

Quality of Life and Visual Satisfaction with Progressive and Single-Vision Lenses in Myopic Presbyopes

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Background: Presbyopia superimposed on myopia creates a complex correction requirement because clear vision is needed across distance, intermediate, and near viewing distances. The functional impact may vary with myopia severity and the spectacle-correction modality used. This study evaluated vision-related quality of life (QOL) and visual satisfaction among myopic presbyopes using progressive addition lenses (PALs) and single-vision (SV) spectacles.

Methods: A cross-sectional, observational, questionnaire-based study was conducted from February to September 2025 among 60 presbyopic participants with myopia aged 41-75 years. Participants comprised 30 PAL users and 30 SV users, with each modality group containing 15 low-myopia and 15 high-myopia participants. Vision-related QOL was assessed using the Refractive Status and Vision Profile (RSVP) questionnaire, with lower scores indicating better QOL. Visual satisfaction was assessed at distance, intermediate, and near with and without habitual spectacle correction. Independent-samples *t*-tests were used for group comparisons, and paired *t*-tests were used for with-versus-without spectacle comparisons; $p < 0.05$ was considered statistically significant.

Results: PAL users demonstrated lower RSVP scores and therefore better QOL than SV users in both myopia categories. Among low myopes, mean RSVP scores were 3.45 for PAL users and 23.59 for SV users, whereas among high myopes they were 27.62 and 44.87, respectively. The overall difference in QOL between correction modalities was statistically significant ($p < 0.001$). The greatest modality-related difference in visual satisfaction occurred at intermediate vision: mean scores were 1.07 versus 2.67 among low myopes and 2.00 versus 4.13 among high myopes for PAL and SV users, respectively. Distance satisfaction was comparable between modalities, while near-vision differences were relatively small. High myopes demonstrated greater visual difficulty than low myopes despite spectacle correction. Overall, 50 participants (83.3%) were satisfied with their current spectacles; among the 10 participants wishing to change correction, 9 (90.0%) preferred switching from SV to PAL.

Conclusion: PAL use was associated with better vision-related QOL and greater intermediate-vision satisfaction than SV correction among myopic presbyopes. Higher myopia was associated with greater visual burden despite spectacle correction. These findings support individualized, patient-centered spectacle prescribing, particularly for patients with substantial intermediate and multi-distance visual demands.

Keywords: Myopia, Presbyopia, Progressive addition lenses, Single-vision lenses, Quality of life, Visual satisfaction

Introduction

Presbyopia is an age-related decline in accommodative ability that progressively compromises near vision and can interfere with reading, occupational activities, digital-device use, and other visually demanding tasks. Its clinical impact, however, extends beyond the ability to achieve a particular level of near visual acuity. The adequacy, convenience, optical performance, and acceptability of a correction can influence functional vision, visual symptoms, and vision-related quality of life (QOL) (Davies, 2026; Singh et al., 2025; Wolffsohn & Davies, 2019). Consequently, assessment of presbyopic correction should consider patients' everyday visual experience and functional requirements in addition to conventional measures of visual acuity. The interaction between presbyopia and myopia presents a particular correction challenge. Myopic presbyopes require correction of their distance refractive error while simultaneously maintaining functional vision at near and intermediate distances. The magnitude of myopia may further influence dependence on optical correction and the extent of visual difficulty experienced during daily activities. Yang et al. (2021), in a study specifically evaluating presbyopes with low and high myopia, reported poorer overall QOL among highly myopic participants than among those with low myopia. Highly myopic individuals also demonstrated greater functional difficulty without spectacles, suggesting that increasing myopia may compound the functional burden associated with presbyopia. These findings indicate that refractive status should be considered when evaluating patient-reported outcomes of presbyopic correction. The importance of refractive status to QOL is also supported by broader evidence. Refractive error has been associated with poorer vision-related QOL, and correction does not necessarily eliminate all subjective functional limitations (Rajabpour et al., 2024). Qualitative research has further demonstrated that refractive error can affect everyday activities, social participation, convenience, appearance, and emotional well-being (Kandel et al., 2017). Thus, the effectiveness of an optical correction cannot be judged solely by the visual acuity achieved. Patients with similar measured acuity may nevertheless differ substantially in functional performance, visual comfort, convenience, and satisfaction. Spectacle modality is particularly relevant in presbyopic myopes because different lens designs provide different ranges of functional vision. Single-vision (SV) distance spectacles provide effective distance correction but do not simultaneously provide the additional near power required for presbyopic tasks. Progressive addition lenses (PALs), in contrast, incorporate distance, intermediate, and near powers within a single spectacle lens and may reduce the need to change between separate corrections. Evidence directly comparing these modalities in myopic presbyopes suggests a potential QOL advantage with progressive correction. Yang et al. (2021) reported better perception-related outcomes among highly myopic PAL users than among highly myopic single-vision users. However, the performance and acceptability of PALs are not uniform across individuals and may be influenced by age, refractive error, occupational requirements, adaptation, and visual demands (Varshney et al., 2017; Wolffsohn et al., 2023).

Importantly, the benefit of a presbyopic correction depends not only on its optical design but also on how it performs during real-world visual tasks. Sivardeen et al. (2020) demonstrated that patterns of presbyopic correction use and quality-of-vision symptoms vary according to correction modality and visual task. Multifocal lens research has similarly shown that visual performance can differ across viewing distances, emphasizing the importance of evaluating task-specific visual outcomes rather than relying exclusively on distance or near acuity (Vedhakrishnan et al., 2022). This is particularly relevant to intermediate vision, which is increasingly important for computer use, digital-device interaction, occupational activities, and other routine tasks. Patient preferences may further influence the practical success of presbyopic correction. The willingness to seek and use presbyopic correction is influenced by perceived need, individual expectations, and other patient-related factors (Khurana et al., 2023).

