Student's Journal of Health Research Africa
e-ISSN: 2709-9997, p-ISSN: 3006-1059
Vol. 5 No. 11 (2024): November 2024 Issue
https://doi.org/10.51168/sjhrafrica.v5i11.1804
Original Article

CROSS SECTIONAL STUDY OF DEPRESSION, ANXIETY AND QUALITY OF LIFE IN GLAUCOMA PATIENTS AT A TERTIARY CARE CENTRE.

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Abstract

Background

The chronic nature Glaucoma, along with the apprehension of blindness and ongoing treatment, may render patients susceptible to depression and anxiety, sometimes overlooked in therapeutic environments.

Objective

To investigate the prevalence and severity of depression and anxiety, as well as their impact on quality of life in patients diagnosed with glaucoma at a tertiary care centre.

Methods

This cross-sectional observational study was performed for a duration of 12 months at Jawahar Lal Nehru Medical College and Hospital, Bhagalpur. One hundred ten patients diagnosed with primary open-angle or angle-closure glaucoma were enrolled following informed consent. Standardized tools, such as the Hospital Anxiety and Depression Scale (HADS) and the National Eye Institute Visual Function Questionnaire-25 (NEI VFQ-25), were utilized to assess psychological condition and vision-related quality of life (QoL). Demographic and clinical characteristics, including age, gender, glaucoma type and duration, visual acuity, and intraocular pressure, were documented.

Results

Among the 110 participants, 42.7% displayed signs of depression, while 38.1% experienced clinically significant anxiety. Depression was more common in patients with advanced-stage glaucoma and bilateral visual field impairment. The NEI VFQ-25 scores were markedly diminished in individuals exhibiting elevated HADS scores, signifying a robust correlation between impaired visual function and compromised mental health and quality of life. Female patients and individuals with prolonged disease duration exhibited markedly elevated anxiety scores ($p < 0.05$).

Conclusion

Depression and anxiety are prevalent yet frequently disregarded comorbidities in glaucoma patients, significantly affecting their quality of life.

Recommendation

Routine psychological assessment and comprehensive mental health assistance should be incorporated into glaucoma therapy techniques, especially for patients with advanced illness, bilateral involvement, and unfavorable visual outcomes. A multidisciplinary strategy incorporating psychological counseling may enhance overall patient well-being and adherence to treatment.

Keywords: *Glaucoma, depression, anxiety, quality of life, NEI VFQ-25, HADS, mental health, chronic ocular disease.*
Submitted: 2024-09-20 Published: 2024-11-30

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Introduction

Glaucoma is a chronic, progressive optic neuropathy marked by the loss of retinal ganglion cells and associated visual field deficits. It is the second predominant cause of irreversible blindness worldwide, impacting around 76 million individuals, a figure anticipated to escalate with rising life expectancy (Tham et al., 2014; Quigley & Broman, 2006). In India, the prevalence of glaucoma is significant, with a considerable proportion of patients staying untreated until intermediate to late stages (George et al., 2005). The gradual development, permanent vision impairment, and continuous treatment requirements render glaucoma a significant visual and mental health issue.

Although therapeutic emphasis typically is on managing intraocular pressure and maintaining visual function, the psychosocial ramifications of glaucoma are often overlooked. Vision impairment can result in constraints

on everyday tasks, less autonomy, and hindered social engagement, all of which are recognized factors contributing to psychological distress (McKean-Cowdin et al., 2003; Ramulu, 2009). Individuals with glaucoma, particularly those with bilateral involvement or advanced stages of the illness, may encounter increased anxiety and sadness due to fears of blindness, uncertainty over prognosis, and the demands of long-term therapy (Zhang et al., 2015; Wilson et al., 2002).

Numerous international research have emphasized the correlation between glaucoma and psychological illnesses. Depression occurs in roughly 20–40% of glaucoma patients, whereas anxiety affects up to 30%, with increased frequency among the elderly, females, and persons with poor visual acuity (Wilson et al., 2002; Skalicky et al., 2012; Mabuchi et al., 2008). These psychological factors might adversely affect medication adherence, particularly in an illness that necessitates stringent compliance to avert development. Missed doses, inconsistent follow-ups, and disregard for visual symptoms frequently stem from underlying depression or anxiety, thereby exacerbating illness prognosis (Taylor et al., 2016; Sleath et al., 2014).

