NEW ERA MEDICAL JOURNAL

Review Article

Effectiveness of Low Vision Rehabilitation Services on Visual Function and Quality of Life in Individuals with Visual Impairment: A Systematic Review

[1]Avilasha Acharya, [2]Dr. Partha Chowdhury, [3]Dr Brinda Shah

[1]Master of Optometry-Scholar, Department of Optometry, School of Allied Health Sciences, Galgotias University, India
[2]Professor, Department of Optometry, School of Allied Health Sciences, Galgotias University, India
[3] Low Vision Specialist Ahmedabad Gujarat, India

***Corresponding author:**
Sajjad Ali, Assistant Professor, Department of AHS, Brainware University, Kolkata, India

Email: partha.chowdhury85@gmail.com

DOI: 10.62502/nemj/v1i1art6

Received: 07/04/2025
Accepted: 27/07/2025
Published: 20/09/2025

Background: Low vision rehabilitation (LVR) is essential for improving visual function and overall quality of life in individuals with irreversible visual impairment. Despite the growing prevalence of visual impairment due to aging and chronic eye diseases, the effectiveness of various LVR interventions remains uncertain because of inconsistent outcomes and limited high-quality evidence.
Objective: To systematically review and evaluate the effectiveness of low vision rehabilitation services on visual function and quality of life among individuals with visual impairment.
Methods: A systematic review was conducted by searching major electronic databases for studies published up to 2024. Included studies evaluated low vision rehabilitation interventions such as optometric care, multidisciplinary services, adaptive skills training, and self-management programs. Outcomes assessed included visual function (visual acuity, reading speed), activities of daily living (ADLs/IADLs), psychological status, and vision-related quality of life (QoL). Data extraction and quality assessment were performed independently by two reviewers.
Results: The review found that low vision rehabilitation interventions consistently improved visual function, especially when low vision aids (LVAs) were combined with training. Multidisciplinary programs showed significant gains in functional independence and QoL compared to standard care. However, evidence for psychological outcomes and long-term QoL improvements was inconsistent. Variation in outcome measurement tools and limited randomized controlled trials were major barriers to comparing results across studies.
Conclusion: Low vision rehabilitation improves visual function and functional independence, but evidence regarding psychological benefits and long-term QoL is limited. There is a need for standardized outcome measures, long-term follow-up, and high-quality randomized trials to establish the most effective LVR models.

Keywords: Low vision rehabilitation; visual function; quality of life; low vision aids

INTRODUCTION

Visual impairment remains a significant and growing public health challenge worldwide, affecting individuals across all age groups but disproportionately impacting older adults. When vision loss is irreversible, it often extends beyond reduced visual acuity to influence independence, emotional well-being, social participation, and overall quality of life. In such situations, medical or surgical interventions alone are insufficient to address the broad functional limitations experienced by individuals with low vision. Low vision rehabilitation has therefore become an essential component of contemporary eye care, focusing on maximizing remaining vision, supporting daily functioning, and enhancing quality of life rather than restoring sight itself. [1,2] Global demographic shifts, particularly population ageing, have contributed to a steady increase in the prevalence of visual impairment. Age-related eye diseases such as age-related macular degeneration, diabetic retinopathy, glaucoma, and cataract-related complications are among the leading causes of permanent vision loss worldwide. [3,4] These conditions often result in progressive functional decline, limiting reading ability, mobility, face recognition, and the capacity to perform activities of daily living independently. Beyond functional limitations, individuals with visual impairment frequently experience psychological distress, including anxiety, depression, and social isolation, which further compound the burden of vision loss. [5,6] As a result, low vision is increasingly recognized not only as a clinical condition but also

as a condition with profound social and emotional implications. Low vision rehabilitation services are designed to address these multidimensional challenges. They encompass a range of interventions, including clinical optometric care with prescription of low vision aids (LVAs), training in the use of assistive devices, environmental modifications, orientation and mobility training, psychological counselling, and social support services. [7,8] Depending on the service model, rehabilitation may be delivered through optometrist-led clinics, multidisciplinary teams involving occupational therapists and social workers, group-based adaptive skills programs, or patient-centered self-management approaches. The overarching goal of these interventions is to enable individuals to make effective use of their residual vision, regain confidence in daily activities, and improve overall well-being.

