Comment on: Observation of peripheral refraction in myopic anisometropia in young adults

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Dear Editor,

We read with great interest the recently published article titled “Observation of peripheral refraction in myopic anisometropia in young adults” by Du et al[1]. The study conducted at the InEye Hospital of Chengdu University of TCM provides valuable insights into the relationship between anisometropia and peripheral refraction in myopic young adults. We commend the authors for their thorough investigation and adherence to ethical guidelines. While the study contributes significantly to our understanding of myopic anisometropia, we would like to draw attention to some limitations that merit consideration for a comprehensive interpretation of the findings.

The study acknowledges the enrollment of 130 participants, yet it is essential to recognize the potential impact of sample size on the generalizability of the results. Additionally, further exploration with a larger sample size and potentially grouping based on the severity of anisometropia could offer more nuanced insights into the relationship between myopia, corneal morphology, and retinal peripheral refraction.

The study period spans from October 2022 to January 2023. Given the dynamic nature of refractive changes and potential seasonal variations, a more extended observation period might provide a more comprehensive understanding of the relationships observed[2]. While the inclusion and exclusion criteria are outlined, there is a need for further explanation of certain choices[3]. Specifically, the rationale behind selecting the age range of 18 to 40y and the degree of cylindrical mirror ≤3.00 D should be elaborated upon to justify their relevance to the study’s objectives. The study touches upon the impact of peripheral retinal defocus on eye growth and refractive development. However, a deeper exploration of the underlying mechanisms or potential confounding variables influencing defocus could strengthen the theoretical foundation of the observed phenomena[4]. Notwithstanding these drawbacks, the study makes a significant addition to the body of knowledge regarding myopia. By addressing these issues, it may be possible to improve the significance of the results and direct future studies in this field.

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Conflicts of Interest: Chaurasiya SK, None; Singh M, None; Agarwal P, None.

REFERENCES


Authors Reply to the Editor

Dear Editor,

We would like to express our gratitude to Chaurasiya et al for their thoughtful feedback on our article “Observation of peripheral refraction in myopic anisometropia in young adults”. We also extend our heartfelt appreciation
Peripheral refraction in myopic anisometropia
to the editor for providing us with the opportunity to further
discuss our article. We fully agree with and appreciate the
commentators’ suggestions. Longer observation periods, larger
sample sizes, subgroups based on the severity of anisometropia,
and a more in-depth exploration of the intrinsic mechanisms
or potential confounding variables affecting defocus could
all contribute to a more comprehensive understanding of the
relationship between myopia, corneal morphology, and retinal
peripheral refraction.

The participants in this study were myopic patients who
were candidates for corneal refractive surgery and underwent
preoperative evaluations. Therefore, we selected individuals
between the ages of 18 and 40 y as our inclusion criteria,
although this may have introduced some selection bias. Our
team observed peripheral defocus in myopic patients with
similar spherical diopters but different cylinder diopters. These
patients were divided into three groups based on their cylinder
diopters: 0 to 1.5 D, 1.5 to 3.0 D, and >3.0 D. We found that
cylinder diopters ranging from 0 to 3.0 D had a relatively
minor impact on peripheral defocus, but cylinder diopters
exceeding 3.0 D significantly affected peripheral defocus
in certain sectors of the retina. Consequently, only myopic
patients with cylinder diopters of 3.0 D or less were included
in our study. Additionally, our team recently investigated
the retinal peripheral refraction of 1490 Chinese adults with
different refractive errors related to myopia. An interesting
observation was that the peripheral hyperopic defocus in the
high myopic group [spherical equivalent (SE)<-6.0 D] was
lower than that of the moderate myopic group (SE, -3.0 to -6.0 D)
in certain areas of the retina. Furthermore, a correlation was
identified between age and peripheral refraction. Therefore,
in future studies on retinal peripheral refraction, it is essential
to adopt more stringent inclusion and exclusion criteria for
participants, particularly regarding refractive error and age
range, to enhance the reliability of study findings.

Thank you once again for Chaurasiya et al’s constructive
feedback and thoughtful suggestions regarding our article. The
comments are worthwhile and very helpful for improving our
article. We will take these suggestions and address them in
future studies to make our findings more accurate and reliable
and to provide valuable guidance for future research in this
area. We look forward to continuing our in-depth discussions
and research with them in this field.

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