Previous work has also emphasized that comfort, convenience, visual performance, and adaptation are important considerations when selecting a correction strategy (Wolffsohn & Davies, 2019; Wolffsohn et al., 2023). Therefore, a patient-centred evaluation should consider not only whether a correction provides adequate acuity, but also whether it provides satisfactory vision across the distances required for everyday activities. Despite increasing recognition of patient-reported outcomes in refractive and presbyopic care, there remains a need to better characterize how myopia severity and habitual spectacle-correction modality jointly relate to vision-related QOL and task-specific visual satisfaction in presbyopic adults. Although Yang et al. (2021) directly examined low and high myopia with single-vision and progressive correction, further evaluation of distance-, intermediate-, and near-specific satisfaction can provide a more clinically meaningful understanding of where differences between correction modalities are most apparent. Such information may be particularly useful when counselling myopic presbyopes about spectacle options according to their refractive status and daily visual requirements.

Accordingly, the present study aimed to compare vision-related QOL and distance-, intermediate-, and near-vision satisfaction between habitual PAL and SV spectacle users with low and high myopia. The study also examined visual satisfaction with and without spectacle correction and assessed participants' preferences regarding their current correction modality.

Materials and Methods

Study Design and Study Period

A cross-sectional, observational, questionnaire-based study was conducted from February 2025 to September 2025 to evaluate vision-related quality of life (QOL) and visual satisfaction among presbyopic individuals with myopia using different habitual spectacle-correction modalities. The study compared participants who routinely used progressive addition lenses (PALs) with those who routinely used single-vision (SV) spectacles, with further assessment according to myopia severity. Participants were evaluated using their established habitual spectacle correction; no new spectacle correction was prescribed or assigned as part of the study.

Study Population and Sample

The study included 60 presbyopic participants with myopia, aged 41–75 years. Participants were equally divided according to habitual spectacle-correction modality into 30 PAL users and 30 SV users. Each spectacle-correction group was further divided equally according to myopia severity, comprising 15 low myopes and 15 high myopes. Thus, the study population consisted of four analytical subgroups: low-myopia PAL users, high-myopia PAL users, low-myopia SV users, and high-myopia SV users, with 15 participants in each subgroup.

Eligibility Criteria

Participants were eligible if they were 41–75 years of age, had clinical status consistent with presbyopia and myopia, and had a spherical equivalent refractive error of ≤ -0.50 dioptres (D). Additional eligibility criteria included astigmatism of ≤ 1.00 D, anisometropia of ≤ 1.50 D, best-corrected visual acuity (BCVA) of 6/6 for distance and N6 for near, and regular habitual use of spectacles with either PAL or SV correction. Participants were excluded if they had a history of ocular disease, including cataract, glaucoma, age-related macular degeneration, or other ocular pathology; a history of ocular surgery; systemic or ocular conditions likely to affect visual performance; strabismus or non-strabismic binocular vision anomalies; nystagmus; or monocular status.

Classification of Myopia

Myopia was defined according to the study protocol as a spherical equivalent refractive error of ≤ -0.50 D. Participants were subsequently categorized into low-myopia and high-myopia groups, with 15 participants in each myopia category within both the PAL and SV groups.

Spectacle-Correction Modalities

Participants were assessed according to their habitual spectacle-correction modality. The PAL group comprised 30 participants who routinely used progressive addition lenses, which provide multiple focal powers within a single spectacle lens to support visual tasks at different viewing distances. The SV group comprised 30 participants who routinely used single-vision spectacle correction. Importantly, participants were not newly prescribed or randomly assigned to either modality; all assessments were performed using their established habitual correction.

Questionnaire and Quality-of-Life Assessment

The questionnaire was self-administered with examiner assistance. The questions were explained to participants when clarification was required, and responses were recorded according to their own reported experiences while using their habitual spectacle correction.

Vision-related QOL was assessed using the Refractive Status and Vision Profile (RSVP) questionnaire. The RSVP was used as the principal patient-reported measure of visual function and QOL, capturing participants' subjective experience of visual difficulties associated with refractive status and spectacle correction. Participants completed the questionnaire based on their own visual experiences, with examiner assistance provided when necessary. Lower RSVP scores represented better QOL and fewer reported visual difficulties, whereas higher scores indicated greater visual difficulty. For descriptive interpretation in the present study, RSVP scores were categorized as 0–10, very good; 11–25, good; 26–40, moderate; and >40, poor. These categories were used for descriptive interpretation of the observed scores and were not treated as independently validated clinical thresholds.

Assessment of Visual Satisfaction

In addition to the RSVP assessment, participants reported their visual satisfaction under habitual viewing conditions at distance, intermediate, and near. Satisfaction was assessed both with and without habitual spectacle correction, allowing comparison of perceived visual performance across different viewing distances and assessment of the perceived functional contribution of spectacle correction. The study used a five-point visual-satisfaction scale, with lower scores representing greater satisfaction and higher scores representing greater dissatisfaction. The study document specifically reports a score of 5.00 as the highest level of dissatisfaction.

Data Collection Procedure

Eligible participants were assessed according to the predefined inclusion and exclusion criteria. Demographic and refractive information was recorded, and participants were classified according to their habitual spectacle modality and myopia category. Each participant subsequently completed the RSVP questionnaire with examiner assistance and reported their subjective experience of visual functioning while using their habitual spectacle correction. Visual satisfaction was then assessed with and without spectacles at distance, intermediate, and near viewing distances.

Because participants were evaluated using their established habitual correction rather than immediately following prescription of a new correction, the study reflects the experienced, habitual use of PAL and SV correction rather than the initial adaptation period to a newly prescribed lens modality.

Study Outcomes

The primary outcome was the vision-related QOL score obtained from the RSVP questionnaire. The principal comparisons were between PAL and SV users and between low and high myopes. The secondary outcomes included visual satisfaction with and without spectacle correction at distance, intermediate, and near, as well as differences in QOL across the combined categories of spectacle modality and myopia severity.

Statistical Analysis

Data obtained from the questionnaire were entered and analyzed using Microsoft Excel. Descriptive statistics were used to summarize participant characteristics and questionnaire responses. An independent-samples (unpaired) *t*-test was used to compare overall QOL scores between PAL and SV users and between low- and high-myopia groups. Paired *t*-tests were used to compare visual-satisfaction scores with and without spectacle correction at distance, intermediate, and near viewing distances. All statistical tests were two-tailed, and a *p*-value <0.05 was considered statistically significant.