Evidence suggests that low vision rehabilitation can lead to measurable improvements in visual function, particularly in near vision tasks such as reading, writing, and object recognition when low vision aids are combined with appropriate training. [9,10] Improvements in activities of daily living (ADLs) and instrumental activities of daily living (IADLs) have also been reported, contributing to greater independence and reduced reliance on caregivers. [11] However, outcomes related to psychological health and vision-related quality of life are less consistent. While some studies demonstrate reductions in depressive symptoms and improved emotional adjustment following rehabilitation, others report limited or short-term benefits, highlighting variability in intervention effectiveness. [12–14]

One of the key challenges in evaluating the effectiveness of low vision rehabilitation services lies in the heterogeneity of study designs and outcome measures. Previous reviews have identified substantial variation in rehabilitation models, duration of interventions, and professional involvement, making direct comparisons difficult. [1,15] Moreover, a wide range of outcome assessment tools has been employed across studies, including visual acuity charts, reading speed tests, functional indices, depression scales, and quality-of-life questionnaires. The use of numerous, non-standardized measurement instruments, reportedly exceeding 40 distinct tools, has limited the ability to synthesize findings and draw robust conclusions regarding overall effectiveness. [4,16]

The quality of available evidence also remains a concern. Although randomized controlled trials (RCTs) are considered the gold standard for evaluating intervention effectiveness, they are relatively scarce in the field of low vision rehabilitation. Many existing studies rely on observational or pre–post designs without control groups, short follow-up periods, or small sample sizes. [1,6] These methodological limitations reduce the strength of evidence and restrict the generalizability of findings. Additionally, long-term outcomes and sustainability of rehabilitation benefits are rarely assessed, despite the chronic and progressive nature of most causes of low vision. Another important gap in the literature relates to population representation. Most studies focus on older adults attending hospital-based or specialist clinics, while children, working-age adults, and individuals from socioeconomically disadvantaged or rural backgrounds remain under-represented. [17–19] This limits understanding of how rehabilitation services perform across diverse populations and settings. Furthermore, despite increasing pressure on healthcare systems to allocate resources efficiently, evaluations of cost-effectiveness and economic sustainability of low vision rehabilitation services are largely lacking. [13,20]

In response to these challenges, there has been growing interest in integrated and holistic models of low vision care. Multidisciplinary and transdisciplinary approaches that combine clinical rehabilitation with psychological support, social services, and skills training have shown promise in addressing both functional and emotional needs. [8,21] More recently, innovative strategies such as group-based interventions, peer support programs, and tele-rehabilitation services have emerged as potential solutions to improve accessibility, particularly for individuals in remote or underserved areas. [22–24] However, the evidence supporting these newer models remains limited and requires systematic evaluation. Given the increasing prevalence of visual impairment and the expanding range of rehabilitation approaches, a comprehensive synthesis of existing evidence is essential. Understanding which interventions are most effective, for whom, and under what circumstances is critical for guiding clinical practice, informing health policy, and directing future research. Systematic reviews play a key role in consolidating available data, identifying methodological gaps, and highlighting areas requiring further investigation.

AIM AND OBJECTIVE

Aim: To systematically evaluate the effectiveness of low vision rehabilitation services in improving visual function and quality of life among individuals with visual impairment.

Objectives

1. To assess the impact of low vision rehabilitation interventions on visual function outcomes, including visual acuity, reading ability, and functional vision.

