

# Comment on “Clinical effectiveness of currently available low-vision devices in glaucoma patients with moderate-to-severe vision loss”

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## Dear editor

We read with great interest the article by Patodia et al entitled, “Clinical effectiveness of currently available low-vision devices in glaucoma patients with moderate-to-severe vision loss.”<sup>1</sup> The authors presented a pilot randomized controlled trial (RCT) in which subjects with glaucoma and low vision were assigned to observation or to receive standard low vision device(s). Using the Veterans Affairs Low Vision Visual Functioning Questionnaire (VA LV VFQ-48), the researchers found an improvement in reading ability and overall visual ability among those allocated to treatment compared to the control arm.

The authors correctly note that this is the first RCT to examine the effectiveness of low vision services for patients with glaucoma. In fact, there is also no rigorous evidence for the effectiveness of low vision interventions for patients with other causes of peripheral field loss (PFL) such as retinitis pigmentosa, hemianopia, or dense pan-retinal photocoagulation;<sup>2</sup> this lack of evidence is concerning since around one-fifth of patients with low vision have been found to have significant PFL.<sup>3</sup> Patodia et al<sup>1</sup> point out that different patterns of functional impairment are likely to result from central and peripheral vision loss. Although this has been corroborated by prior research, there is still an inadequate qualitative understanding of how PFL affects patients’ day-to-day lives and how this is impacted by demographic and sociological features such as age, gender, culture, and place.

Designing and evaluating low vision interventions for this population will depend on an improved understanding of the impact of PFL. While the VA LV VFQ-48 is a well-designed and psychometrically valid instrument, it was developed and validated among a population with predominantly macular disease. Thus, its authors noted that items expected to be sensitive to PFL had to be excluded to improve the instrument’s validity.<sup>4</sup> Future efforts should be directed toward developing valid outcome measures that are highly relevant to the rehabilitation goals and functional impairments of this population. Similarly, the range of low vision interventions suited to patients with PFL is limited. Existing low vision devices, such as the magnifiers and telescopes employed in Patodia et al’s study<sup>1</sup> are likely to improve tasks that require central vision. However, there are few interventions such as orientation and mobility training, reverse Galilean telescopes, and prism glasses that address functional impairment due to PFL. Newer high-tech solutions like head-mounted displays may offer an exciting avenue to develop targeted interventions for this population.<sup>5</sup>

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This study<sup>1</sup> is an important initial step toward generating evidence on the effectiveness of low vision services for patients with glaucoma and other forms of PFL. Further research using mixed methods to integrate rigorous quantitative methodology and the detailed qualitative insights of patients may ultimately lead to improved quality of life and vision-dependent functioning for this sizable and understudied group of patients.

## Disclosure

The authors report no conflicts of interest in this communication.

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