

# A pilot study of the effectiveness of motivational interviewing to improve adherence to glaucoma treatment in patients of African descent

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## Abstract

**Purpose:** The first line of treatment for open-angle glaucoma is the use of daily hypotensive eye drops to control intra-ocular pressure. Adherence to this treatment is known to be challenging for patients, and has been reported to be worse in patients of African descent (AD), a segment of the population that is disproportionately affected by the disease. Motivational interviewing (MI) can improve adherence and has been shown to be more effective in minority populations. The purpose of this prospective, longitudinal and interventional pilot study was to determine whether MI might improve adherence in glaucoma patients of AD.

**Methods:** Thirteen patients of African descent (AD) who received a clinical diagnosis of open-angle glaucoma within the past five years were included in this study. All patients used once-daily prostaglandin analog eye drops and administered their medication. Adherence was measured using Medical Event Monitoring System (MEMS) bottles. The cap of these bottles electronically records the date and time at which the bottle is opened. At visit 1, patients were instructed to place their eye drop

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bottle in the MEMS bottle and to otherwise use their eye drops as usual. At the 4-weeks visit, baseline adherence was assessed. Patients with adherence levels below 75% (n=9) received an approximately 20-minutes MI intervention and those with adherence levels over 75% served as controls (n=4). At the 12-weeks visit, patients returned and the final adherence was assessed. The difference between baseline and final adherence was compared between the groups using one-tailed paired t-tests.

**Results:** In the group who received MI, final adherence ( $67.9\% \pm 7.68$ ) was significantly higher than baseline adherence ( $55.95\% \pm 22.16$ ) ( $p=0.03$ ). Adherence improved in all but one of these patients (the adherence of one patient decreased by 0.2%). In controls, no significant difference between baseline adherence ( $81.38\% \pm 5.52$ ) and final adherence ( $82\% \pm 17.33$ ) ( $p=0.46$ ) was observed. In this group, adherence improved in two patients (by 11.3% and 10.7%) and decreased in two patients (by 3.6% and 15.9%).

**Conclusions:** These preliminary results obtained in a small sample suggest that MI may be effective in improving adherence in glaucoma in patients of African descent.