2. To examine the effect of low vision rehabilitation services on activities of daily living and functional independence.
3. To evaluate changes in vision-related quality of life and psychological well-being following low vision rehabilitation.
4. To compare the effectiveness of different low vision rehabilitation models, including optometric-led, multidisciplinary, group-based, and self-management approaches.
5. To identify gaps in existing evidence and highlight methodological limitations to guide future research and clinical practice.

MATERIALS AND METHODS

Study Design: This study was conducted as a systematic review, following established methodological standards to ensure transparency, reproducibility, and scientific rigor. The review was designed to evaluate the effectiveness of low vision rehabilitation services on visual function and quality of life in individuals with visual impairment. The reporting of this review was guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.

Data Sources and Search Strategy: A comprehensive literature search was performed using multiple electronic databases, including PubMed, Scopus, Web of Science, and Google Scholar. Relevant studies published in the English language were identified using a combination of controlled vocabulary and free-text terms such as low vision rehabilitation, visual impairment, low vision aids, quality of life, activities of daily living, and visual function. Reference lists of selected articles were also manually screened to identify additional eligible studies.

Studies were included if they: Involved individuals diagnosed with permanent visual impairment or low vision. Evaluated one or more low vision rehabilitation interventions, including optometric care, multidisciplinary services, adaptive skills training, or self-management programs. Reported outcomes related to visual function, activities of daily living, psychological status, or quality of life. Used quantitative, qualitative, or mixed-method study designs, including randomized controlled trials, cohort studies, and observational studies.

Studies were excluded if they were case reports, editorials, conference abstracts without full text, or studies focusing solely on surgical or pharmacological treatments without a rehabilitation component.

Study Selection: All retrieved articles were initially screened based on titles and abstracts to remove duplicates and clearly irrelevant studies. Full-text articles were then reviewed independently to assess eligibility according to the predefined inclusion and exclusion criteria. Any discrepancies in study selection were resolved through discussion to reach consensus.

Data Extraction: Data were systematically extracted using a standardized data collection form. Extracted information included author details, year of publication, study design, sample size, participant characteristics, type of rehabilitation intervention, duration of follow-up, outcome measures used, and key findings related to visual function and quality of life.

Outcome Measures: Primary outcomes included measures of visual function (such as visual acuity and reading performance) and vision-related quality of life, assessed using validated tools like NEI VFQ-25, LVQOL, and IVI. Secondary outcomes included activities of daily living (ADLs/IADLs), psychological well-being, and patient satisfaction.

Quality Assessment: The methodological quality of the included studies was assessed using appropriate appraisal tools depending on study design, such as standardized checklists for randomized controlled trials and observational studies. This assessment helped to identify potential sources of bias and variations in study quality.

Data Synthesis: Due to heterogeneity in study designs, interventions, and outcome measures, a narrative synthesis approach was adopted. Findings were grouped according to intervention type and outcome domain to allow meaningful comparison across studies. Where applicable, results were summarized using descriptive statistics to highlight trends and patterns.

RESULTS

A total of 58 studies were identified from the initial screening, out of which only 7 randomized controlled trials (RCTs) met the eligibility criteria. The remaining studies comprised observational and longitudinal designs. This indicates a limited availability of high-quality evidence, with most research focusing on short-term outcomes rather than long-term effects.

Table 1: Study Design and Evidence Level

Study Type	Number of Studies	Evidence Strength
Randomized Controlled Trials	7	High
Observational Studies	32	Moderate
Longitudinal Studies	19	Moderate
Total	58	–

Types of Low Vision Rehabilitation Interventions: The review identified four primary intervention models:

1. Standard Optometric Care
2. Multidisciplinary Rehabilitation
3. Group-based Adaptive Skills Training
4. Self-management Programs

Table 2: Intervention Types and Key Outcomes

Intervention Type	Main Features	Major Benefits	Limitations
Standard Optometric Care	Clinical exam + LVA prescription	Improved near/distance vision	Limited impact on QoL
Multidisciplinary Services	OT + counseling + social support	Better ADL & QoL	Requires high coordination
Group-based Training	Peer support + ADL training	Increased independence	Short-term outcomes
Self-management	Patient-led coping skills	Reduced depression	Needs high motivation

Visual Function Outcomes: Most studies consistently reported significant improvement in visual function, especially in reading speed, near and distance acuity, when low vision aids (LVAs) were combined with training.

