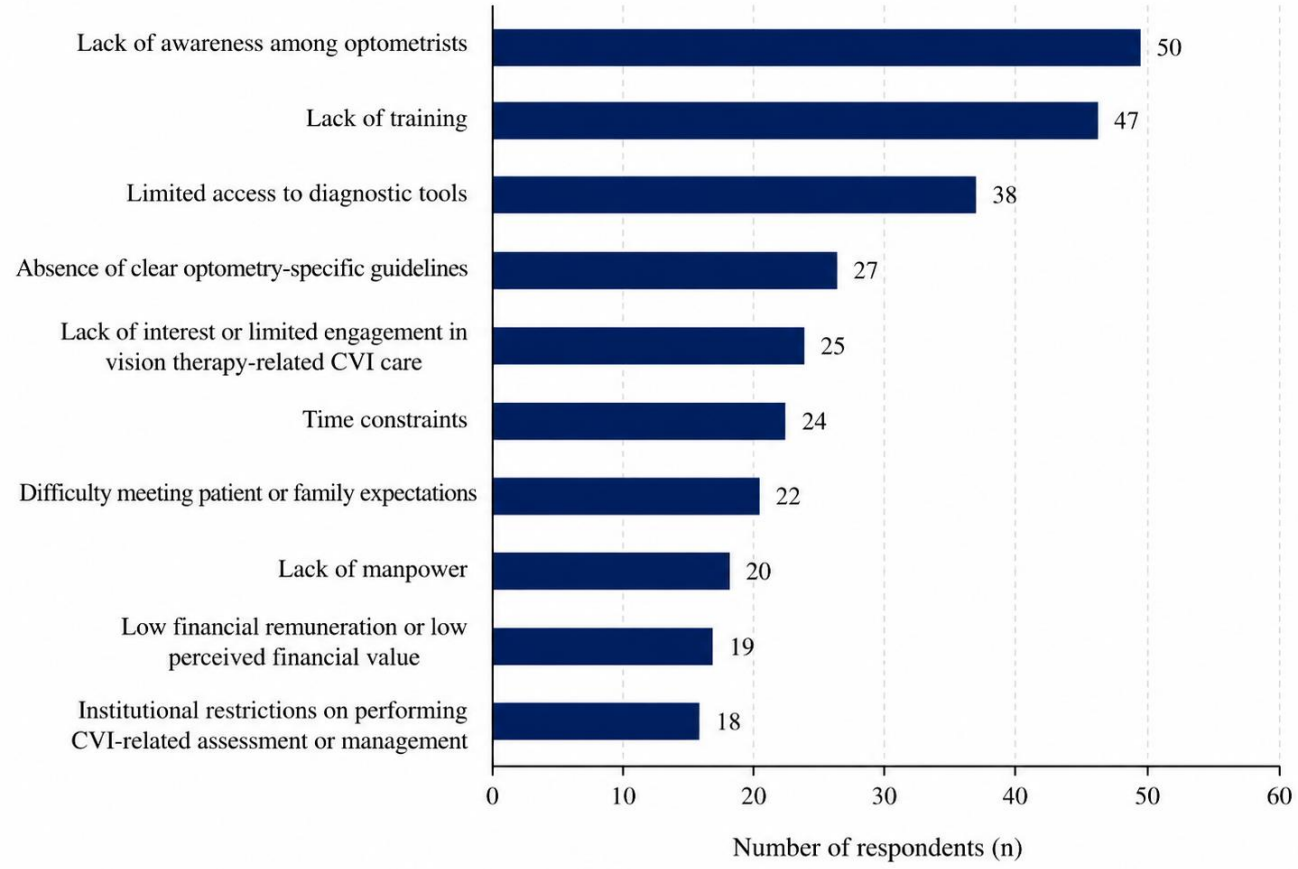

Figure 3. Barriers to CVI Practice

4. Discussion

This study provides optometry-specific evidence on CVI-related knowledge, attitude and practice among optometrists in India. The main finding was a knowledge-practice gap. Although 95.59% of respondents had heard of CVI and the mean knowledge and attitude scores were 6.20 ± 2.31 out of 9 and 10.81 ± 3.05 out of 16, respectively, the mean practice score was only 8.22 ± 10.61 out of 31. In addition, 57.35% of respondents were in the lowest practice category. These findings indicate that

awareness and theoretical understanding have not yet translated into routine CVI-related clinical assessment, referral or rehabilitation activity.