Evaluating quality of life (QoL) is essential in chronic conditions such as glaucoma, where patients frequently endure extended durations of functional deterioration. The National Eye Institute Visual Function Questionnaire-25 (NEI VFQ-25) is a validated tool for assessing vision-related quality of life across various domains, including social functioning, reliance, and mental health (Mangione et al., 2001). Research indicates that diminished NEI VFQ-25 scores are associated with severe glaucomatous damage and adverse self-assessed health, hence underscoring the necessity of integrating patient-centered outcome measures in glaucoma management (Jampel et al., 2002; McKean-Cowdin et al., 2010).

Notwithstanding the increasing evidence, mental health screening is infrequently incorporated into standard glaucoma therapy, especially in resource-limited environments such as India. Many ophthalmology clinics concentrate on the anatomical and functional aspects of the disease, frequently neglecting the patient's emotional and psychological condition (Gupta et al., 2008). Furthermore, the cultural stigma around mental illness and restricted access to psychiatric services serve as further obstacles.

Due to the significant occurrence of undiagnosed mental health issues among glaucoma patients and their potential impact on treatment adherence and outcomes, it is imperative to conduct a systematic investigation of depression, anxiety, and quality of life in Indian glaucoma patients. This study seeks to address this gap by assessing the prevalence and intensity of psychological distress and its effect on quality of life in glaucoma patients at a tertiary care facility. Recognizing high-risk patients may facilitate a comprehensive, multidisciplinary strategy for glaucoma management that incorporates prompt psychosocial assistance in conjunction with medical and surgical interventions.

Materials and Methods

Study Design and Setting

This cross-sectional observational study was performed in the Department of Ophthalmology, Jawahar Lal Nehru Medical College and Hospital, Bhagalpur, Bihar, over a duration of 12 months, Approval from the Institutional Ethics Committee was secured before initiation, and all participants granted informed written consent.

Study Cohort

The study comprised a total of 110 participants diagnosed with glaucoma. Patients visiting outpatient ophthalmology services and meeting the inclusion criteria were solicited to participate. The diagnosis of glaucoma, whether primary open-angle or angle-closure, was validated by a seasoned ophthalmologist using intraocular pressure measurement, optic disc assessment, and visual field examination.

Eligibility Criteria:

Individuals aged 18 years and older
Confirmed instances of primary open-angle glaucoma or primary angle-closure glaucoma
Undergoing medicinal or surgical treatment for glaucoma for a duration of six months or longer
Readiness to engage and grant consent

Criteria for Exclusion:

Individuals afflicted with alternative vision-impairing eye conditions (e.g., macular degeneration, diabetic retinopathy)
History of psychiatric disorders or currently prescribed psychiatric medicines
Cognitive impairment hindering questionnaire completion
Deficient clinical documentation or reluctance to engage

Data Acquisition

Demographic and clinical information was gathered via a pre-validated data sheet. This encompassed:
Age, gender, educational attainment, socioeconomic status
Classification and duration of glaucoma
Optimal visual acuity with correction (BCVA)
Intraocular pressure (IOP)
Classification of visual field defects (early, moderate, advanced)

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Bilaterality of pathology

Assessment Tools

Comprising seven items for anxiety and seven items for depression, the 14-item self-administered Hospital Anxiety and Depression Scale (HADS) Scores were categorized as follows:
0–7: Regular
Marginal clinical anxiety or depression above 11

Comprising twelve areas—general vision, near and distance activities, social functioning, mental health, dependence, and driving—the validated National Eye Institute Visual Functionnaire (NEI VFQ-25) examines vision-related quality of life.

To guarantee accuracy and comprehensiveness, both tools were given in the local language, Hindi, by competent individuals in a face-to--face interview style.

Outcome Measures

The primary outcomes comprised:
Incidence and intensity of sadness and anxiety among glaucoma patients
Average NEI VFQ-25 composite and subscale scores
Correlation between HADS scores and quality of life, visual field impairment, and demographic factors

Statistical Analysis

Data were inputted and analyzed utilizing SPSS version 25.0. Baseline data were analyzed using descriptive statistics (mean, standard deviation, proportions). Pearson's correlation and Chi-square tests were utilized to evaluate connections among categorical variables. Independent t-tests and ANOVA were employed to compare group means. A p-value less than 0.05 was deemed statistically significant.

Results

The investigation comprised 110 people with glaucoma. The average age of participants was 59.4 ± 10.7 years, comprising 61 males (55.5%) and 49 females (44.5%). A majority of patients (72%) presented with bilateral illness and had been receiving treatment for over one year.