Ethical Considerations

The study document states that the study protocol was reviewed and approved by the Institutional Ethics Committee and that the research was conducted in accordance with the ethical principles of the Declaration of Helsinki.

Results

Participant Characteristics

The study included 60 presbyopic participants with myopia. The sample comprised 29 males (48.3%) and 31 females (51.7%). Participants were equally distributed according to habitual spectacle-correction modality, with 30 participants (50.0%) using progressive addition lenses (PALs) and 30 (50.0%) using single-vision (SV) lenses. Participants were further categorized into low- and high-myopia groups. The age distribution was 11 participants (18.3%) aged 41-45 years, 14 (23.3%) aged 46-50 years, 12 (20.0%) aged 51-55 years, 11 (18.3%) aged 56-60 years, 8 (13.3%) aged 61-65 years, 3 (5.0%) aged 66-70 years, and 1 (1.7%) aged 71-75 years (Table 1).

Table 1. Demographic and study-group characteristics

Characteristic	n	%
Age (years)		
41-45	11	18.33
46-50	14	23.33
51-55	12	20.00

56–60	11	18.33
61–65	8	13.33
66–70	3	5.00
71–75	1	1.67
Sex		
Male	29	48.33
Female	31	51.67
Spectacle modality		
PAL	30	50.00
SV	30	50.00
Total	60	100.00

PAL, progressive addition lens; SV, single-vision lens.

Primary Outcome: Vision-Related Quality of Life

The primary outcome was the RSVP-derived vision-related quality-of-life (QOL) score, for which lower scores indicate fewer vision-related difficulties and better QOL. For descriptive interpretation, scores of 0-10, 11-25, 26-40, and >40 were categorized as very good, good, moderate, and poor QOL, respectively. QOL differed according to both spectacle modality and myopia severity. Among participants with low myopia, the mean RSVP score was 3.45 among PAL users compared with 23.59 among SV users, corresponding to a mean difference of -20.14 points (PAL - SV). Thus, the PAL group fell within the descriptive “very good” QOL category, whereas the SV group was classified as “good.” Among participants with high myopia, the corresponding mean scores were 27.62 for PAL users and 44.87 for SV users, giving a mean difference of -17.25 points. These scores corresponded to “moderate” and “poor” QOL categories, respectively (Table 2; Figure 1).

Table 2. RSVP-derived QOL scores according to myopia severity and spectacle modality

Myopia severity	PAL, mean	SV, mean	Mean difference (PAL - SV)	QOL category: PAL	QOL category: SV
Low myopia	3.45	23.59	-20.14	Very good	Good
High myopia	27.62	44.87	-17.25	Moderate	Poor

Lower RSVP scores indicate better QOL

The effect of myopia severity was also evident within each spectacle modality. Among PAL users, the mean RSVP score increased by 24.17 points from low to high myopia (3.45 vs 27.62). Among SV users, the corresponding increase was 21.28 points (23.59 vs 44.87). Thus, higher myopia was associated with greater reported visual difficulty in both correction groups. The study document reports statistically significant differences in QOL according to both correction modality and myopia category ($p < 0.001$).

Overall, the most favorable QOL profile was observed among low-myopic PAL users, whereas the greatest reported QOL burden occurred among high-myopic SV users.

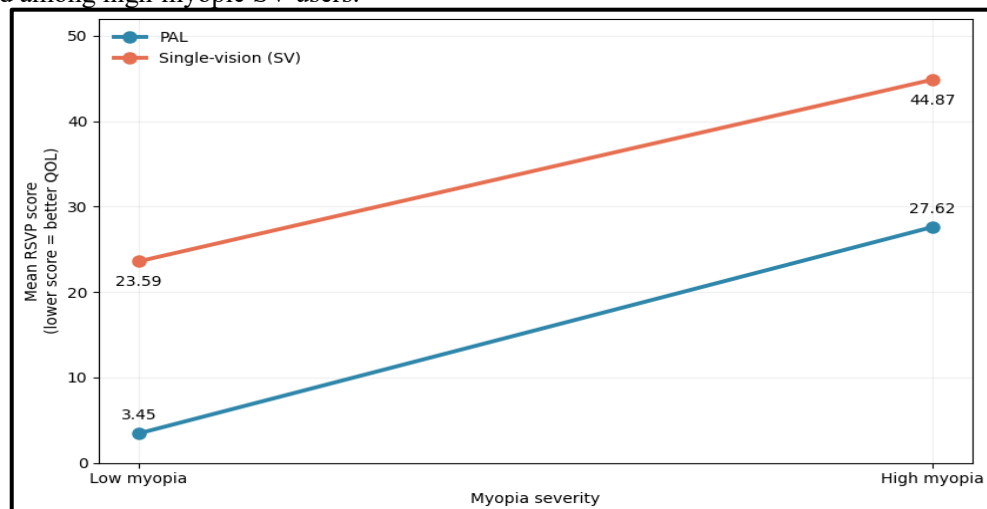


Figure 1. RSVP-derived vision-related quality-of-life scores according to myopia severity and spectacle-correction modality.

Visual Satisfaction with Spectacle Correction

Visual satisfaction was assessed at distance, intermediate, and near using a five-point scale, with 1 representing very satisfied and 5 representing very dissatisfied.

Low myopia

Among low-myopic participants while wearing their habitual spectacles, PAL users had mean satisfaction scores of 1.00 for distance, 1.07 for intermediate vision, and 1.00 for near vision. The corresponding scores among SV users were 1.00, 2.67, and 1.00, respectively (Table 3; Figure 2).

The largest PAL–SV difference occurred for intermediate vision, where the mean score was 1.60 points lower among PAL users (1.07 vs 2.67), indicating greater reported satisfaction with PAL correction. Distance and near satisfaction were identical between the two groups, with mean scores of 1.00 in both modalities. The source document reports $p = 0.036$ for the intermediate comparison and $p < 0.001$ for stronger reported visual-satisfaction comparisons; however, these p -values should be interpreted according to the specific statistical comparison from which they were generated.