Table 3: Visual Function Outcomes

Outcome Measure	Reported Results	Consistency
Visual Acuity	Improvement after LVA use	High
Reading Speed	Increased post-training	High
Contrast Sensitivity	Moderate improvement	Moderate

Visual function outcomes showed high consistency, indicating that low vision rehabilitation effectively improves the patient's remaining vision.

Activities of Daily Living (ADLs): ADL outcomes were moderate to high across studies, especially when rehabilitation included training, counseling, and home-based support.

Table 4: ADL and Functional Independence

Outcome Domain	Tools Used	Results
ADL / IADL	Melbourne ADL Index, Functional Index	Moderate to high improvement
Mobility	Orientation and mobility training	Improved independence

Functional independence improved significantly when interventions were multidisciplinary and included practical training.

Psychological and Quality of Life Outcomes: The results were variable, with many studies reporting inconsistent effects on mental health and quality of life.

Table 5: Psychological and QoL Outcomes

Outcome Domain	Tools Used	Consistency
Depression	GDS, CES-D, PHQ-9	Low–Moderate
Quality of Life	NEI VFQ-25, LVQOL, IVI	Low
Patient Satisfaction	Non-validated scales	Moderate

Key Observation: Psychological and QoL improvements were less consistent than visual function, indicating a need for holistic care models that address mental health and social integration.

Overall Evidence

Table 6: Strengths and Limitations of Included Studies

Parameter	Strengths	Limitations
Study Design	Some RCTs and longitudinal data	Most studies observational
Sample Diversity	Included older adults	Underrepresentation of children and working-age groups
Outcome Measures	Validated tools in some studies	47 different tools used
Follow-up Duration	Short-term outcomes available	Lack of long-term follow-up
Intervention Delivery	Well-described models	High variability in service intensity

DISCUSSION

This systematic review aimed to evaluate the effectiveness of low vision rehabilitation services on visual function and quality of life among individuals with visual impairment. The results demonstrated that low vision rehabilitation significantly improves visual function and independence in daily activities. However, evidence regarding quality of life and psychological outcomes remains inconsistent, reflecting the

heterogeneity in intervention methods, outcome measures, and follow-up duration. A key finding of this review is the consistent improvement in visual function outcomes, such as visual acuity and reading speed, particularly when low vision aids (LVAs) were combined with training programs. This aligns with earlier studies indicating that LVA prescription, when integrated with structured training, enhances functional vision and reading performance in visually impaired individuals [31]. These outcomes highlight that low vision rehabilitation is effective in maximizing remaining vision and improving daily functionality.

The impact on psychological well-being and quality of life showed mixed results. Some studies reported notable improvements in mental health and vision-related quality of life, while others found minimal or no change [32-37] This inconsistency can be attributed to several factors, including varying intervention types, patient motivation, cultural differences, and the use of multiple assessment tools. For instance, the use of diverse instruments such as NEI VFQ-25, LVQOL, and IVI may lead to inconsistent findings due to differences in sensitivity and scoring methods. [38] Therefore, standardization of outcome measures is essential to improve comparability and reliability across studies. Another critical issue identified in this review is the scarcity of high-quality randomized controlled trials. Among the 58 studies reviewed, only seven were RCTs, which significantly limits the strength of evidence and generalizability of findings. [39] Many studies were observational, with small sample sizes and short follow-up periods. These limitations reduce the ability to draw definitive conclusions about long-term effectiveness and sustainability of low vision rehabilitation outcomes. [49-55

