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Reply (Correspondence) to Safety of Spectacles for Children's Vision: A Cluster-Randomized Controlled Trial

Ma, X., Congdon, N., Yi, H., Pang, X., Zhou, Z., Meltzer, M. E., ... Rozelle, S. (2016). Reply (Correspondence) to Safety of Spectacles for Children's Vision: A Cluster-Randomized Controlled Trial. DOI: 10.1016/j.ajo.2015.12.022

Published in:

American Journal of Ophthalmology

Queen's University Belfast - Research Portal:

[Link to publication record in Queen's University Belfast Research Portal](#)

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Safety of Spectacles for Children’s Vision: A Cluster-Randomized Controlled Trial

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Dear Editor:

We appreciate the interest of Drs Galvis et al in our work.¹ It has been suggested that under-correction of children's refractive error might retard myopia progression. Previous studies,^{2,3} limited by size, have generally not been consistent with this. We performed a post hoc analysis on data from our large trial of spectacle provision in China, and found no evidence of worsening visual acuity (VA) among children randomized to receive glasses compared to Controls. In fact, the final uncorrected VA of Treatment Group children was significantly better than Controls.

Galvis et al offer several points about these results:

- *The finding is potentially not meaningful because it relates to VA rather than refractive power:* Policy-makers in healthcare and education are more concerned with preservation of VA than refractive changes, and we feel our chosen outcome is most meaningful for our intended audience. We agree that other factors, such as effort and lighting, can affect measured VA, but the randomized design in such large trials tends to reduce such differences between groups. Additionally, examiners were masked to group assignment, and our analyses utilized uncorrected VA, making it unlikely that glasses wear would have affected VA measurement.
- *The magnitude of the observed visual acuity difference was small:* The difference in visual acuity between groups was roughly a quarter of a line, which was statistically significant, but not likely of clinical importance. The critical fact is that we found no evidence of VA being worse among Treatment Group children. We have already established that providing glasses to children brings significant educational benefits.⁴ A major impediment to programs of spectacle distribution in China has been the concern that children's vision might be harmed by glasses. This study was powered to detect even relatively small degrees of vision worsening, and the fact that no such worsening was found is strong evidence that providing spectacles to children in this setting is safe.
- *The period of follow-up was short:* The period of follow-up was roughly one school year. In studies of this magnitude, involving hundreds of schools, tracking movement of children between schools over more than a single school year is impractical. In any event, we demonstrated that the study was adequately-powered to detect small changes in VA that would occur over this time span.

- *More research is needed:* As professional researchers, we are happy to agree that our work is still needed. However, the pertinent question is whether we have sufficient evidence that spectacles may safely be given to children without fear of harming their uncorrected vision, making them “dependent” on glasses. Compared to having no glasses, the reality at baseline for 85% of myopic children in this and similar⁵ studies in China, we feel these results clearly demonstrate giving glasses is safe for children. Trials of this size are expensive, and we do not feel that more evidence of spectacle safety is needed in this setting before undertaking badly-needed programs of distribution.

Best regards

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