Table 3. Visual satisfaction with spectacles among low myopes

Viewing distance	PAL, mean	SV, mean	Mean difference (SV – PAL)
Distance	1.00	1.00	0.00
Intermediate	1.07	2.67	1.60
Near	1.00	1.00	0.00

High myopia

Among high-myopic participants wearing spectacles, PAL users had mean satisfaction scores of 1.00 for distance, 2.00 for intermediate vision, and 1.40 for near vision. Corresponding scores among SV users were 1.00, 4.13, and 1.47, respectively (Table 4; Figure 2).

The largest difference again occurred for intermediate vision, with a 2.13-point lower mean score among PAL users compared with SV users (2.00 vs 4.13). Distance satisfaction was identical between the two groups (1.00), while the difference in near satisfaction was small (1.40 vs 1.47). These findings indicate that the principal descriptive difference between PAL and SV correction was concentrated at the intermediate viewing distance (Table 4; Figure 2).

Table 4. Visual satisfaction with spectacles among high myopes

Viewing distance	PAL, mean	SV, mean	Mean difference (SV - PAL)
Distance	1.00	1.00	0.00
Intermediate	2.00	4.13	2.13
Near	1.40	1.47	0.07

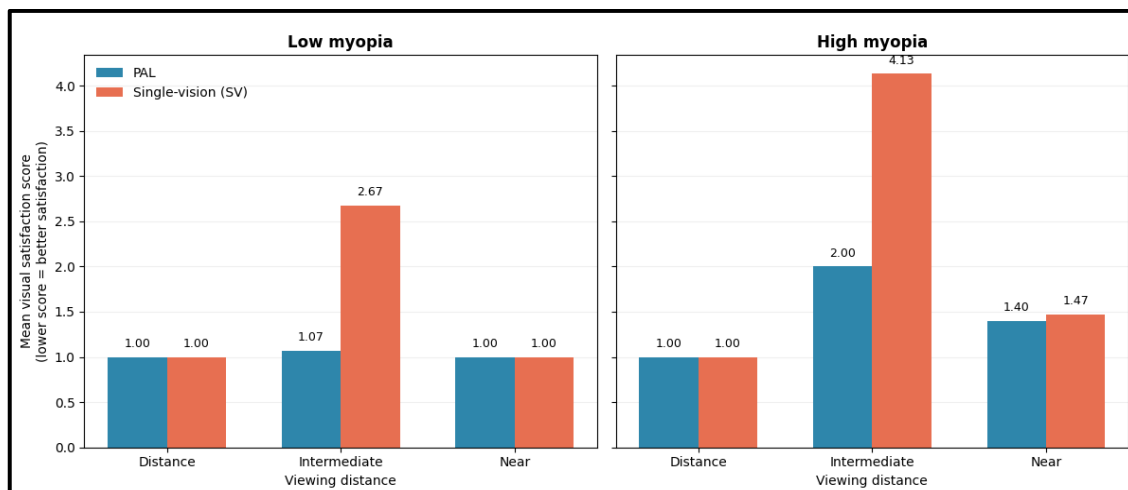


Figure 2. Visual satisfaction with habitual spectacle correction at distance, intermediate, and near according to myopia severity and spectacle modality.

Visual Satisfaction Without Spectacle Correction

Visual satisfaction was additionally assessed after removal of the habitual spectacle correction. This allowed comparison of perceived visual performance with and without correction across distance, intermediate, and near viewing conditions.

Low myopia

Without spectacles, low-myopic PAL users had mean satisfaction scores of 3.93 at distance, 2.67 at intermediate, and 2.87 at near. The corresponding scores among SV users were 4.07, 2.67, and 2.27, respectively (**Table 5; Figure 3**).

The PAL–SV differences were relatively small compared with those observed while spectacles were worn. At distance, the mean difference was 0.14 points, while intermediate scores were identical (2.67 in both groups). At near, the SV group had a lower mean score than the PAL group (2.27 vs 2.87), corresponding to a mean difference of -0.60 points (SV - PAL).

Table 5. Visual satisfaction without spectacles among low myopes

Viewing distance	PAL, mean	SV, mean	Mean difference (SV - PAL)
Distance	3.93	4.07	0.14
Intermediate	2.67	2.67	0.00
Near	2.87	2.27	-0.60

High myopia

The deterioration in unaided visual satisfaction was more pronounced among high-myopic participants. PAL users recorded mean scores of 5.00 at distance, 4.60 at intermediate, and 4.87 at near. Corresponding scores among SV users were 5.00, 4.80, and 4.80, respectively (**Table 6; Figure 3**).

Both correction groups recorded the maximum dissatisfaction score of 5.00 for unaided distance vision. The PAL-SV difference was 0.20 points at intermediate vision and -0.07 points at near vision. Thus, after removal of spectacles, the differences between habitual correction groups were considerably smaller than those observed while spectacles were worn.

Table 6. Visual satisfaction without spectacles among high myopes

Viewing distance	PAL, mean	SV, mean	Mean difference (SV - PAL)
Distance	5.00	5.00	0.00
Intermediate	4.60	4.80	0.20
Near	4.87	4.80	-0.07

Comparison Across Viewing Distances and Correction Conditions

Across the combined groups, the clearest descriptive difference between PAL and SV correction was observed for intermediate vision when spectacles were worn. Among low-myopic participants, the PAL-SV difference at intermediate vision was 1.60 points (1.07 vs 2.67), increasing to 2.13 points among high-myopic participants (2.00 vs 4.13). In contrast, distance satisfaction was identical between PAL and SV users in both myopia categories when spectacles were worn, with a mean score of 1.00 in each group. Near-vision differences were also small when spectacles were worn (**Table 7; Figure 3**).

When spectacles were removed, the PAL-SV differences became smaller. The greatest burden was observed among high-myopic participants, particularly for unaided distance vision, where both PAL and SV users recorded a mean dissatisfaction score of 5.00 (**Tables 5-7; Figure 3**).

