

Depression and quality of life in a community-based glaucoma-screening project

Avrey J. Thau, BS,* Matthew C.H. Rohn, BS,* Matthew E. Biron, BS,*
Kamran Rahmatnejad, MD,† Eileen L. Mayro, BA,*† Paul M. Gentile, MPH,†
Michael Waisbourd, MD,*† Tingting Zhan, PhD,‡ Lisa A. Hark, PhD,*†

ABSTRACT •

Objective: To identify the prevalence and risk factors of depression among individuals given a glaucoma-related diagnosis at a screening program.

Design: Cross-sectional community-based in a university hospital.

Participants: Volunteers from a community glaucoma-screening program.

Methods: After collecting sociodemographic information, participants were administered the Geriatric Depression Scale-15 (GDS-15) and the National Eye Institute Visual Function Questionnaire-25 (NEI-VFQ-25).

Results: Participants were predominantly African American (73.5%), older than 65 years (65.7%), single (75.4%), and female (66.8%). Among 268 participants, 89 were diagnosed with glaucoma and 179 as glaucoma suspects. The frequency of depression among the glaucoma and glaucoma suspect participants was 18% and 16.2%, respectively. The mean GDS-15 score was 2.4 ± 2.7 with no difference between glaucoma and glaucoma suspect groups, $p = 0.654$. The mean VFQ-25 score was 78.6 ± 15.9 and was lower in glaucoma (74.7 ± 19.7) than glaucoma suspect participants (80.4 ± 13.6), $p = 0.003$. Risk factors for depression included difficulties with paying expenses ($p = 0.017$), Asian race ($p < 0.001$), and poorer scores on the VFQ-25 subscales of "General Health" ($p < 0.001$), "Distance Activities" ($p = 0.024$), and "Dependency" ($p = 0.001$).

Conclusions: Prevalence of depression in those diagnosed with glaucoma or glaucoma suspect was higher than previous estimates of the general population. Glaucoma-screening programs might benefit from including depression-screening protocols along with referral services or low-cost treatments of depression.

Glaucoma is an optic neuropathy that causes progressive vision loss.^{1,2} Currently, 65 to 70 million people worldwide suffer from glaucoma, 10% of whom will eventually go blind.^{3–5} This condition represents a serious public health issue, with estimates projecting an increase in prevalence to 111.8 million by 2040.⁴ In the United States alone, rates of glaucoma are expected to increase by 50%, affecting 3.4 million people by the year 2020.⁶ Glaucoma (and blindness in general) represents a significant economic and quality-of-life (QoL) burden, with costs on both expected to worsen as the prevalence of glaucoma increases.^{4,7}

Some risk factors for glaucoma are well established, including increased intraocular pressure (IOP), advanced age (65 years and older), a family history of glaucoma, diagnosis of diabetes, and race/ethnicity (African American, Asian, Hispanic/Latino).⁶ It has also been shown that barriers to care, such as a lack of knowledge of glaucoma, lack of access to eye care, lower level of education, cost of treatment, and difficulty in adhering to medication, are associated with disease progression in glaucoma patients.^{6,7} This amalgam of risk factors illustrates the risk for the development of glaucoma in underserved communities. The very same at-risk racial and ethnic groups are

represented in a greater proportion in communities where many of the previously mentioned barriers to care are prevalent, resulting in significant health disparities.⁸ Compounded with the fact that these groups also suffer from increased rates of diabetes,^{9,10} individuals living in underserved areas therefore represent those who are most vulnerable to the development of glaucoma.

It has been shown that rates of many psychiatric disorders have a higher prevalence in underserved, impoverished, urban neighbourhoods.^{11–13} These populations tend to receive less preventive care and fewer specialty consultations, relying primarily on acute hospital care for their mental and medical needs.¹⁴ Specifically regarding those suffering from depression, these individuals also show decreased adherence to medication.¹⁵ This signifies a serious obstacle for the treatment of glaucoma as both early diagnosis and sustained medical regimens represent the best predictors of good clinical outcomes.¹⁶

While the relationship between depression in underserved communities and its effect on health outcomes has been well established, less has been done specifically as it relates to glaucoma. In a recent investigation, Lim et al. found a significantly higher prevalence of depression among Taiwanese glaucoma patients, showing a rate of

30% as compared to 5.4% in the general population.¹⁷ Other studies conducted in China,¹⁸ Japan,¹⁹ and the United States^{20,21} have also found increased rates of depression in glaucoma patients, but these studies fail to address this relationship in the context of underserved communities.

