

Subjective acceptance of spectacle lenses with cylindrical annular refractive elements (CARE) in Chinese children with myopia

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Purpose

Subjective acceptance (SA) and compliance are determining factors for efficient myopia management (MM) with spectacle lenses^{1,2,3}. The present work compares compliance and SA with MyoCare spectacle lenses (incorporating cylindrical annular refractive elements (CARE)) to single vision lenses after dispensing, after one week and after three months.

Methods

Clinical trial info

12-months analysis of ongoing 2-year prospective, double-masked multi-center clinical trial (NCT05288335) (Figure 1)

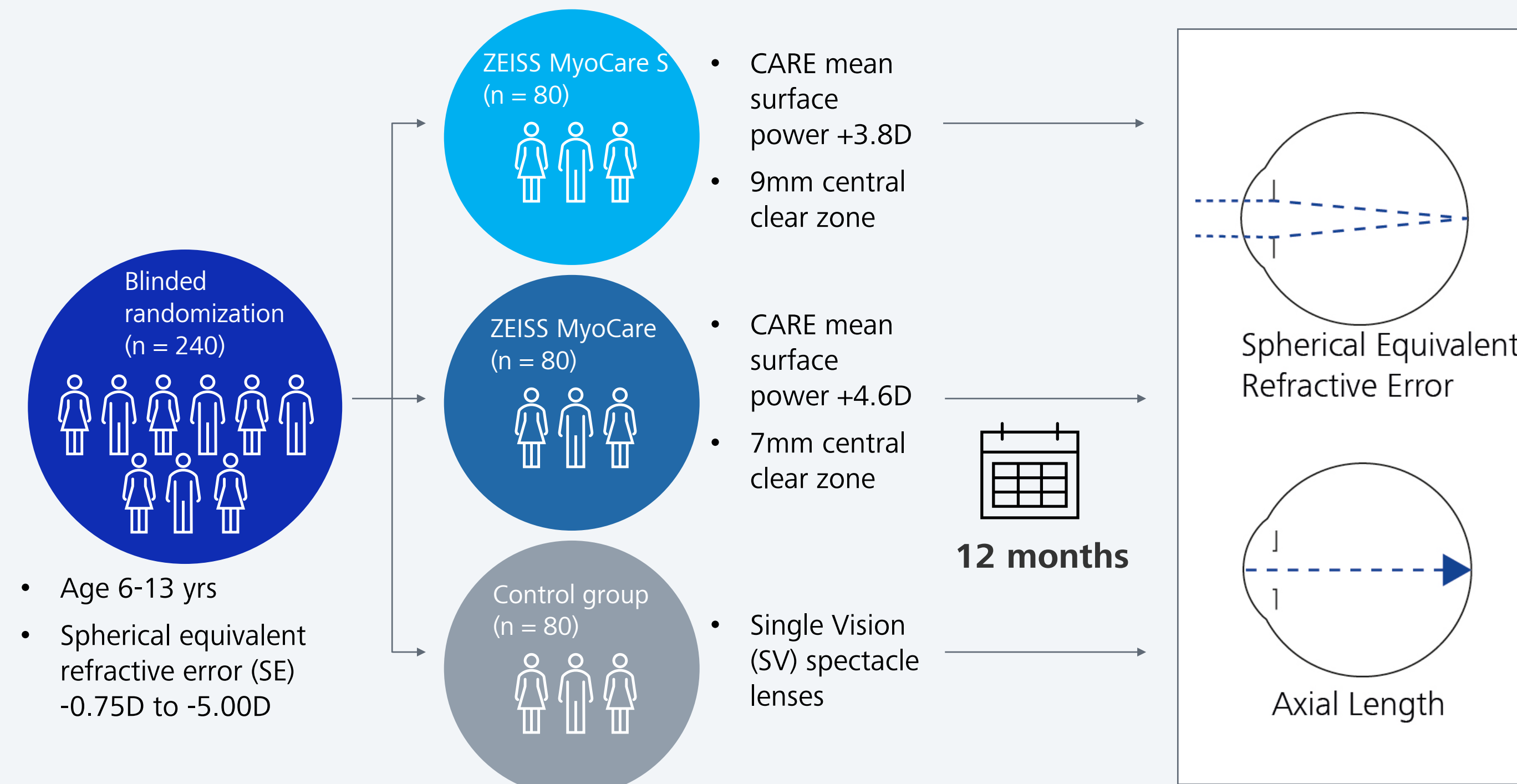


Figure 1. Overview of the randomized controlled clinical trial.

Measures

1) Subjective Acceptance (SA):

- A questionnaire was used to determine SA at dispensing, after one week, and after three months.
- Subjective vision was rated for different distances and activities on a scale of 1-4 (4 = very good, 1 = bad).

