A Randomized Controlled Trial of an Online Educational Video Intervention to Improve Glaucoma Eye Drop Technique and Adherence

Scott A. Davis1, Delesha M. Carpenter1, Susan J. Blalock1, Donald L. Budenz2, Charles Lee2, Kelly W. Mulf4, Alan L. Robin2,3, and Betsy Sleath1,8

1Division of Pharmaceutical Outcomes and Policy, University of North Carolina Eshelman School of Pharmacy; 2Department of Ophthalmology, University of North Carolina; 3First Databank; 4Department of Ophthalmology, Duke University; 5Durham VA HSR&D; 6University of Michigan; 7Wilmer Institute, Johns Hopkins School of Medicine; 8Cecil G. Sheps Center for Health Services Research

METHODS

We enrolled adult patients (N=92) with primary open-angle glaucoma, who instilled their own drops and missed at least one eye drop technique step, at 2 sites. Patients were randomized to receive the 4-minute Meducation® eye drop technique video in the intervention group immediately after the video and at 1 month later. A masked assessor scored the objective video recording before the video, immediately after the video and at 1 month.

Secondary outcomes were eye drop technique self-efficacy (measured with 6-item validated scale; range 6-18) and self-reported medication adherence (measured with a visual analog scale).

We used multivariable linear regression to predict eye drop technique, self-efficacy, and medication adherence immediately after the video and at 1 month.

All regression models controlled for baseline values of the outcome, and included other relevant covariates (patient and clinical characteristics).

We asked intervention group patients a list of evaluation and dissemination questions at the final visit to inform a future dissemination and implementation grant.

RESULTS

The intervention significantly improved eye drop technique immediately after the video and at 1 month.

Further studies are needed to validate the results and see the longer-term effects of the intervention.

The video did not significantly improve self-reported adherence, possibly because the video did not directly address adherence, the 1-month time frame was too short, or a more effective adherence measure (electronic monitoring or pharmacy refills) was needed.

CONCLUSIONS

A short educational video on eye drop technique can significantly improve eye drop technique and self-efficacy.

This research was supported by the Glaucoma Research Foundation Shaffer Grant. Scott Davis is supported by the PhRMA Foundation Predoctoral Fellowship in Health Outcomes.