The absence of an established relationship between glaucoma and depression may be due in part to a lack of standardized tools. To date, studies investigating this interaction have utilized numerous measures, including the Geriatric Depression Scale (GDS),^{20,21} the Hamilton Depression Rating Scale,¹⁷ and the Hospital Depression and Anxiety Scales,¹⁸ all of which offered varied results. The consistent use of a more reliable measure of depression across studies is necessary to make definitive conclusions on the relationship between depression and glaucoma. Additionally, these studies inadequately address the possible effects of varying severity of depression (clinical vs subclinical) as well as the use of antidepressants, either by failing to investigate it entirely or by collecting an insufficient sample.

The Philadelphia Glaucoma Detection and Treatment Project⁶ was designed to reach the underserved areas of Philadelphia. According to the 2010 U.S. Census, the city of Philadelphia represents a population that consists of 63.1% racial/ethnic minorities (42.2% African American, 12.3% Hispanic, 6.3% Asian, and 2.3% other), with 25% of Philadelphia families living in poverty (the highest poverty rate of the 10 largest U.S. cities).^{6,22} Targeting neighbourhoods where poverty rates exceeded 10%, the goal of this project was to identify and engage those most at risk for the development of glaucoma. The aim of the present study is to investigate the prevalence of depression among individuals with a glaucoma-related diagnosis living in these underserved communities and to identify the specific factors that may influence these rates.

MATERIALS AND METHODS

In 2014, the Wills Eye Hospital Glaucoma Research Center initiated the Philadelphia Glaucoma Detection and Treatment Project,⁶ which aimed to improve follow-up adherence in patients at high risk for glaucoma. The present study was an exploratory arm of this project, which analyzed QoL and depression as it relates to glaucoma in this high-risk population.

Ethics Approval

The study followed the tenets of the Declaration of Helsinki for research in human subjects. The study protocol was approved by the Wills Eye Hospital Institutional Review Board (IRB No. 14-380) and was registered on ClinicalTrials.gov (NCT02347670). Written informed consent was obtained from all participants.

Patients

From 2014 to 2016, in total, 268 participants were enrolled from Wills Eye Hospital and 4 community sites (St. Charles Community Center, North City Congress, West Philadelphia Senior Center, and West Oak Lane Senior Center) in Philadelphia, PA. Together, these sites serve the north, south, east, west, and central regions of Philadelphia and were selected to represent the city's underserved communities, those most at risk for glaucoma (demographic information discussed below).

Procedures and Measures

Demographic information on age, race/ethnicity, sex, marital status, living arrangements, difficulties with paying expenses, and current glaucoma medications was collected. Participants were given a comprehensive eye examination, including measurements of best-corrected visual acuity (BCVA) utilizing the Snellen eye chart, IOP by Goldmann applanation tonometry, central corneal thickness, slit-lamp examination, gonioscopy, undilated optic nerve evaluation, visual field test using the Octopus visual field analyzer (G TOP, Koeniz, Switzerland), and optic disc color photography. Gonioscopy results, along with assessments of visual field, optic nerve, and IOP, were analyzed by an ophthalmologist to make a diagnosis of glaucoma (open-angle glaucoma, angle-closure glaucoma, pigmentary glaucoma, normal-tension glaucoma, or pseudoexfoliative glaucoma) or glaucoma suspect (open-angle glaucoma suspect, anatomically narrow angle, or ocular hypertension). Among the 1649 individuals screened in the Philadelphia Glaucoma Detection and Treatment Project,⁷ 481 (29.2%) were identified as glaucoma suspect and 164 (10.0%) were diagnosed with glaucoma. After a diagnosis of glaucoma or glaucoma suspect by an ophthalmologist, the National Eye Institute Visual Function Questionnaire-25 (VFQ-25) and the Geriatric Depression Scale-15 (GDS-15) were administered in an interview format by multiple team members. The VFQ-25 is a validated questionnaire assessing vision-related QoL.^{23–26} It includes 12 subscales: (1) “General Health,” (2) “General Vision,” (3) “Ocular Pain,” (4) “Near Activities,” (5) “Distance Activities,” (6) “Social Functioning,” (7) “Mental Health,” (8) “Role Difficulties,” (9) “Dependency,” (10) “Driving,” (11) “Color Vision,” and (12) “Peripheral Vision.” The VFQ-25 surveys were scored based on the guidelines by Mangione et al.²⁴ All answers were adjusted to a score ranging from 0 to 100, in which a higher score represents better vision-related QoL. Scores falling within the ranges of 0–25, 26–50, 51–75, or 76–100 were categorized as poor, mild, moderate, or high, respectively. The composite VFQ-25 score is the mean of all question scores, whereas subscale scores are the mean scores of grouped, related questions.

The GDS-15 is a validated 15-question assessment used to evaluate depressive symptoms in older adults.^{21,27} Each

Download English Version:

<https://daneshyari.com/en/article/8945354>

Download Persian Version:

<https://daneshyari.com/article/8945354>

[Daneshyari.com](https://daneshyari.com)