2) Compliance with spectacle lens wear was assessed as time of wear in hours/day.

Analysis

Data was reported as mean \pm sd, SA was compared among intervention groups using ANOVA.

Results

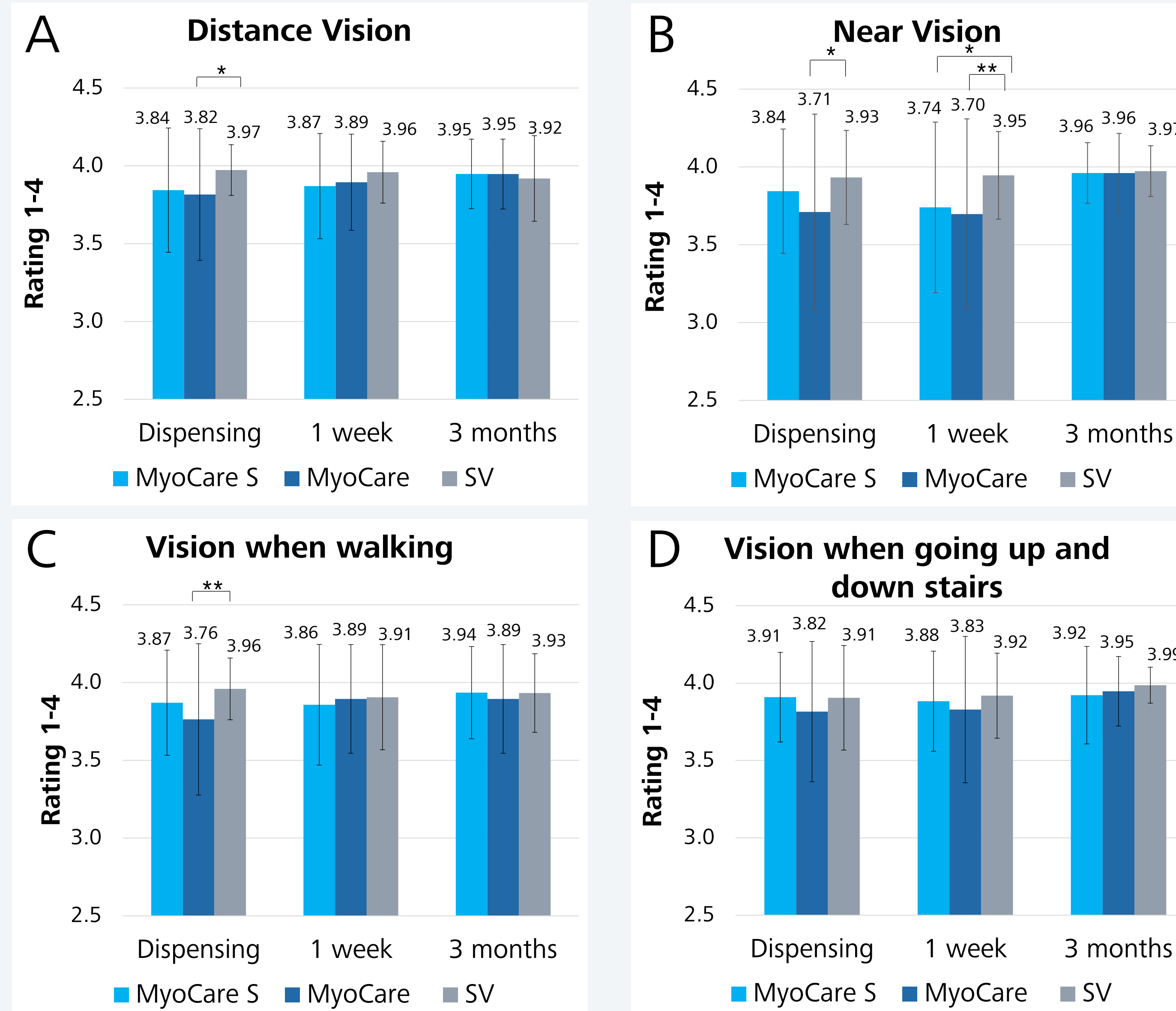


Figure 2. Subjective acceptance ratings at dispensing, 1 week, 3 months for (A) Distance Vision with a significant difference between groups at dispensing $F(2,224) = 4.27$, $p = 0.015$, (B) Near Vision with a significant difference between groups at dispensing $F(2,224) = 4.3$, $p = 0.014$; and at 1 week $F(2,224) = 5.54$, $p = 0.004$, (C) Vision when walking with a significant difference between groups at dispensing $F(2,224) = 5.54$, $p = 0.004$, and (D) Vision when going up and down stairs.

