

# Effects of Lens-Induced Astigmatism at Near and Far Distances [Letter]

Suraj Kumar Chaurasiya<sup>1,2</sup>, Anil Ramesh Yadav<sup>3</sup>, Firdoos Jaman<sup>4</sup>, Mahendra Singh<sup>1</sup>

<sup>1</sup>Department of Optometry and Vision Science, CL Gupta Eye Institute, Moradabad, UP, India; <sup>2</sup>Department of Contact Lens and Anterior Segment, CL Gupta Eye Institute, Moradabad, UP, India; <sup>3</sup>Department of Optometry Services, AK Vision Care, Bramhapuri, Maharashtra, India; <sup>4</sup>Department of Optometry, Regional Institute of Paramedical and Nursing Sciences, Aizawl, Mizoram, India

Correspondence: Suraj Kumar Chaurasiya, Optometrist, C L Gupta Eye Institute, Ram Ganga Vihar Phase II (Extn.), Moradabad, Uttar Pradesh, 244001, India, Tel +91-8809893186, Email csurajk414@gmail.com

## Dear editor

We read with interest the recently published article titled “Effects of Lens-Induced Astigmatism at Near and Far Distances” by Tavazzi et al.<sup>1</sup> We would like to congratulate on their excellent paper. While the study contributes valuable understandings into the impact of lens-induced astigmatism on visual acuity in myopic presbyopes, we would like to highlight some limitations that should be considered in the interpretation of the findings.

**Sample Size and Generalizability:** The study included only fourteen participants, and it is essential to acknowledge that the sample size may limit the generalizability of the results to a broader population. Myopic presbyopes exhibit considerable variability in their visual characteristics, and a larger and more diverse sample could provide a more comprehensive understanding of the effects of lens-induced astigmatism.<sup>2</sup>

**Age-Related Changes:** The study focuses on presbyopic individuals, and while it mentions the age-related changes in astigmatism, it does not specifically address the potential influence of age on the study outcomes. Age-related variations in astigmatism and accommodative responses could impact the study’s conclusions, and further exploration of these factors is warranted.<sup>3</sup>

**Methodological Differences Between Near and Far Measurements:** The study acknowledges methodological differences between near and far measurements, such as the use of different display systems and chart formats. These differences could introduce confounding variables that might affect the comparison of visual acuity degradation at near and far distances. A more standardized approach in experimental design could enhance the robustness of the study.<sup>4</sup>

**Single Masked Crossover Design:** While the study implemented a single masked crossover design, it is crucial to recognize that blinding participants to the randomization scheme might not fully eliminate potential biases. Investigator blinding is mentioned, but further details on the blinding procedures would strengthen the methodological transparency.<sup>5</sup>

**Potential Confounders:** The study does not extensively discuss potential confounding factors, such as individual variations in pupil size, which could influence the results. Additionally, the lack of information on the participants’ daily visual tasks and habits limits the ability to account for factors that might affect their tolerance to lens-induced astigmatism.<sup>6</sup>

In conclusion, these limitations should be taken into account when interpreting the results, even though the study clarifies the effects of lens-induced astigmatism in myopic presbyopes. Addressing these concerns in future research would contribute to a more comprehensive understanding of the complex relationship between astigmatism and visual acuity in this population.

## Disclosure

The authors report no conflicts of interest in this communication.

## References

1. Tavazzi S, Vlasak N, Zeri F. Effects of lens-induced astigmatism at near and far distances. *Clin Optim.* **2023**;Volume 15:105–117. doi:10.2147/OPTO.S405472
2. Cochran WG. *Sampling Techniques*. John Wiley & Sons; **1977**.
3. Atchison DA, Markwell EL. Aberrations of emmetropic subjects at different ages. *Vis Res.* **2008**;48(21):2224–2231. doi:10.1016/j.visres.2008.06.023
4. Bland JM, Altman DG. Statistical methods for assessing agreement between two methods of clinical measurement. *Int J Nurs Stud.* **2010**;47(8):931–936. doi:10.1016/j.ijnurstu.2009.10.001
5. Schulz KF, Altman DG, Moher D. CONSORT 2010 statement: updated guidelines for reporting parallel group randomised trials. *J Clin Epidemiol.* **2010**;63(8):834–840. doi:10.1016/j.jclinepi.2010.02.005
6. Winn B, Whitaker D, Elliott DB, Phillips NJ. Factors affecting light-adapted pupil size in normal human subjects. *Invest Ophthalmol Visual Sci.* **1994**;35(3):1132–1137.

Dove Medical Press encourages responsible, free and frank academic debate. The content of the Clinical Optometry 'letters to the editor' section does not necessarily represent the views of Dove Medical Press, its officers, agents, employees, related entities or the Clinical Optometry editors. While all reasonable steps have been taken to confirm the content of each letter, Dove Medical Press accepts no liability in respect of the content of any letter, nor is it responsible for the content and accuracy of any letter to the editor.

### Clinical Optometry

Dovepress

### Publish your work in this journal

Clinical Optometry is an international, peer-reviewed, open access journal publishing original research, basic science, clinical and epidemiological studies, reviews and evaluations on clinical optometry. All aspects of patient care are addressed within the journal as well as the practice of optometry including economic and business analyses. Basic and clinical research papers are published that cover all aspects of optics, refraction and its application to the theory and practice of optometry. The manuscript management system is completely online and includes a very quick and fair peer-review system, which is all easy to use. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.

Submit your manuscript here: <https://www.dovepress.com/clinical-optometry-journal>

<https://doi.org/10.2147/OPTO.S457870>