

GLAUCOMA AND DEPRESSIVE/ANXIETY DISORDERS: A CROSS-SECTIONAL STUDY IN GLAUCOMA PATIENTS AT A TERTIARY REFERRAL CENTER

Theodoridis K.,^{1,2} Giannoulis D.,¹ Pappas T.,¹ Topouzis F.¹

¹ *1st Department of Ophthalmology, AHEPA Hospital, Thessaloniki, Greece*

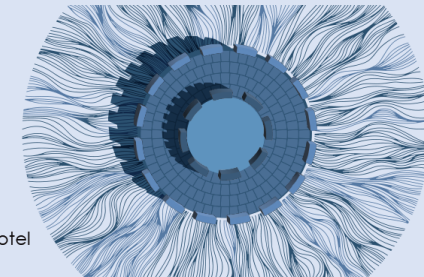
² *Department of Ophthalmology, Serres General Hospital, Serres, Greece*



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PURPOSE

To investigate depressive and anxiety disorders in patients with glaucoma at a tertiary referral center and verify how ophthalmologists may use this information to improve their clinical practice.

MATERIALS AND METHODS

A cross-sectional study was conducted at the 1st Department of Ophthalmology at AHEPA Hospital. Patients were recruited from glaucoma outpatient clinic. Inclusion criteria were age 18-80 years and glaucoma diagnosis and exclusion criteria included subjects who did not consent, were unable to fill the questionnaires due to visual impairment, were non-native speakers or presented with manifest cognitive impairment. Depressive and anxiety disorders were assessed using Patient Health Questionnaire (PHQ-9) and Generalised Anxiety Disorder Questionnaire (GAD-7). The PHQ-9 is a tool used for determining the severity of depression consisting of 9 items based on the symptoms of major depression. Patients' responses are marked 0 to 3 representing 'never' to 'almost every day' respectively, with a maximum total score of 27. The severity of depression is established according to specific scores, with scores 0-4, 5-9, 10-14, 15-19 and ≥ 20 corresponding to minimum, mild moderate, moderately severe and severe depression respectively. The GAD-7 is a screening questionnaire for anxiety disorders in which patients are asked how often they have been bothered by each of the problems listed in the questionnaire. The score is calculated by assigning 0, 1, 2, 3 points corresponding to the categories never, several days, more than half days, every day with a maximum total score of 21. The scores 0-4, 5-9, 10-15 and 15-21 represent lowest, mild, moderate and severe anxiety respectively. A PHQ-9 score ≥ 5 or a GAD-7 score ≥ 10 required the patient to be referred to a Psychologist/Psychiatrist for a diagnostic investigation. The two ophthalmologists who participated in the study answered a questionnaire to evaluate if the PHQ-9/GAD-7 scores impact their clinical approach.