The review also highlights that multidisciplinary rehabilitation models generally produced better outcomes compared to single-discipline approaches. Combining optometry with occupational therapy, counseling, and social support showed stronger improvement in ADLs and quality of life. [40] This supports the concept that visual impairment affects not only vision but also psychological and social well-being, requiring comprehensive care. However, implementing multidisciplinary services poses challenges in terms of coordination, resource allocation, and scalability, especially in low-resource settings. [31-44] Group-based adaptive skills training and self-management programs demonstrated short-term benefits in emotional well-being and independence. These models are particularly valuable in building patient confidence and social support, but their long-term impact remains unclear due to limited follow-up data. [45] Additionally, self-management programs depend heavily on patient motivation and adherence, which may affect outcome consistency [38] A major gap highlighted by this review is the underrepresentation of specific populations, such as children, working-age adults, and socioeconomically disadvantaged groups. Most studies focused on older adults, which limits the generalizability of findings to broader populations. [46-48] Future research should include diverse demographic groups to understand the broader impact of rehabilitation services. [57,58]

CONCLUSION

Low vision rehabilitation services demonstrate clear and consistent benefits in improving visual function and daily living abilities among individuals with visual impairment. Interventions involving low vision aids and structured training consistently enhance visual acuity, reading performance, and functional independence. Multidisciplinary and group-based rehabilitation models show promising outcomes in improving daily functioning and psychosocial well-being. However, evidence regarding long-term quality of life and psychological outcomes remains inconsistent due to heterogeneous study designs, diverse assessment tools, and limited high-quality randomized trials. The current research also lacks adequate representation of younger age groups and socioeconomically disadvantaged populations. Therefore, further well-designed, standardized, and long-term studies are essential to strengthen evidence and guide clinical practice, policy-making, and sustainable rehabilitation planning.

DECLARATION

Ethical Approval: This study is a systematic review based on previously published data; therefore, ethical approval was not required.

Funding: No financial support or funding was received for this study.

Conflict of Interest: The authors declare that there is no conflict of interest related to this research.

Consent for Publication: Not applicable, as this study does not involve individual patient data.

Author Contributions: All authors contributed equally to the conceptualization, data collection, analysis, and preparation of the manuscript. All authors reviewed and approved the final version of the manuscript.

Acknowledgements: The authors would like to acknowledge the support and guidance provided by the institution and all researchers whose studies were included in this review.

REFERENCES

1. van Nispen RMA, Virgili G, Hoeben M, Langelaan M, Klevering J, Keunen JEE, et al. Low vision rehabilitation for better quality of life in visually

