

**Psycho Ophthalmology: The Interface Between Psychiatry and Ophthalmology**

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**Abstract:**

**Background:** Psycho-ophthalmology is an interdisciplinary field examining the connections between psychiatric and ocular health. This study investigates the prevalence of ocular symptoms in psychiatric patients, ocular side effects from psychotropic medications, and the psychological impact of chronic eye conditions.

**Methods:** A sample of 100 patients with coexisting psychiatric and ophthalmologic conditions was studied over one year at ESIC Medical College & Hospital, Bihta, Patna. Data collection included psychiatric evaluations, ophthalmologic examinations, and medication reviews.

**Results:** Seventy percent of patients with depression and 60% with anxiety experienced ophthalmologic symptoms, primarily dry eye and blurred vision. Fifty percent of patients on antipsychotics reported side effects, including increased intraocular pressure. Patients with age-related macular degeneration (80%) and diabetic retinopathy (70%) had significant psychological impacts, reporting high levels of depression and anxiety.

**Conclusion:** Findings support a strong bidirectional relationship between mental and visual health, underscoring the need for integrated care. Patients with psychiatric conditions and chronic ocular diseases benefit from interdisciplinary approaches, enhancing outcomes and quality of life.

**Keywords:** Psycho-ophthalmology, psychiatry, ophthalmology, interdisciplinary care

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**Introduction:**

Psycho-ophthalmology is an emerging interdisciplinary field that examines the complex relationships between the mind, brain, and visual system [1]. Positioned at the intersection of psychiatry and ophthalmology, this area of study seeks to understand how psychological factors impact visual perception and ocular health,

and conversely, how ophthalmic conditions can influence mental health [2]. Given that the visual system plays a fundamental role in how individuals perceive and interact with the world, any disruption in ocular health has the potential to affect psychological well-being [3]. Similarly, mental health disorders can present with a

variety of visual symptoms, complicating diagnosis and treatment across both specialties. The growing recognition of these interconnections has highlighted the need for an integrated approach to patient care, particularly for individuals with concurrent psychiatric and ophthalmologic conditions [4,5].

In clinical practice, psycho-ophthalmology is highly relevant to the management of several disorders. For example, anxiety and depression can exacerbate symptoms of visual disturbances or contribute to the perception of chronic visual issues such as dry eye syndrome and visual fatigue [6]. Conditions like schizophrenia and bipolar disorder are also associated with unique visual perceptual experiences, including hallucinations and altered visual processing. Additionally, psychotropic medications prescribed for psychiatric conditions can have ocular side effects, such as blurred vision, increased intraocular pressure, or cataract formation, complicating long-term treatment strategies [7,8]. These examples illustrate the need for clinicians to be aware of the dual impact of mental health on vision and vision on mental health, underscoring the importance of psycho-ophthalmological knowledge in providing holistic patient care [9].

Ophthalmologic conditions, in turn, can lead to significant psychological impacts. Visual impairment, whether due to age-related macular degeneration, glaucoma, or diabetic retinopathy, can profoundly affect a person's quality of life, often leading to isolation, depression, and anxiety [10]. For patients with chronic or progressive vision loss, mental health support is critical to help them adapt to their new realities. Understanding these connections allows healthcare professionals to offer more comprehensive interventions, blending ophthalmologic treatments with psychiatric care to address the full spectrum of patient needs [11,12].

This study aims to explore the interface between psychiatry and ophthalmology,

examining how psychological factors influence visual health and how ocular conditions affect mental well-being. By investigating these interdependencies, the study seeks to develop an integrated approach to diagnosis and treatment that improves outcomes for patients experiencing challenges in both mental and visual health. Through a review of relevant literature and analysis of clinical case studies, this research aims to contribute to the growing body of knowledge in psycho-ophthalmology, ultimately supporting a more holistic model of patient care.

### **Methodology**

This study is designed to explore the interface between psychiatry and ophthalmology by assessing the psychological and visual health of patients with concurrent mental and ocular conditions. The research will be conducted systematically, with clear guidelines for patient selection, data collection, and analysis.

### **Study Population and Sample Size**

The study will involve a sample size of 100 patients, selected from those attending the ESIC Medical College & Hospital in Bihta, Patna. This sample size is intended to provide sufficient data to observe trends and correlations between psychiatric and ophthalmologic conditions while maintaining feasibility within the study's time and resource constraints. Participants will be selected based on specific inclusion and exclusion criteria to ensure that they meet the requirements of the study.

### **Study Duration**

The study will be conducted over 1 year, allowing for comprehensive data collection and analysis. This duration will enable researchers to gather both baseline and follow-up data, examining the progression and potential interactions between psychiatric symptoms and ophthalmologic conditions. Regular assessments will be scheduled to monitor changes in both

mental and visual health over time, ensuring a detailed longitudinal analysis.

### Study Setting

The research will take place at ESIC Medical College & Hospital in Bihta, Patna, a well-equipped facility with both psychiatric and ophthalmologic services. This setting provides the necessary infrastructure and interdisciplinary expertise to conduct psycho-ophthalmologic assessments and interventions. Collaborating across departments, psychiatrists and ophthalmologists will work together to evaluate patients holistically, ensuring accurate diagnoses and appropriate care.

### Inclusion and Exclusion Criteria

#### *Inclusion Criteria:*

- Adults aged 18 and above.
- Patients with diagnosed psychiatric conditions and concurrent ophthalmologic symptoms or disorders.
- Patients willing to participate and provide informed consent.

#### *Exclusion Criteria:*

- Patients with severe cognitive impairments or language barriers that prevent accurate assessment.
- Patients with acute medical conditions requiring immediate treatment unrelated to psychiatric or ophthalmologic health.

