

Impact of self-efficacy and demographic factors on adherence to treatment in glaucoma patients of African descent

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Sameerah Alkhairy, Eugene and Marilyn Glick Eye Institute, Indiana University, Indianapolis, Indiana, United States

Fang-I Chu, Eugene and Marilyn Glick Eye Institute, Indiana University, Indianapolis, Indiana, United States

Koosha Ramezani, Eugene and Marilyn Glick Eye Institute, Indiana University, Indianapolis, Indiana, United States

Elizabeth McIntyre, Eugene and Marilyn Glick Eye Institute, Indiana University, Indianapolis, Indiana, United States

Bradley Sutton, Indiana University School of Optometry, Indianapolis, Indiana, United States

Julie Torbit, Indiana University School of Optometry, Indianapolis, Indiana, United States

Silvia Bigatti, Social and Behavioral Sciences, Indiana University Fairbanks School of Public Health, Indianapolis, Indiana, United States

Lyne Racette, Eugene and Marilyn Glick Eye Institute, Indiana University, Indianapolis, Indiana, United States

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Abstract

Purpose : To determine whether self-efficacy and demographic factors influence adherence to the medical treatment of glaucoma in patients of African descent.

Methods : 37 patients with a clinical diagnosis of primary open-angle glaucoma were included in this cross-sectional study. All patients were of African descent, used self-administered once-daily prostaglandin analog eye drops. Adherence was measured in 34 patients during a one-month period (mean 28.8 days) using Medical Event Monitoring System (MEMS) caps. The caps of these bottles electronically record the date and time at which the bottle is opened. All patients completed the four following questionnaires: Q1) glaucoma medication self-efficacy scale, Q2) eye drop technique self-efficacy scale, Q3) reported adherence to medication questionnaire and Q4) brief illness perception questionnaire. All answers were treated as ordinal variable and total scores for each questionnaire were computed. The impact of these four self-efficacy scores on adherence was assessed using linear regression models. We also determined how demographic factors (age, gender, education, marital status, employment status, and income) modulated this relationship. Finally, we assessed the influence of these demographic factors on the self-efficacy scores.

Results : The mean age was 60.89 ± 9.81 and 45.95% of patients were female. Eye drop technique self-efficacy (Q2) had a borderline negative impact on adherence (slope = -3.64, $p=0.05$), such that higher self-efficacy resulted in lower adherence. This result was minimized by being older ($p=0.03$) or

divorced/separated ($p=0.04$) compared to being single/widowed (increase in the impact of self-efficacy on adherence). Similarly, the relationship between glaucoma medication self-efficacy (Q1) and adherence was negatively modulated by being married/partnered ($p=0.04$) compared to being single/widowed (decrease in the impact of self-efficacy on adherence). A negative impact of being male was also observed on Q1 (score= -6.28 , $p=0.05$).

Conclusions : Overall, patients who were confident in how to administer their eye drops had worse adherence, but this effect was minimized in older and divorced individuals. Overall, being male had a negative impact on self-efficacy as it relates to glaucoma medication. These results suggest that the relationship between self-efficacy and adherence is complex and affected by several factors.

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