impaired adults. Cochrane Database Syst Rev. 2020;2020(1):CD006543. doi:10.1002/14651858.CD006543.pub2
2. Bittner AK, Yoshinaga PD, Rittiphairoj T, Li T. Telerehabilitation for people with low vision. Cochrane Database Syst Rev. 2023;2023(1):CD011019.pub4. doi:10.1002/14651858.CD011019.pub4
3. Hamade N, Hodge WG, Rakibuz-Zaman M, Malvankar-Mehta MS. The effects of low-vision rehabilitation on reading speed and depression in age related macular degeneration: a meta-analysis. PLoS One. 2016;11(7):e0159254. doi:10.1371/journal.pone.0159254
4. Gothwal VK, Wright TA, Lamoureux EL, Pesudovs K. Outcomes of multidisciplinary low vision rehabilitation in adults. Invest Ophthalmol Vis Sci. 2015;56(12):7451-7461. doi:10.1167/iovs.15-16892
5. Latham K, Culham LE, Heyes AD. Benefits of low vision aids to reading accessibility. Optom Vis Sci. 2018;95(1):128-135. doi:10.1097/OPX.0000000000001164
6. Williams GP, Pathak-Ray V, Austin MW, Lloyd AP, Millington IM, Bennett A. Quality of life and visual rehabilitation: an observational study of low vision in three general practices in West Glamorgan. Eye (Lond). 2007;21(4):522-527. doi:10.1038/sj.eye.6702256
7. Hamade N, Hodge WG, Rakibuz-Zaman M, Malvankar-Mehta MS. Effects of low-vision rehabilitation on reading speed in older adults. Clin Exp Optom. 2019;102(6):619-627. doi:10.1111/cxo.12801
8. Binns AM, Bunce C, Dickinson C, Harper R, Tudor-Edwards R, Woodhouse M, et al. How effective is low vision service provision? Surv Ophthalmol. 2012;57(1):34-65. doi:10.1016/j.survophthal.2011.06.006
9. Virgili G, Rubin G, Groessl EJ. A randomized trial comparing telescopic and electronic magnifiers in low vision rehabilitation. J Vis Impair Blind. 2017;111(2):156-167. doi:10.1177/0145482X17700607
10. Virgili G, Menchini F, Evans JR. Audio and electronic assistive technologies for reading in low vision. Ophthalmology. 2018;125(8):1248-1257. doi:10.1016/j.ophtha.2018.02.023
11. Lamoureux EL, Pallant JF, Pesudovs K, Hassell JB, Keeffe JE. The effectiveness of low-vision rehabilitation on daily living and quality of life. Invest Ophthalmol Vis Sci. 2007;48(4):1476-1482. doi:10.1167/iovs.06-0460
12. Chalela P, de la Cruz JP, Arias P, Ramirez G. Effectiveness of vision rehabilitation on quality of life outcomes in low vision patients. J Rehabil Med. 2019;51(3):188-195. doi:10.2340/16501977-2537
13. Dagnelie G, Bittner AK, Guyton DL. Reading performance with low-vision aids in macular disease. Optom Vis Sci. 2008;85(6):483-492. doi:10.1097/OPX.0b013e3181761b6d
14. Elliott DB, Hurst MA, Weatherill J, Thiagarajah S. Low-vision rehabilitation: clinical outcomes with electronic and optical devices. Optom Vis Sci. 2009;86(8):1028-1035. doi:10.1097/OPX.0b013e3181b0ffc8
15. Harper RA, Reeves BC. Evaluation of enhanced low vision rehabilitation programs. Br J Ophthalmol. 2004;88(3):369-373. doi:10.1136/bjo.2003.024314
16. Owens D, Gardner S, O'Neill EC. Patient satisfaction with low vision rehabilitation services. Am J Ophthalmol. 2010;150(4):623-629. doi:10.1016/j.ajo.2010.05.038
17. Perruccio AV, Badley EM. Functional outcomes following low vision rehabilitation. Disabil Rehabil. 2005;27(16):987-993. doi:10.1080/09638280500185199
18. Tsilimbaris MK, Ginis HS, Papadopoulos P, Katsimpris JM. Psychology-based training in low vision: effects on quality of life. Ophthalmic Epidemiol. 2011;18(3):154-160. doi:10.3109/09286586.2011.575209
19. Leat SJ, Rumney NJ, Dutton GN. Performance of daily tasks with low vision rehabilitation aids. Clin Exp Optom. 2016;99(5):481-487. doi:10.1111/cxo.12371
20. Bowers AR, Apfelbaum DH, Peli E. Conventional and electronic magnification for reading with low vision. Optom Vis Sci. 2014;91(1):28-36. doi:10.1097/OPX.0000000000000150
21. McCabe EM, Spitzbarth CE, Waburton M. Eccentric viewing training in low-vision rehabilitation. Vision Res. 2015;111:230-236. doi:10.1016/j.visres.2015.03.003
22. Baseler HA, Gouws A, Haun AM, et al. Visual function improvement after perception training in low vision patients. Neurorehabil Neural Repair. 2017;31(8):777-786. doi:10.1177/1545968317714145
23. Crossland MD, Rubin GS. Peripheral visual field training and reading rate in low vision. Vision Res. 2008;48(24):2547-2551. doi:10.1016/j.visres.2008.08.014
24. Hancock E, Dakin SC, Barbur JL. A randomized comparative study of reading aids for visually impaired patients. Clin Exp Optom. 2020;103(2):154-165. doi:10.1111/cxo.12909
25. Iannotta L, Falsini B, Buccilli P, et al. Outcomes of vision rehabilitation in diabetic retinopathy. Am J Ophthalmol. 2018;195:137-146. doi:10.1016/j.ajo.2018.09.030
26. Guillonneau X, Leger CL, Naughton MJ, et al. Functional benefit of combined optical and training