Prevalence of Depression and Anxiety

According to the Hospital Anxiety and Depression Scale (HADS), 47 patients (42.7%) obtained scores of ≥11 indicative of clinical depression, whereas 21 patients (19.1%) fell within the borderline range (HADS 8–10). In a similar vein, 42 patients (38.1%) exhibited clinical anxiety, whereas 26 patients (23.6%) demonstrated borderline anxiety ratings.

Depression was more common in patients with significant visual field loss, bilateral glaucoma, and extended disease duration. Anxiety levels were markedly elevated in female patients and persons under the age of 50.

Quality of Life (QoL) Assessment

The NEI VFQ-25 composite scores indicated that:
Thirty-five patients (31.8%) exhibited low quality of life scores (<60).
Forty-one individuals (37.3%) exhibited moderate scores (60–80).
Thirty-four patients (30.9%) had elevated quality of life scores (>80).
The quality-of-life ratings exhibited a negative correlation with levels of depression and anxiety ($p < 0.01$). Patients exhibiting elevated HADS scores demonstrated diminished NEI VFQ-25 scores, signifying a poorer vision-related quality of life.

Correlations

A notable association was identified between advanced glaucoma stage and depression ($\chi^2 = 12.5$, $p < 0.01$). Female sex and prolonged disease duration correlated with elevated anxiety levels ($p < 0.05$). Decreased NEI VFQ-25 scores were significantly correlated with bilateral visual field impairment, diminished visual acuity, and elevated psychological distress.
The Table 1 and Figure 1 (bar graph) illustrates the quantity of patients impacted by depression, anxiety (both clinical and borderline), together with stratified Quality of Life scores based on the NEI VFQ-25.

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Table 1: Psychological Distress and Quality of Life in Glaucoma Patients

Parameter	*Number of Patients*	*Percentage (%)*
Clinical Depression (HADS ≥11)	47	42.7%
Borderline Depression (HADS 8–10)	21	19.1%
Clinical Anxiety (HADS ≥11)	42	38.1%
Borderline Anxiety (HADS 8–10)	26	23.6%
Low QoL (NEI VFQ-25 Score <60)	35	31.8%
Moderate QoL (NEI VFQ-25 Score 60–80)	41	37.3%
High QoL (NEI VFQ-25 Score >80)	34	30.9%

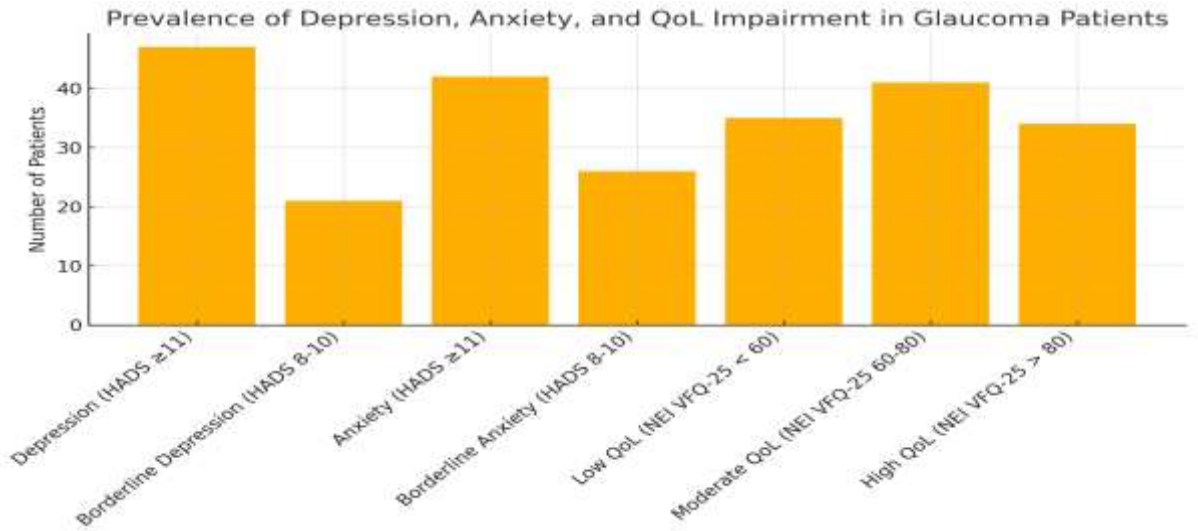

Figure 1: Incidence of Depression, Anxiety, and Quality of Life Impairment in Glaucoma Patients

Discussion

This cross-sectional investigation reveals a significant prevalence of depression and anxiety in glaucoma patients, as well as a robust association between psychological distress and diminished vision-related quality of life (QoL). The findings highlight that glaucoma, although mainly identified as an optic neuropathy, imposes considerable psychosocial consequences that surpass mere visual impairment.