Table 7. Summary of visual-satisfaction scores by myopia severity, correction modality, and spectacle condition

Myopia	Modality	Condition	Distance	Intermediate	Near
Low	PAL	With spectacles	1.00	1.07	1.00
Low	SV	With spectacles	1.00	2.67	1.00
Low	PAL	Without spectacles	3.93	2.67	2.87
Low	SV	Without spectacles	4.07	2.67	2.27
High	PAL	With spectacles	1.00	2.00	1.40

High	SV	With spectacles	1.00	4.13	1.47
High	PAL	Without spectacles	5.00	4.60	4.87
High	SV	Without spectacles	5.00	4.80	4.80

Lower scores indicate greater satisfaction.

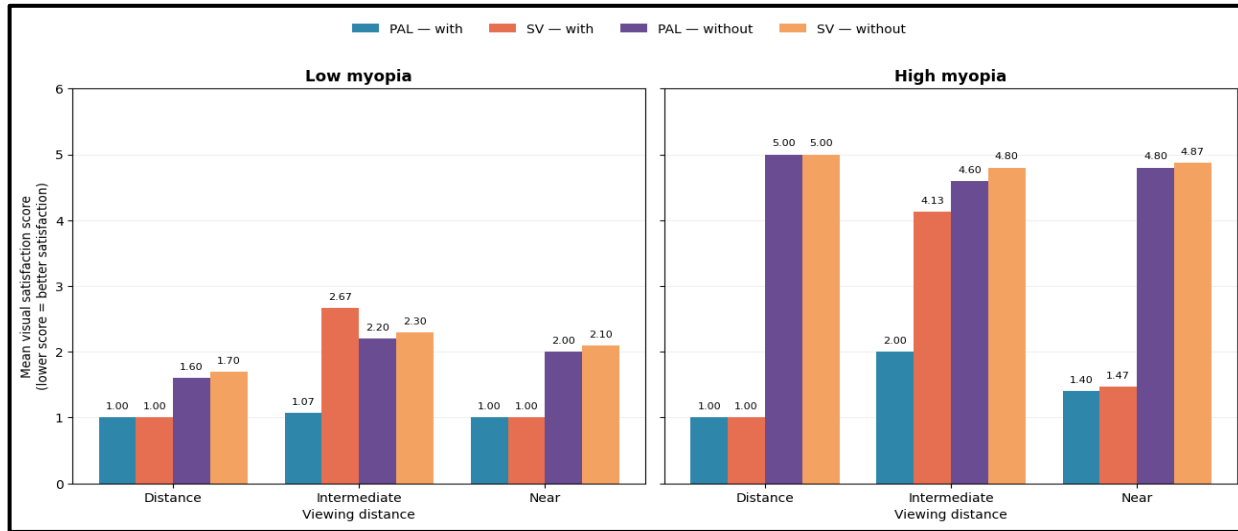


Figure 3. Visual satisfaction with and without habitual spectacle correction according to myopia severity and habitual spectacle modality.

Spectacle-Correction Preference

Most participants reported satisfaction with their current spectacle correction. Fifty participants (83.3%) were satisfied with their current spectacles. Ten participants (16.7%) expressed a preference to change their correction. Of the total study population, 9 participants (15.0%) preferred switching from SV to PAL, whereas 1 participant (1.7%) preferred switching from PAL to SV (**Table 8; Figure 4**). Among the 10 participants who expressed a desire to change their correction, 90.0% preferred switching from SV to PAL, while 10.0% preferred switching from PAL to SV (**Table 8; Figure 4**). This preference pattern was therefore predominantly directed toward PAL correction among participants who were dissatisfied with their current modality.

Table 8. Preference regarding spectacle-correction modality

Preference	n	% of total sample
Satisfied with current spectacles	50	83.3
Prefer switching from SV to PAL	9	15.0
Prefer switching from PAL to SV	1	1.7
Total	60	100.0

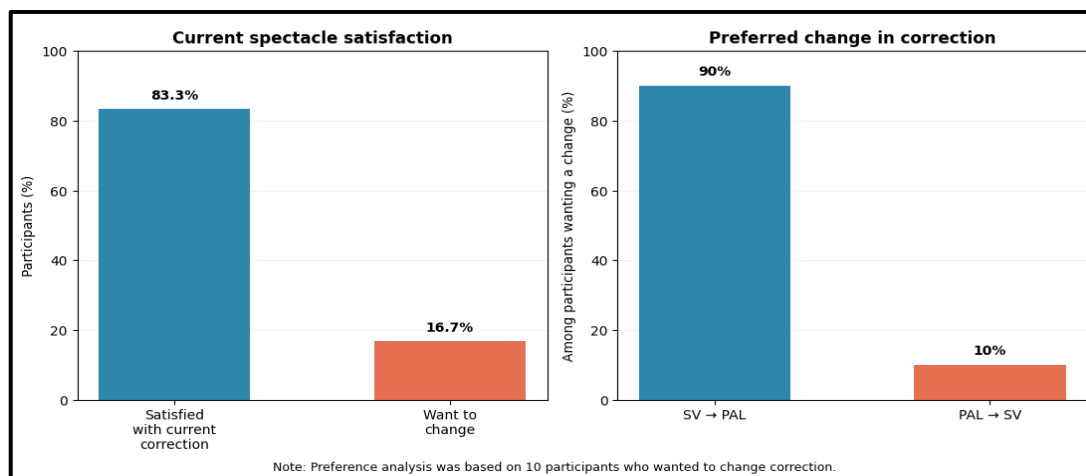


Figure 4. Current satisfaction with spectacle correction and preferred change in spectacle modality

Summary of the Main Findings (Figure 6)

Overall, the results demonstrated three principal patterns. First, PAL users had lower RSVP scores and therefore better reported QOL than SV users in both low and high myopia. Second, higher myopia was associated with greater reported visual difficulty irrespective of spectacle modality, with the highest RSVP score observed among high-myopic SV users (Table 2; Figure 1). Third, the most pronounced difference in task-specific visual satisfaction between PAL and SV correction occurred at intermediate vision while spectacles were worn, whereas distance and near satisfaction were comparatively similar (Tables 3-4; Figure 2). Removal of spectacles was associated with substantially poorer satisfaction, particularly among high-myopic participants (Tables 5-7; Figure 3). Finally, although most participants were satisfied with their current correction, 90.0% of those who wished to change preferred switching from SV to PAL (Table 8; Figure 4).