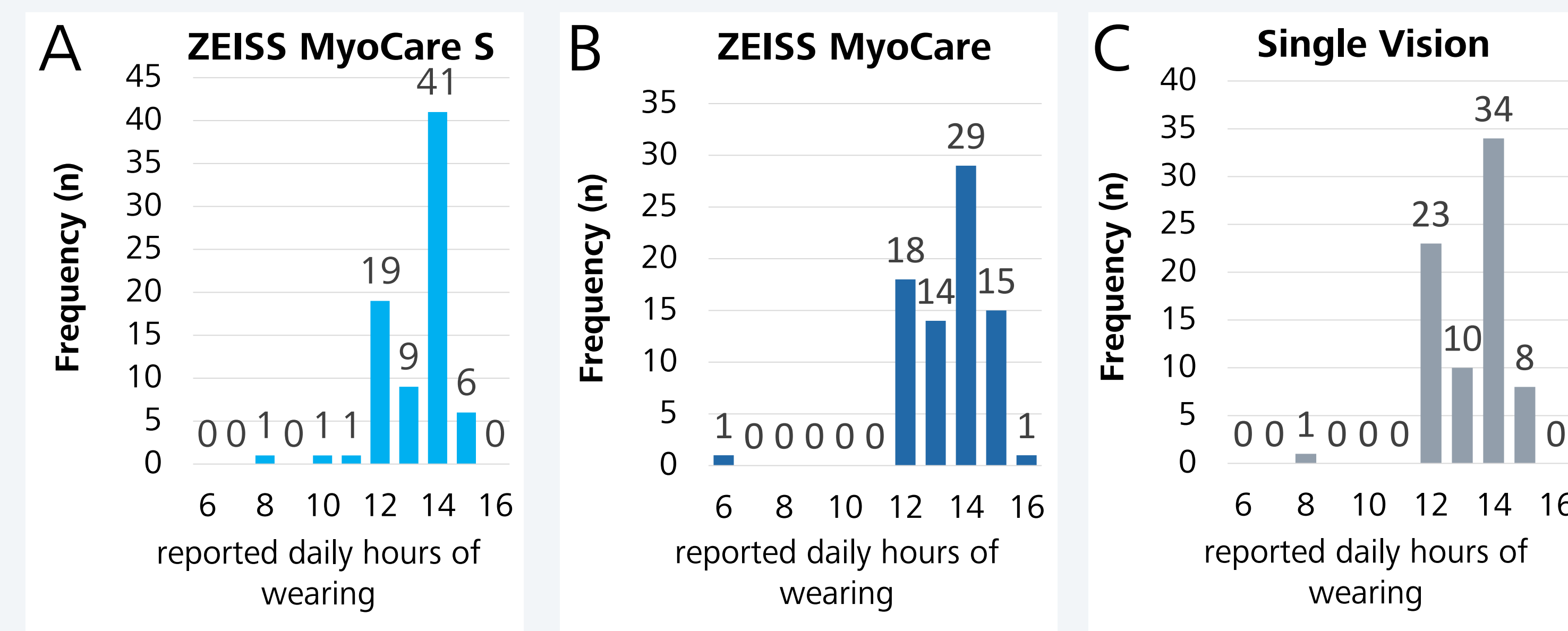


Figure 3. Distribution of compliance reported as daily hours of wearing for (A) MyoCare S, (B) MyoCare, and (C) Single Vision (B). Average spectacle lens wear of 13.5 ± 1.4 , 13.3 ± 1.2 , and 13.1 ± 2.0 hours/day was reported for MyoCare, MyoCare S, and SV, respectively, with no differences between the groups ($p = 0.18$).

Discussion

Subjective acceptance: With MM spectacles, occasional visual symptoms as well as unwillingness to wear have been reported⁴. SA with MyoCare and MyoCare S was high at all visits (av. ratings > 3.7 out of 4).

- After dispensing, there was no difference between groups in the respective ratings for vision when going up and down stairs.
- After one week, there were no differences between the groups for distance vision, vision when walking, and for vision when going up and down stairs.
- Near vision with MM was rated lower at dispensing and 1 week visits, however, differences in ratings were ≤ 0.25 unit and improved at 3 months with no differences between groups.

Compliance: Compliance has been linked to improved efficacy in myopia management^{2,5}. In children, compliance in spectacle wear varies strongly⁶. 98% of MM wearers in this study reported full-time wear (full time categorized as 12 hours or more²), in line with compliance reported for other MM spectacles^{2,7}.

Conclusion

- Overall, subjective assessment indicated high ratings for all aspects related to vision. Compared to SV lenses, ratings with MM lenses were slightly lower at dispensing and 1 week for certain aspects of vision but were similar at 3 months indicating adaptation to lenses.
- High daily wear time reported with both MyoCare and MyoCare S wearers indicates that children were likely satisfied with the visual performance of these lenses.

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