The knowledge finding was comparable to the study by Lama et al., who reported a mean knowledge score of 6.1 ± 1.4 among ophthalmologists in Nepal (Lama et al., 2022). The present study showed a similar mean knowledge score of 6.20 ± 2.31 among Indian optometrists. However, Lama et al. reported higher knowledge among pediatric ophthalmologists compared with general ophthalmologists and other subspecialists, suggesting that specialist exposure improves CVI knowledge. Therefore, although the present optometry sample showed comparable broad awareness, the findings still indicate the need for specialist-level training and supervised clinical exposure.

The present findings differ from Maitreya et al., where no participant answered all knowledge questions correctly and gaps were reported in clinical features, investigation choice, differential diagnosis and prognosis (Maitreya et al., 2018). In contrast, the present study found that 31 respondents (22.79%) achieved a full knowledge score and 40 respondents (29.41%) scored between 7 and 8. However, 47.80% of respondents still remained in moderate or low knowledge categories. This shows that although a subgroup of Indian optometrists demonstrated strong knowledge, CVI education remains uneven and is not uniformly integrated across optometry training and clinical exposure.

The implementation gap observed in the present study is consistent with findings from other professional groups. Mazel et al. reported unmet training needs among teachers of visually impaired children, indicating that CVI-related knowledge gaps are not limited to medical or optometric professionals (Mazel et al., 2019). Similarly, Tooth et al. showed that educational videos can improve CVI awareness, but that educational material must be adapted to the target professional group (Tooth et al., 2025). These findings are relevant to the present study because optometrists require practical, optometry-specific training rather than only generic CVI awareness material.

Smitha et al. highlighted insufficient emphasis on CVI in Indian postgraduate ophthalmology education (Smitha et al., 2023). This aligns with the present finding that knowledge and attitude were relatively higher than practice, because theoretical awareness alone did not ensure routine clinical implementation. The low mean practice score of 8.22 ± 10.61/31 and the large lowest-practice group indicate that optometrists need structured protocols, case-based learning, referral guidance, and supervised exposure to suspected CVI cases.

Attitude findings are encouraging. The mean attitude score of 10.81 ± 3.05 out of 16 indicates professional openness to CVI care. Role perception was captured by A1 and self-efficacy/confidence by A2. It is clinically important that an optometrist may believe CVI is part of optometric care but still lack confidence in identifying or managing suspected CVI. The correlation pattern supports this interpretation: attitude was strongly associated with practice ($r = 0.66$), while knowledge had only a weak association with practice ($r = 0.24$). Therefore, confidence, role clarity and perceived responsibility may be more important for implementation than didactic knowledge alone.

The most clinically important finding is the low practice implementation. A mean practice score of 8.22 ± 10.61 out of 31, together with 78 respondents in the 0.0-1.0 practice category, indicates that many respondents reported limited referral, limited personal assessment of suspected CVI and limited use of CVI-specific diagnostic or rehabilitation strategies. This is important because current clinical guidance emphasizes structured history taking, observation of functional visual behaviour, recognition of characteristic features and prompt multidisciplinary referral (Pilling et al., 2023), (Lehman et al., 2024).

These comparisons indicate that improving CVI services requires more than adding theoretical content. CVI training for optometrists should include core knowledge, behavioural observation, structured history templates, referral algorithms, supervised case exposure, confidence building and practical decision-making in suspected CVI cases.

