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LETTER TO THE EDITOR

Letter to the editor concerning ''Contrast sensitivity function with soft contact lens wear''

Dear Editor,

This is in reference to the article titled: Contrast sensitivity function with soft contact lens wear by the authors Kishor Sapkota Sandra Franco and Madalena Lira published in the current issue of the Journal of Optometry.[1]

Contrast sensitivity has become far more integral part of standard practice over the past number of years especially since the emphasis on improving amblyopia, in sports, vision post refractive surgeries to well beyond 6/6 and the ever-higher demands of our patients for the best possible vision.[2,3] Information which optical devices offer us that is immediately clinically implementable and very helpful.

There were a few things the readers felt worthy of note, with your permission.

The results comparing contrast sensitivity function (CSF) between contact lenses and spectacles in this study where the patients used their habitual spectacles were a little troublesome. In addition to the authors' reporting that the prescription was possibly not the full refraction, the status of the lenses in their glasses has the potential to affect the results. It feels important to equalize and optimize optical qualities of the lenses as far as material, anti-reflective coatings (or absence thereof), integrity of coatings (and no scratches), an aspheric versus spheric optical design before testing CSF.[4,5]

Contrast sensitivity is influenced by the tear film both quality and quantity. A Schirmer's test alone yields very little information about the consistency and quality (lipid content and quality, debris).[6,7]

All the monthly lens wearers used the Opti Free multipurpose solution (MPS) as a disinfectant and storage system. It would have been exciting to see a comparison with patients using an H2O2 system, whether the type of solution or protein buildup may have yielded different results at the end of the month of wear. There is quite a bit of data showing MPS can be absorbed in the lens as well as cause comfort issues.[8,9]

It was interesting that the researchers chose to check the patients after three months when the patients used fresh lenses monthly. Testing at the end of the first month when lenses are about to be disposed and compared with the fresher daily lenses would have been just as effective.

While the same technology was used to measure the contrast sensitivity at each examination and under the same environmental circumstances, it felt that assessing the Modulation Transfer Function (MTF) of each lens, an objective parameter, would have supported the subsequently drawn data.[10]

Conflict of interest

The authors have no conflicts of interest to declare.

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Reply to letter to the editor by London and Erdinest on ''Contrast sensitivity function with soft contact lens wear''

We would like to thank London and Erdinest for their comment and interest in our study entitled ''Contrast sensitivity function with soft contact lenses'' in which we had evaluated contrast sensitivity function with spectacles and contact lenses.[1] In this longitudinal study, we found better CSF with contact lenses in comparison to spectacles. Furthermore, the CSF with CL was found similar after three months of lens wear.

We totally agree with that contrast sensitivity evaluation is an integral part of standard practice and that is why this study was conducted.

The baseline CSF with spectacles was measured with available spectacles. So, as presented in the limitation of the study, that may not be fully corrected the vision; however, all subjects except one had 6/6 visual acuity. So, we think that they were fully corrected. The authors also suppose that there might be the effect of glare, coating or any surface treatment of the spectacles on the CSF,[2] nonetheless, these are out of the scope of the study.

We were aware about the effect of dry eyes on contrast sensitivity function.[3] As mentioned in an earlier study, we performed a thorough slit-lamp examination including evaluation of NIBUT as well as Schirmer's test to ascertain the inclusion criteria of CL wear.[4] So, we suppose that there was not a significant influence of the tear film quality and quantity on the contrast sensitivity in our subjects. Yes of course it would be interesting if we measured lipid content and quality of tear debris, however, it was out of the scope of this study.

There was grade '0' lens deposit on the worn lenses as we did not observe any deposits with the slit-lamp examination[5] and nobody complained about the unbearable discomfort. We were aware that SCLs can absorb different chemicals from lens care solutions. As far as our knowledge, no study has been done in the past to assess the effect of multipurpose solution on monthly disposable contact lenses and contrast sensitivity. We are agreed with London and co-worker that it could be exciting if we could compare the contrast sensitivity function with peroxide solution and multi-purpose solutions.

CSF was examined with CL during the first visit and after two months of lens wear. We were aware about the condition of the lenses, however, we measured the CSF over worn lenses as the purpose of the study was to determine the effect of contact lens on CSF. It could be more interesting but measuring MTF of the lenses was not the scope of the study.

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Conflict of interest

None.

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