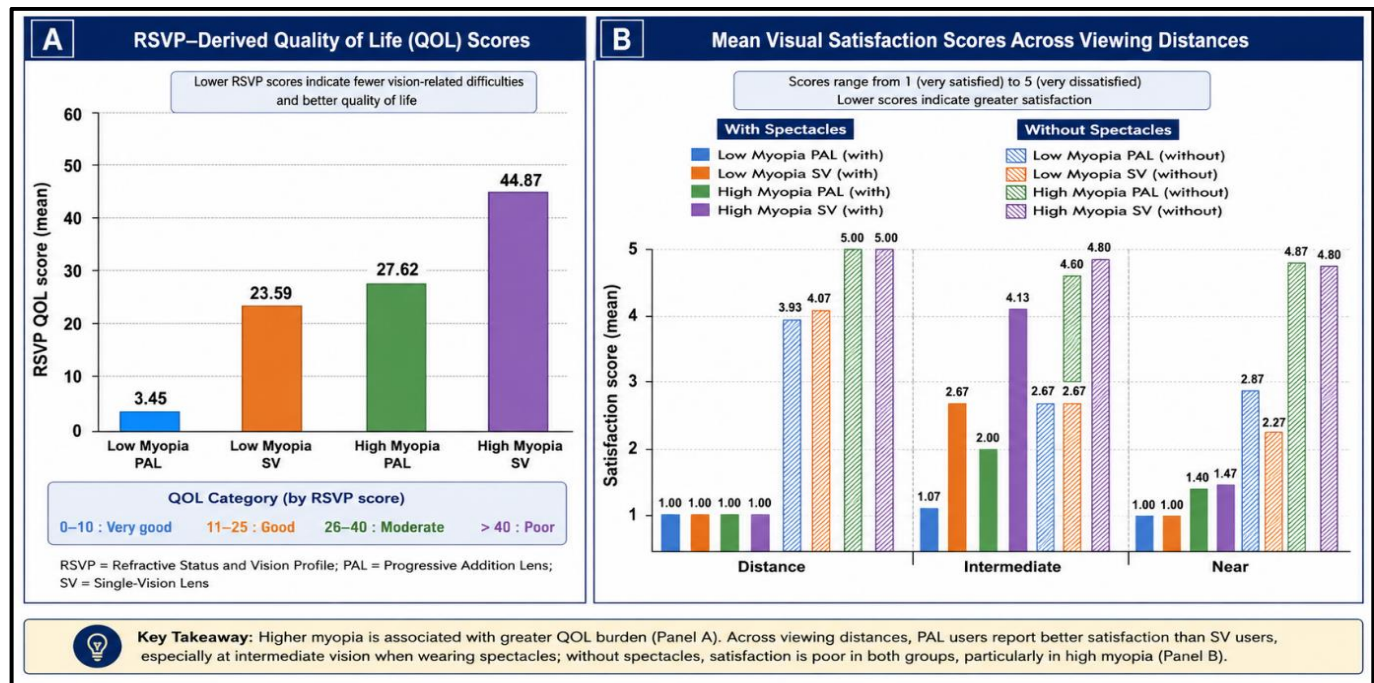


Figure 6. Effect of myopia severity and spectacle-correction modality on vision-related quality of life and visual satisfaction. (A) Mean RSVP-derived quality-of-life (QOL) scores among low- and high-myopia participants using progressive addition lenses (PALs) or single-vision (SV) spectacles. Lower RSVP scores indicate fewer vision-related difficulties and better QOL. (B) Mean visual-satisfaction scores at distance, intermediate, and near with and without habitual spectacle correction. Satisfaction was rated on a 1–5 scale, with 1 indicating very satisfied and 5 indicating very dissatisfied; therefore, lower scores indicate greater satisfaction. The figure demonstrates the greater QOL burden associated with high myopia and the more favorable visual-satisfaction profile of PAL users, particularly for intermediate vision.

Discussion

The present study evaluated the association between habitual spectacle-correction modality, myopia severity, and vision-related quality of life (QOL) in presbyopic adults with myopia. The principal findings were that progressive addition lens (PAL) users reported better QOL than single-vision (SV) users in both low and high myopia, while high myopia was associated with greater visual difficulty irrespective of spectacle modality. The most pronounced modality-related difference was observed for intermediate visual satisfaction, whereas distance and near satisfaction were comparatively similar when spectacles were worn. These findings indicate that the subjective experience of vision in myopic presbyopia is influenced not only by the magnitude of refractive error but also by how effectively the chosen correction supports multiple visual working distances.

Progressive addition lenses and vision-related quality of life

The most important finding was the substantially more favorable RSVP-derived QOL among PAL users. Among low myopes, the mean QOL score was 3.45 with PALs compared with 23.59 with SV correction, while among high myopes the corresponding scores were 27.62 and 44.87, respectively. Because lower RSVP scores represent fewer reported visual

difficulties and better QOL, PAL users demonstrated a more favorable patient-reported visual experience in both myopia categories. The difference between correction modalities was statistically significant ($p < 0.001$).

This finding is directly consistent with Yang et al. (2021), whose study specifically evaluated QOL in low- and high-myopic presbyopes using SV and progressive-lens correction. They similarly reported greater visual difficulty among highly myopic presbyopes and more favorable QOL outcomes with progressive correction. The close similarity between the populations and correction modalities makes Yang et al. particularly relevant to interpretation of the present findings. The present results also support the broader concept that presbyopic correction should be evaluated beyond conventional visual acuity. Wolffsohn and Davies (2019) emphasized that the effectiveness of presbyopic correction involves visual performance, quality of vision, convenience, and patient satisfaction, rather than simply restoration of near acuity. Similarly, Wolffsohn et al. (2023) highlighted the importance of functional vision and patient experience when evaluating contemporary presbyopia-correction strategies. Thus, the lower RSVP scores observed among PAL users may reflect the broader functional range provided by progressive correction rather than an isolated improvement in acuity.