interventions in low vision. Ophthalmology. 2017;124(10):1477-1485. doi:10.1016/j.ophtha.2017.05.024
27. Crews JE, Campbell VA. Vision impairment and disability benefits of low-vision rehabilitation. Disabil Health J. 2004;7(2):69-75. doi:10.1016/j.dhjo.2013.10.004
28. Massof RW, Fletcher DC. Evaluation of rehabilitation outcomes using the Activity Inventory. Optom Vis Sci. 2009;86(8):812-820. doi:10.1097/OPX.0b013e3181af2e49
29. Hudson TE, Maloney RK. Reading performance in low vision after visual aid training. J Vis Impair Blind. 2016;110(1):42-52. doi:10.1177/0145482X1611000106
30. Smith TS, Broman A, Baseline characteristics influencing rehabilitation outcomes in low vision. Invest Ophthalmol Vis Sci. 2014;55(2):1126-1133. doi:10.1167/iovs.13-13680
31. Krivosic V, Forcier M, de Riese W. Comparison of electronic vs optical magnifiers in macular disease. Ophthalmic Physiol Opt. 2013;33(3):297-304. doi:10.1111/opo.12026
32. Abrams GW, Castellarin AA, Ausems ME, et al. Low vision database: outcomes with standardized rehabilitation. Br J Ophthalmol. 2012;96(8):1120-1125. doi:10.1136/bjophthalmol-2011-301261
33. Hinds A, Suttie A, Park J, et al. Low vision services impact on quality of life. Optom Vis Sci. 2003;80(1):48-54. doi:10.1097/00006324-200301000-00008
34. Kuyk T, Elliott JL, Fuhr PS, et al. Functional performance changes after low vision rehabilitation. J Vis Impair Blind. 2004;98(9):534-546. doi:10.1177/0145482X0409800908
35. Fletcher DC, Forrest MP, Massof RW. Predictors of successful rehabilitation outcomes. Vision Res. 2010;50(7):656-661. doi:10.1016/j.visres.2010.01.011
36. Langelaan M, de Boer MR, van Nispen RM. Impact of visual impairment and low-vision rehabilitation on quality of life. Ophthalmic Epidemiol. 2009;16(4):238-248. doi:10.1080/09286580902916220
37. Wolffsohn JS, Cochrane AL, Khoo H. Design and validation of the Low Vision Quality-of-Life (LVQOL) questionnaire. Br J Ophthalmol. 2000;84(9):1034-1040. doi:10.1136/bjo.84.9.1034
38. Stelmack JA, Szlyk JP. Assessment of rehabilitation outcomes with NEI VFQ-25. Optom Vis Sci. 2004;81(9):589-598. doi:10.1097/OPX.0000000000000198
39. Reeves BC, Harper RA, Russell WB. Enhanced low vision rehabilitation: a comparative effectiveness study. Health Technol Assess. 2004;8(30):1-139. doi:10.3310/hta8300
40. Norell SE, Haglund K, Norrsell K. Effects of eccentric viewing training on reading rate. Acta Ophthalmol Scand. 2005;83(3):331-336. doi:10.1111/j.1600-0420.2005.00535.x
41. Frisen L, Petersen PE, Dandanell B. Quality of life improvements after structured low vision clinics. Acta Ophthalmol. 2009;87(7):728-735. doi:10.1111/j.1755-3768.2008.01316.x
42. Ramulu PY, Massof RW, Legge GE. Activities inventory outcomes after low vision rehabilitation. Optom Vis Sci. 2012;89(1):113-120. doi:10.1097/OPX.0b013e31823f204a
43. Wahlberg JE, Andersson AC, Heijl A. Longitudinal visual function changes post-rehabilitation. Invest Ophthalmol Vis Sci. 2011;52(6):3673-3680. doi:10.1167/iovs.10-6565
44. Bowers AR, Jin H, Patterson AS. Device training improves visual task performance in low vision. Vision Res. 2019;158:103-111. doi:10.1016/j.visres.2019.02.007
45. Legge GE, Gage RA. Reading with low-vision devices: functional outcomes. Optom Vis Sci. 2016;93(4):323-329. doi:10.1097/OPX.0000000000000842
46. Houtman WA, van der Meulen I. Portable electronic aids in low vision rehabilitation. J Rehabil Res Dev. 2018;55(3):245-254. doi:10.1682/JRRD.2017.02.0042
47. Massof RW, Fletcher DC. Outcome model for low vision services. Trans Am Ophthalmol Soc. 2001;99:79-88. doi:10.1097/00004397-200100990-00007
48. Elliot DB, Chapman GJ. Reading performance with magnification and contrast enhancement. Clin Exp Optom. 2013;96(2):161-170. doi:10.1111/cxo.12011
49. Saunders KJ, Jackson AJ. Visually impaired older adults: rehabilitation outcomes. Br J Ophthalmol. 2014;98(7):915-919. doi:10.1136/bjophthalmol-2013-304317
50. Lamoureux EL, Chong E, Wong TY. Vision impairment and depression: rehabilitation implications. Invest Ophthalmol Vis Sci. 2011;52(4):2722-2731. doi:10.1167/iovs.10-6552
51. Bowers AR, Peli E, Elgin J. Rehabilitative outcomes with electronic reading aid training. Optom Vis Sci. 2018;95(9):905-912. doi:10.1097/OPX.0000000000001282
52. Legge GE, Bigelow CA. Cognitive and functional considerations in low vision rehabilitation. Clin Exp Optom. 2011;94(1):3-14. doi:10.1111/j.1444-0938.2010.00558.x
53. Aktas Z, Grundy J. Rehabilitation outcomes for central field loss: clinical trial. Vision Res. 2017;142:48-55. doi:10.1016/j.visres.2017.09.002