Approximately 42.7% of patients in our cohort demonstrated clinical depression, while 38.1% experienced anxiety, rates that align with those documented in prior literature (Wilson et al., 2002; Mabuchi et al., 2008). Wilson et al. (2002) noted that as many as 30% of glaucoma patients exhibited depressive symptoms, especially among those with severe disease and diminished visual acuity. Skalicky et al. (2012) similarly observed that anxiety is more prevalent in glaucoma patients compared to age-matched controls and is closely linked to functional impairments.

A considerable percentage of our patients indicated diminished quality of life, as assessed by the NEI VFQ-25. In our investigation, 35 patients (31.8%) exhibited NEI VFQ-25 scores below 60, signifying considerable visual impairment and reliance. The quality-of-life areas most impacted were near and distance vision, mental

health, and role constraints, findings that align with those of Jampel et al. (2002), who highlighted that diminished NEI VFQ-25 scores are significantly associated with glaucomatous visual field loss and psychological distress (McKean-Cowdin et al., 2010).

Our findings indicate that psychological anguish extends beyond patients with significant vision impairment. Patients in early or intermediate stages, especially females and younger individuals, had elevated anxiety levels. This may be ascribed to the apprehension of disease advancement, reliance on others, and ambiguities over therapy results (Taylor et al., 2016; Gupta et al., 2008). The persistent nature of glaucoma therapy, characterized by numerous hospital visits, visual field assessments, and adverse effects from prolonged pharmaceutical use, can lead to emotional exhaustion and a decline in mental health (Sleath et al., 2014).

The identified inverse correlation between HADS scores and NEI VFQ-25 scores highlights that depression and anxiety are not only coincidental in glaucoma but are directly linked to patients' feelings of visual impairment. This indicates that addressing mental health could enhance both emotional well-being and adherence to treatment, as well as perceptions of sickness (Skalicky et al., 2012). Skalicky et al. (2012) discovered that individuals exhibiting elevated anxiety and sadness scores were more prone to non-adherence to topical treatments.

Despite its significance, mental health screening is infrequently included into ophthalmic practice, particularly in resource-constrained environments such as ours. The absence of mental health referral networks and the stigma associated with psychological consultation exacerbate this disparity (Gupta et al., 2008). Our findings indicate that integrating regular psychological evaluations, such as HADS, during glaucoma follow-ups can facilitate early detection and intervention. Therapeutic interventions, social networks, and basic reassurance can significantly enhance patient outcomes.

Conclusion

This study demonstrates that a substantial percentage of glaucoma patients suffer from clinical depression, anxiety, and diminished vision-related quality of life. These psychological disorders are more common in persons with bilateral illness, significant visual field loss, and those undergoing prolonged treatment regimens. Our findings affirm that glaucoma is not merely an affliction of the visual nerve but also a chronic disorder with significant psychosocial ramifications. The significant adverse connection between Hospital Anxiety and Depression Scale (HADS) scores and NEI VFQ-25 quality of life indices underscores the necessity for comprehensive mental health assistance in the standard therapy of glaucoma. Individuals with compromised visual function are more prone to experience emotional discomfort, which may then impact their medication adherence and follow-up appointments, ultimately affecting long-term outcomes. Addressing psychological health in glaucoma care is especially pertinent in low-resource environments where inadequate understanding, high patient volumes, and stigma surrounding mental illness may hinder the prompt identification of at-risk patients. Systematic screening with concise, validated instruments like HADS and NEI VFQ-25 can assist in identifying people in need of psychiatric assistance. In these instances, psychotherapy, peer support groups, and referrals to mental health professionals should be integrated into comprehensive glaucoma management. This study endorses a comprehensive, interdisciplinary strategy for glaucoma care that transcends the regulation of intraocular pressure. Incorporating psychological assessment and support enables doctors to elevate the overall quality of care, promote treatment adherence, and significantly influence the quality of life for patients with this chronic visual illness.

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PUBLISHER DETAILS

Student's Journal of Health Research (SJHR)
(ISSN 2709-9997) Online
(ISSN 3006-1059) Print
Category: Non-Governmental & Non-profit Organization
Email: studentsjournal2020@gmail.com
WhatsApp: +256 775 434 261
Location: Scholar's Summit Nakigalala, P. O. Box 701432, Entebbe Uganda, East Africa