Importantly, the present study was cross-sectional and included habitual users of the respective correction modalities. Therefore, the findings demonstrate an association between habitual PAL use and better reported QOL, rather than proving that changing from SV to PAL would necessarily produce the observed improvement.

Intermediate vision as a key differentiating domain

A particularly important finding was the task-specific nature of the PAL advantage. Among low myopes, intermediate visual-satisfaction scores were 1.07 with PALs versus 2.67 with SV correction, whereas among high myopes the corresponding scores were 2.00 and 4.13, respectively. Thus, the between-modality difference was 1.60 points in low myopia and 2.13 points in high myopia, consistently favoring PAL correction. In contrast, distance satisfaction while wearing spectacles was comparable between PAL and SV users, and near satisfaction showed relatively small differences. This pattern suggests that the principal advantage of PALs in this study was not a universal improvement across all visual distances, but rather improved functional performance at intermediate distances and during transitions between different working distances. This observation has considerable clinical relevance because intermediate visual tasks have become increasingly important in daily life. Computer use, laptop work, smartphone viewing, and other arm's-length activities require sustained intermediate vision and frequent changes in accommodative demand. The present study's questionnaire specifically incorporated intermediate activities, including computer/laptop use and switching focus, making the observed intermediate difference particularly relevant to the functional domains evaluated.

The finding is compatible with Sivardeen et al. (2020), who demonstrated that presbyopic correction use and quality-of-vision symptoms vary according to correction type and visual task. It is also consistent with Vedhakrishnan et al. (2022), who showed that visual performance with multifocal lens designs can differ according to viewing distance and task. Together, these findings reinforce the importance of evaluating presbyopic correction using distance, intermediate, and near functional outcomes separately, rather than relying exclusively on distance and near visual acuity.

Influence of myopia severity on QOL

Myopia severity was another important determinant of patient-reported QOL. Among PAL users, the mean RSVP score increased from 3.45 in low myopia to 27.62 in high myopia, a difference of 24.17 points. Among SV users, the corresponding increase was from 23.59 to 44.87, a difference of 21.28 points. Thus, although PAL users demonstrated better QOL than SV users within both refractive categories, high-myopic participants continued to experience substantially greater visual difficulty than low-myopic participants. This finding agrees with Yang et al. (2021), who reported poorer QOL among highly myopic presbyopes than among low myopes. The consistency between the two studies supports the concept that the functional impact of presbyopia may be modified by the patient's underlying refractive status. The present findings can also be considered alongside Rajabpour et al. (2024), who demonstrated an association between refractive error and vision-related QOL. Their findings support the broader principle that refractive error can influence subjective visual functioning even when conventional clinical measures may appear satisfactory. Similarly, Kandel et al. (2017) demonstrated that refractive error affects multiple aspects of daily life beyond visual clarity, including activities, convenience, safety, appearance, and social functioning. A plausible functional explanation for the greater burden among high myopes is their increased dependence on optical correction. Low myopes may retain some useful near vision after removing distance spectacles, whereas individuals with greater myopia may experience substantial distance blur without correction and subsequently require additional optical management as presbyopia develops. The coexistence of high myopia and presbyopia may therefore increase dependence on correction across multiple visual tasks. However, this interpretation should remain cautious because the present study did not directly quantify spectacle dependence or experimentally manipulate refractive correction.

Findings without spectacle correction

The without-spectacle findings provide additional insight into the influence of myopia severity. Among high myopes, mean distance-satisfaction scores without spectacles were 5.00 in both PAL and SV groups, representing the highest level of dissatisfaction on the study's five-point scale. Intermediate and near scores were also relatively poor. The similarity between PAL and SV users when spectacles were removed is important. It indicates that the difference between the two correction modalities is primarily evident when the optical correction is being used, whereas removal of the correction exposes the underlying visual limitation associated with higher myopia. Thus, PALs should not be interpreted as eliminating the visual burden of high myopia. Rather, their potential benefit appears to be the provision of a broader functional range while spectacles are worn. This interpretation also helps distinguish the effect of refractive status from the effect of correction modality. High myopia appears to impose an underlying visual burden, whereas PAL correction may modify how effectively that burden is managed across different working distances.

Patient-centered correction and visual preferences

The patient-preference findings provide an additional clinically relevant perspective. Of the 60 participants, 50 (83.3%) were satisfied with their current spectacle correction, whereas 10 (16.7%) wished to change their correction. Among those 10 participants, nine preferred changing from SV to PAL, while one preferred changing from PAL to SV. Although this preference pattern is consistent with the better QOL and intermediate-vision findings observed among PAL users, it should be interpreted cautiously because only 10 participants expressed a desire to change their correction. The result therefore should not be generalized as evidence that PALs are universally preferred. Nevertheless, the finding reinforces the importance of patient-centered spectacle prescribing. Khurana et al. (2023) demonstrated that the perceived need and willingness to obtain presbyopic correction are influenced by factors beyond refractive status alone. Likewise, Kandel et al. (2017) showed that the consequences of refractive error extend to everyday activities, convenience, safety, and other aspects of life. Therefore, correction should be selected according to the patient's actual visual requirements, lifestyle, expectations, and satisfaction rather than solely according to refractive measurements. The broader literature also indicates that access and uptake of appropriate eye-care services can be influenced by economic, geographic, and awareness-related barriers, particularly in low- and middle-income settings (Bhattacharjee & Varshney, 2025; Bhattacharjee et al., 2026). Although access barriers were not directly assessed in the present study, these factors are relevant to the wider clinical context because the potential benefit of an advanced correction modality can only be realized when patients can access, afford, and appropriately use it.