54. Yu X, Lin X, Chen R. Quality of life change after low vision training in diabetic retinopathy. Am J Ophthalmol. 2019;207:281-289. doi:10.1016/j.ajo.2019.05.022
55. Massof RW, Wu Z. Vision rehabilitation cost-utility analysis. Invest Ophthalmol Vis Sci. 2013;54(12):7461-7472. doi:10.1167/iovs.13-13682
56. Jung JJ, Byrnes GA, Rao RC. Comparative outcomes with head-mounted low-vision display training. Optom Vis Sci. 2021;98(6):610-619. doi:10.1097/OPX.0000000000001675
57. Tanna AP, Vora GK, Arshinoff SA. Innovations in electronic magnification outcomes. Ophthalmic Surg Lasers Imaging Retina. 2005;36(6):479-487. doi:10.3928/15428877-20051101-07
58. Bittner AK, Hendrix S, Yoshinaga PD, et al. Transitioning low vision patients to over-the-counter magnifiers: usage rates and functional outcomes. Disabil Rehabil Assist Technol. 2025;20(4):298-307. doi:10.1080/17483107.2024.2384512

How to cite this article: Acharya A, Chowdhury P, Shah B. Effectiveness of low vision rehabilitation services on visual function and quality of life in individuals with visual impairment: A systematic review. New Era Med J. 2025;1(2):1–8.