RESULTS

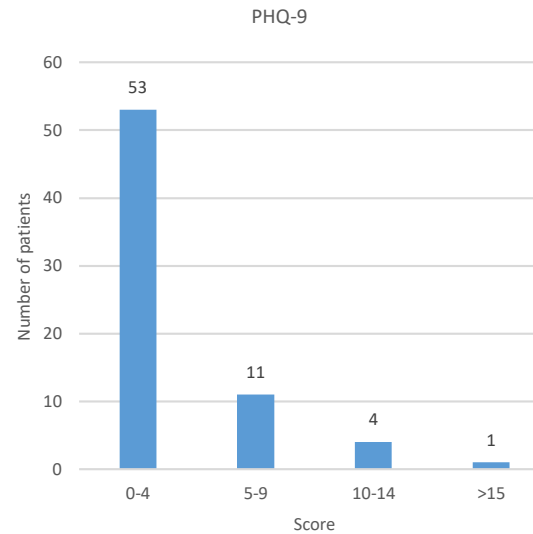


Diagram 1. Results of the PHQ-9 questionnaire

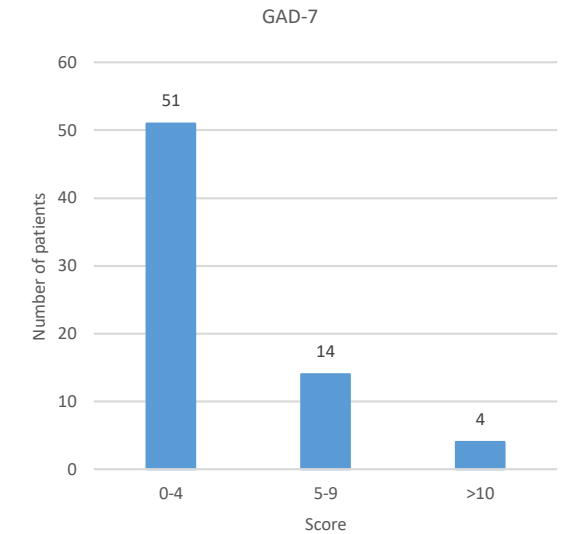


Diagram 2. Results of the GAD-7 questionnaire

The study included 69 glaucoma patients; 41 men (59,42%) and 28 women (40,58%), with 80% of them aged ≥ 60 years. They all suffered from glaucoma, whereas 5 patients (7,25%) suffered also from age-related macular degeneration and 1 patient (1,45%) from diabetic retinopathy. Regarding their educational level 29 patients (49,03%) went to primary school, 25 patients (36,23%) to high school and 15 patients (21,74%) possessed higher degree. The 76,81% of the patients had minimum depression (score 0-4), 15,94% mild depression (score 5-9), 5,80% moderate depression (score 10-14) and 1,5% had moderately severe depression (score 15-19). Furthermore, 73,91% demonstrated lowest anxiety (score 0-4), 20,29% mild anxiety (5-9) and 5,80% moderate to severe anxiety (score 10-14).

RESULTS

Regarding the questionnaires answered by ophthalmologists, 16 patients (23,19%) were referred to a Psychologist/Psychiatrist for a complete diagnosis, while clinical approach changed in 13 cases (18,84%). The ophthalmologists changed their communication style with 16 patients (23,19%) either by spending more time listening to the patient which was the case in half of them or by giving more information regarding the pathology of the disease, its course and different therapeutic choices. The ophthalmologists did neither modify the treatment choice nor the follow-up protocol/frequency based on the questionnaire.

Many studies point towards the fact that glaucoma patients are at a higher risk for exhibiting anxiety or depressive symptoms and are in need of a psychiatric evaluation and support.¹⁻⁴ Nevertheless, there are studies that found no significant association between glaucoma and anxiety or depression.^{1,5} The connection between glaucoma and the aforementioned psychological conditions is complicated and the results on this topic are still controversial. Some possible explanations could be the small number of participants in several studies, the application of different scoring scales, criteria and instruments used among different countries and different studies and the many cofounding risk factors taken into account such as patients' age, gender, advance stage disease that might vary among studies. A possible limitation of the study could be the rather small number of participants and the fact that the stage of glaucoma was not taken into consideration.

CONCLUSIONS

In our study high percentage of glaucoma patients presented with anxiety and depression with the vast majority though presenting low scores not requiring referral to a Psychologist/Psychiatrist and presumably not having the respective disorder. Significant proportion of glaucoma patients present with psychological disorder. A case-control study would be needed to investigate whether glaucoma is associated with a psychological impact to the patients.

REFERENCES

1. Stamatiou ME et al. Depression in glaucoma patients: A review of the literature. *Semin Ophthalmol.* 2022 Jan 2;37(1):29-35., and references therein.
2. Groff ML et al. Anxiety, depression, and sleep-related outcomes of glaucoma patients: systematic review and meta-analysis. *Can J Ophthalmol.* 2023 Aug;58(4):346-355., and references therein.
3. Zhang X et al. The association between glaucoma, anxiety, and depression in a large population. *Am J Ophthalmol.* 2017;183:37-41.
4. Janz NK, et al.; Collaborative Initial Glaucoma Treatment Study. Fear of blindness in the Collaborative Initial Glaucoma Treatment Study: patterns and correlates over time. *Ophthalmology.* 2007 Dec;114(12):2213-20.
5. Rezapour J et al. Prevalence of depression and anxiety among participants with glaucoma in a population-based cohort study: the gutenber health study. *BMC Ophthalmol.* 2018;18:157.

Communication Details

Theodoridis Konstantinos MD, MSc
Email: kostistheo@yahoo.com