PAL correction, adaptation, and optical trade-offs

The favorable QOL associated with PAL use should not be interpreted as evidence that PALs are without limitations. Progressive lenses require adaptation to continuously changing optical powers and may produce peripheral optical effects or discomfort, particularly during the adaptation period. The present study, however, evaluated habitual PAL and SV users, meaning that participants had already incorporated their correction into routine visual behavior. This distinction is important when interpreting the findings. The study provides evidence about the experienced QOL of established users, rather than the immediate response to a newly prescribed PAL. Consequently, adaptation may already have occurred among habitual PAL users. Future prospective studies should therefore assess QOL before prescription and at defined intervals after initiation of correction to distinguish short-term adaptation effects from sustained functional benefits. Varshney et al. (2017) similarly emphasized that PAL compatibility may vary according to age, refractive error, and occupation. This supports the present study's interpretation that PAL suitability should be individualized rather than assumed to be equivalent across all patients.

Comparison with alternative correction strategies

The findings should also be interpreted within the wider spectrum of presbyopia-correction options. Contemporary management includes spectacles as well as contact-lens and surgical approaches. Wolffsohn and Davies (2019) and Wolffsohn et al. (2023) emphasized that each modality involves a balance between visual performance, convenience, adaptation, optical quality, and patient expectations. For example, Parab et al. (2025) reported improvement in QOL following LASIK for myopia, demonstrating that reducing dependence on spectacles can positively influence patient-reported outcomes. However, refractive surgery represents a fundamentally different intervention from PAL or SV correction and therefore should not be interpreted as directly comparable with the present study. Rather, these findings reinforce the broader principle that patient-reported QOL is an important endpoint when evaluating different approaches to refractive correction.

Likewise, Davies (2026) emphasized the evolving landscape of presbyopia management and the need to consider patient-specific requirements when selecting correction. The present findings are consistent with this patient-specific approach because PALs demonstrated a particular advantage in intermediate function but did not produce a uniform advantage across every visual domain.

Clinical implications

The findings have several implications for clinical practice. First, assessment of myopic presbyopes should extend beyond distance and near visual acuity. Intermediate visual requirements should be explicitly assessed, particularly in patients who frequently use computers, laptops, smartphones, or perform prolonged arm's-length tasks. Second, PALs may be particularly useful for patients who frequently transition between distance, intermediate, and near activities. The consistently better intermediate satisfaction observed among PAL users in both low and high myopia supports this interpretation. Third, high-myopic presbyopes may require more detailed counseling because their QOL remained less favorable even when PAL correction was used. PALs may improve the functional range of spectacle correction but do not remove the underlying visual burden associated with greater myopia. Fourth, the relatively high proportion of participants satisfied with their existing correction indicates that changing spectacle modality should not be considered an automatic clinical objective. The decision should instead be based on the individual's symptoms, visual demands, adaptation, occupational requirements, expectations, and preference.

Strengths and limitations

A major strength of this study is its focus on patient-reported visual function and QOL rather than visual acuity alone. The RSVP questionnaire provided a structured assessment of vision-related difficulties, while separate satisfaction measures permitted evaluation of distance, intermediate, and near visual experience. The study also included equal numbers of PAL and SV users and equal representation of low and high myopia within each correction modality, facilitating direct subgroup comparison. Several limitations should be acknowledged. First, the cross-sectional observational design prevents causal inference; therefore, PAL use cannot be concluded to have caused the better QOL scores. Second, participants were assessed according to their habitual correction rather than being randomly assigned to PAL or SV lenses. Differences in previous experience, adaptation, duration of use, prescription characteristics, or individual preference may therefore have contributed to the observed differences. Third, the sample size of 60 participants was relatively small, limiting precision and generalizability. In addition, the available analysis provides group-level results and reported significance values but does not provide sufficient participant-level information to establish adjusted associations or multivariable models. Accordingly, additional effect estimates or adjusted analyses should not be inferred from the existing data.

Future research

Future studies should use larger samples and prospective longitudinal designs to evaluate QOL before and after initiation of PAL or SV correction. Randomized allocation, standardized refractive assessment, objective verification of spectacle prescriptions, documentation of duration of spectacle use, and assessment of adaptation time would reduce potential confounding and provide stronger evidence regarding the specific contribution of lens modality. Further studies should also examine occupational and lifestyle factors, particularly digital-device use, intermediate working distance, duration of intermediate tasks, and occupational visual requirements. The present findings suggest that intermediate vision may be an important determinant of the functional difference between PAL and SV correction.

Overall interpretation

Overall, the present study demonstrates that PAL users reported better vision-related QOL than SV users among both low- and high-myopic presbyopes, while high myopia was associated with greater visual difficulty regardless of correction modality. The most distinctive functional difference between PAL and SV correction occurred at intermediate viewing distance, whereas distance and near satisfaction were comparatively similar when spectacles were worn. These findings are consistent with the evidence from Yang et al. (2021) and complement broader research emphasizing functional vision, quality of vision, correction use, adaptation, and patient satisfaction in presbyopia (Kandel et al., 2017; Sivardeen et al., 2020; Vedhaskrishnan et al., 2022; Wolffsohn & Davies, 2019; Wolffsohn et al., 2023). They also support a patient-centered approach in which spectacle correction is selected according to refractive severity and the individual's real-world visual demands.

Importantly, the results do not establish that PALs are universally superior to SV correction. Rather, they suggest that PALs may offer particular functional advantages for myopic presbyopes whose daily activities require frequent transitions

among distance, intermediate, and near vision. Because of the observational design, these findings should be interpreted as associations rather than causal effects.

Conclusion

Progressive addition lens correction was associated with better vision-related quality of life than single-vision correction in both low- and high-myopic presbyopes, with the greatest functional advantage observed for intermediate vision. High myopia was associated with a greater QOL burden despite spectacle correction, highlighting the increased visual dependence of these patients. These findings support an individualized, patient-centered approach to presbyopic correction, with particular consideration of intermediate and multi-distance visual demands. Larger prospective studies are warranted to confirm these associations and evaluate long-term adaptation and QOL outcomes.

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The author declared no conflict of interest.

Ethics approval

The study protocol was reviewed and approved by the Institutional Ethics Committee (Approval No. IEC/BMCOP/2024/015). The research was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki.

AI tool usage declaration

No AI tool was used in manuscript preparation.

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