The barrier analysis explains why implementation remains limited. The primary barriers were lack of awareness, lack of training, limited diagnostic access and absence of clear guidelines for optometrists. These are educational and systems-level barriers rather than individual unwillingness alone. Optometry-specific protocols should outline the criteria for suspicion of CVI, clinical history to be taken, functional signs to be documented, referral pathways to ophthalmology, neurology and/or developmental services, and interim counselling that can be offered to families.

The implications of the findings are relevant to curriculum design, continuing professional development and service planning. CVI should not be treated as a short theoretical topic within neuro-ophthalmology. Undergraduate and postgraduate training should include practical red flags, visual-behaviour videos, structured case discussions, multidisciplinary referral pathways and family-counselling principles. The large proportion of early-career respondents also indicates an opportunity to build CVI skills before routine clinical habits become fixed.

5. Limitations

This study has limitations that need to be considered when interpreting the results. First, the sampling method was non-probability sampling, so the sample may not represent all optometrists in India. Second, although the adjusted target sample size was 300 participants, only 136 complete responses were available for final analysis. This lower-than-target sample size reduces statistical precision and limits the generalizability of the findings. Third, self-reported practice may be affected by recall bias or social desirability bias and does not objectively confirm clinical practice. Fourth, the location-wise and regional distribution was uneven, with higher participation from South and North India, particularly Tamil Nadu and Delhi, and comparatively limited representation from other regions. This unequal geographical distribution may introduce selection bias and limits the generalizability of the findings to optometrists across all regions of India. Despite these limitations, the low mean practice score and reported barriers indicate that CVI implementation in optometric practice remains limited.

6. Conclusion

The current study found a definite gap between knowledge and practice of CVI-related optometric care in India. Knowledge and attitudes were relatively positive, with mean scores of 6.20 ± 2.31 out of 9 and 10.81 ± 3.05 out of 16, respectively, but routine clinical implementation was limited, with a mean practice score of 8.22 ± 10.61 out of 31 and the majority of respondents in the lowest practice-score category. Attitude was more strongly associated with practice than knowledge, indicating that clinical confidence, perceived professional role, training exposure and practical systems may be more important for implementation than knowledge alone. This gap should be addressed through competency-based CVI education, optometry-specific clinical protocols, accessible diagnostic and rehabilitation pathways and improved multidisciplinary referral systems.

Acknowledgment

The author acknowledges the optometrists who participated in the survey and the subject experts who reviewed the questionnaire for relevance, clarity, content suitability and applicability to Indian optometry practice.

Funding Statement

No external funding was reported in the study documents provided for revision.

Conflict of Interest Statement

The author reports no conflict of interest based on the provided study documents.

Ethics Statement

Electronic informed consent was obtained from all participants before survey completion. Participation was voluntary, and no personal identifiers were collected for analysis. The study was conducted in accordance with the tenets of the Declaration of Helsinki.

Data Availability Statement

The dataset may be made available by the corresponding author upon reasonable academic request, subject to institutional and ethics requirements.

References

Boot, F. H., Pel, J. J. M., van der Steen, J., & Evenhuis, H. M. (2010). Cerebral visual impairment: Which perceptive visual dysfunctions can be expected in children with brain damage? A systematic review. *Research in Developmental Disabilities*, *31*(6), 1149–1159. https://doi.org/10.1016/j.ridd.2010.08.001

Chang, M. Y., Merabet, L. B., & CVI Working Group. (2024). Special commentary: Cerebral/cortical visual impairment working definition: A report from the National Institutes of Health CVI Workshop. *Ophthalmology*, *131*(12), 1359–1365. https://doi.org/10.1016/j.ophtha.2024.09.017

Chokron, S., Kovarski, K., Zalla, T., & Dutton, G. N. (2020). The inter-relationships between cerebral visual impairment, autism and intellectual disability. *Neuroscience & Biobehavioral Reviews*, *114*, 201–210. https://doi.org/10.1016/j.neubiorev.2020.04.008

Gorrie, F., Goodall, K., Rush, R., & Ravenscroft, J. (2019). Towards population screening for cerebral visual impairment: Validity of the Five Questions and the CVI Questionnaire. *PLOS ONE*, *14*(3), Article e0214290. https://doi.org/10.1371/journal.pone.0214290

