

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

Katharina Rifai<sup>1</sup>, Padmaja Sankaridurg<sup>1,2</sup>, Arne Ohlendorf<sup>1</sup>, Christina Boeck-Maier<sup>1</sup>, Youhua Yang<sup>3</sup>, Yi Zhu<sup>3</sup>, Xiaoqin Chen<sup>4</sup>, Min Wu<sup>5</sup>, Cui Yu<sup>6</sup>, Siegfried Wahl<sup>1,7</sup>, Lihua Li<sup>4</sup>

<sup>1</sup>ZEISS Vision Care, Carl Zeiss Vision International GmbH, , Germany; <sup>2</sup>University of New South Wales School of Optometry and Vision Science, Sydney, New South Wales, Australia; <sup>3</sup>ZEISS Vision Care, Carl Zeiss Vision International GmbH, Guangzhou, China; <sup>4</sup>Tianjin Eye Hospital, Tianjin, Tianjin, China; <sup>5</sup>Beijing Tongren Eye Center, Beijing, China; <sup>6</sup>He Eye Specialist Hospital, Shenyang, Liaoning, China; <sup>7</sup>Universitätsklinikum Tübingen Forschungsinstitut für Augenheilkunde, Tübingen, Baden-Württemberg, Germany

## Purpose

In addition to myopia progression control efficacy, subjective acceptance (SA) and compliance with lens wear are important success criteria in myopia management. We analyzed compliance and SA with myopia management spectacle lenses (SPL) incorporating cylindrical annular refractive elements (CARE) compared to single vision (SV) control lenses.

## Methods

In an ongoing 2-year prospective, double-masked multi-center clinical trial (NCT05288335), 240 Chinese children aged 6-13 yrs, spherical equivalent refractive error (SE) -0.75 D to -5.00 D, were enrolled and randomly assigned to one of three groups: (1) MyoCare (ZEISS) with CARE mean surface power of +4.6 D and a central clear zone of 7 mm (N=80); (2) MyoCare S (ZEISS) with CARE mean surface power +3.8 D and 9 mm central clear zone (N=80); or (3) single vision spectacles (SV, N=80). A questionnaire was used to determine SA at dispensing, one week, and 3 months. Subjective vision was rated for different distances and activities on a scale of 1 - 4 (4=very good, 1=bad). Compliance with SPL wear was assessed as time of wear in h/day. Data was reported as mean±sd, and the difference between groups was analyzed using ANOVA.

## Results

Compliance was high, with an average SPL wear of 13.5±1.4, 13.3±1.2, and 13.1±2.0 h/day for MyoCare, MyoCare S, and SV, respectively, with no differences between the groups ( $p = 0.18$ ). Across all groups, only 2% reported SPL wear of <12 h/day. SA with MyoCare and MyoCare S was high at all visits (mean ratings of  $\geq 3.5$  for all assessments). After one week of wear, there were no differences between the groups in their respective ratings for distance vision, vision when walking stairs, and perception of moving objects. Near vision was rated lower with MyoCare and MyoCare S at 1 week compared to SV (3.70±0.61 and 3.74±0.55 vs. 3.95±0.28,  $p = 0.04$  &  $p = 0.01$ ) but improved to SV level at 3 months (3.96±0.26 and 3.96±0.19, vs 3.97±0.16).

## Conclusions

High daily wear time was reported with myopic children wearing SPL incorporating cylindrical annular refractive elements (CARE) and no wear time difference compared to SV lenses. Subjective evaluation of vision for different distances and activities revealed high SA, comparable to SV lenses.

## Reference until publication in IOVS:

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