Lama, A. J., Parajuli, R., Poudel, M., & Adhikari, S. (2022). Knowledge assessment on cortical visual impairment among ophthalmologists in Nepal. *Nepal Journal of Ophthalmology*, *14*(1), 93–102. https://doi.org/10.3126/nepjoph.v14i1.38606

Lehman, S. S., Yin, L., Chang, M. Y., Section on Ophthalmology, Council on Children with Disabilities, American Association for Pediatric Ophthalmology and Strabismus, American Academy of Ophthalmology, & American Association of Certified Orthoptists. (2024). Diagnosis and care of children with cerebral/cortical visual impairment: Clinical report. *Pediatrics*, *154*(6), Article e2024068465. https://doi.org/10.1542/peds.2024-068465

Maitreya, A., Rawat, D., & Pandey, S. (2018). A pilot study regarding basic knowledge of cortical visual impairment in children among ophthalmologists. *Indian Journal of Ophthalmology*, *66*(2), 279–284. https://doi.org/10.4103/ijo.IJO_425_17

Mazel, E. C., Bailin, E. S., Tietjen, M. W., & Palmer, P. A. (2019). A questionnaire assessing what teachers of the visually impaired know about cortical/cerebral visual impairment. *Seminars in Pediatric Neurology*, *31*, 41–47. https://doi.org/10.1016/j.spen.2019.05.007

McConnell, E. L., Saunders, K. J., & Little, J. A. (2021). What assessments are currently used to investigate and diagnose cerebral visual impairment (CVI) in children? A systematic review. *Ophthalmic and Physiological Optics*, *41*(2), 224–244. https://doi.org/10.1111/opo.12776

Pehere, N. K., Narasaiah, A., & Dutton, G. N. (2019). Cerebral visual impairment is a major cause of profound visual impairment in children aged less than 3 years: A study from tertiary eye care center in South India. *Indian Journal of Ophthalmology*, *67*(10), 1544–1547. https://doi.org/10.4103/ijo.IJO_1850_18

Philip, S. S., & Dutton, G. N. (2014). Identifying and characterising cerebral visual impairment in children: A review. *Clinical and Experimental Optometry*, *97*(3), 196–208. https://doi.org/10.1111/cxo.12155

Pilling, R. F., Allen, L., Bowman, R., Ravenscroft, J., Saunders, K. J., & Williams, C. (2023). Clinical assessment, investigation, diagnosis and initial management of cerebral visual impairment: A consensus practice guide. *Eye*, *37*(10), 1958–1965. https://doi.org/10.1038/s41433-022-02261-6

Sakki, H. E. A., Dale, N. J., Sargent, J., Perez-Roche, T., & Bowman, R. (2018). Is there consensus in defining childhood cerebral visual impairment? A systematic review of terminology and definitions. *British Journal of Ophthalmology*, *102*(4), 424–432. https://doi.org/10.1136/bjophthalmol-2017-310694

Smitha, K. S., Prabhu, M., & Veenish, S. (2023). Cerebral visual impairment awareness: Is our postgraduate curriculum missing the bus? *Indian Journal of Ophthalmology*, *71*(5), 2310. https://doi.org/10.4103/IJO.IJO_2864_22

Tooth, C., Pilling, R. F., & Woodhouse, J. M. (2025). Raising awareness of cerebral visual impairment (CVI) through the use of educational videos: One size does not fit all. *British Journal of Visual Impairment*, *43*(1), 239–252. https://doi.org/10.1177/02646196231225081

Williams, C., Pease, A., Warnes, P., Harrison, S., Pilon, F., Hyvarinen, L., West, S., Self, J., Ferris, J., & CVI Prevalence Study Group. (2021). Cerebral visual impairment-related vision problems in primary school children: A cross-sectional survey. *Developmental Medicine & Child Neurology*, *63*(6), 683–689. https://doi.org/10.1111/dmcn.14819