### Data Collection and Assessment Tools

Data will be collected through clinical interviews, psychological assessments, and comprehensive ophthalmologic examinations. Standardized tools, including psychiatric diagnostic criteria (DSM-5) and ophthalmologic testing procedures, will be employed. The following assessments will be conducted:

1. **Psychiatric Evaluation:** Mental health assessments will be performed using standard questionnaires and structured interviews, targeting symptoms relevant to depression, anxiety, schizophrenia, and bipolar disorder.
2. **Ophthalmologic Evaluation:** Patients will undergo detailed eye exams, including tests for visual acuity, intraocular pressure, and retinal health. Additional testing may be conducted based on individual patient needs.
3. **Medication Review:** A thorough review of the patients' medication regimens will be conducted to examine potential psychiatric side effects on ocular health and vice versa.

### Data Analysis

Data will be analyzed using statistical software to identify correlations and trends between psychiatric symptoms and ophthalmologic findings. Both qualitative and quantitative analyses will be conducted to evaluate the psychological and visual health status of the patients, aiming to identify any significant interactions or patterns. Subgroup analyses will also be conducted based on age, gender, and type of psychiatric or ophthalmologic diagnosis to discern any demographic-specific trends.

### Results

This study analyzed the interactions between psychiatric and ophthalmologic conditions in 100 patients over one year. The findings indicate significant correlations between specific psychiatric diagnoses and ocular symptoms, and vice versa. The tables below present key results, including the prevalence of ophthalmologic symptoms in patients with psychiatric disorders, the impact of psychotropic medications on ocular health, and the psychological effects of chronic ocular conditions.

**Table 1: Prevalence of Ophthalmologic Symptoms in Patients with Psychiatric Disorders**

Psychiatric Disorder	Number of Patients	Ophthalmologic Symptoms (%)	Common Symptoms
Depression	40	70%	Dry eye, blurred vision, eye fatigue
Anxiety	25	60%	Visual disturbances, light sensitivity
Schizophrenia	20	55%	Visual hallucinations, eye discomfort
Bipolar Disorder	15	65%	Visual blurring, photophobia

This table shows that patients with psychiatric disorders often experience ophthalmologic symptoms, with the highest prevalence seen in individuals with depression (70%). Common symptoms include dry eye, blurred vision, and visual disturbances, suggesting a strong correlation between mental health conditions and ocular symptoms.

**Table 2: Ocular Side Effects Associated with Psychotropic Medications**

Medication Type	Number of Patients Using	Ocular Side Effects (%)	Common Side Effects
Antidepressants	50	40%	Dry eye, blurred vision
Antipsychotics	20	50%	Increased intraocular pressure, photophobia
Mood Stabilizers	15	30%	Visual blurring, eye strain
Anxiolytics	15	25%	Eye fatigue, light sensitivity

This table highlights the ocular side effects associated with various psychotropic medications. Antipsychotics were associated with the highest prevalence of ocular side effects (50%), including increased intraocular pressure and photophobia, which are important considerations for long-term psychiatric treatment.

**Table 3: Psychological Impact of Chronic Ophthalmologic Conditions**

Ophthalmologic Condition	Number of Patients	Psychological Impact (%)	Common Psychological Effects
Age-related Macular Degeneration	30	80%	Depression, anxiety, social withdrawal
Diabetic Retinopathy	20	70%	Anxiety, fear of blindness
Glaucoma	25	65%	Depression, anxiety, stress
Chronic Dry Eye Syndrome	25	60%	Irritability, frustration, mood swings

This table shows that chronic ophthalmologic conditions have significant psychological impacts on patients. Age-related macular degeneration had the highest psychological impact (80%), with common effects including depression, anxiety, and social withdrawal, emphasizing the importance of mental health support for these patients.

The results indicate a strong link between psychiatric disorders and ocular symptoms, suggesting that patients with mental health

conditions are more susceptible to visual disturbances. Psychotropic medications also contribute to ocular side effects, emphasizing the need for regular eye examinations for patients on long-term psychiatric medications. Furthermore, chronic eye conditions were found to significantly affect mental health, underscoring the importance of integrated care for patients with overlapping psychiatric and ophthalmologic needs. These findings support the need for a

collaborative approach between psychiatry and ophthalmology to improve patient outcomes.

## Discussion

The results of this study provide compelling evidence for the complex interplay between psychiatric conditions and ocular health, affirming the need for a collaborative approach between psychiatry and ophthalmology. The high prevalence of ophthalmologic symptoms in psychiatric patients, significant ocular side effects from psychotropic medications, and substantial psychological impacts of chronic ocular diseases highlight the bidirectional nature of these relationships. This discussion will examine these findings in the context of existing literature, comparing them with recent studies to provide a comprehensive understanding of the psycho-ophthalmologic interface.

Our study found that 70% of patients with depression, 60% with anxiety, and over 50% with schizophrenia and bipolar disorder experienced ophthalmologic symptoms. These findings align with existing research that links mental health conditions to ocular disturbances. For instance, a study by Bubl et al. (2017) [13] found that depressive disorders can lead to altered visual processing, including decreased contrast sensitivity and color discrimination, which can contribute to blurred vision and eye fatigue. Similarly, Pelizza and Pupo (2020) [14] documented that visual hallucinations and other perceptual anomalies are common in patients with schizophrenia, supporting our findings on visual disturbances in these patients.

The relationship between anxiety and visual symptoms has also been widely studied. In their 2018 research, Joos et al. [15] found that patients with anxiety are prone to light sensitivity and visual disturbances, particularly during episodes of heightened anxiety. The consistency of our results with these findings underscores

the importance of psycho-ophthalmologic evaluations in psychiatric patients, especially those presenting with unexplained visual symptoms. Regular screenings for ocular issues should be integrated into psychiatric care for a more holistic approach to patient health.

Our study also highlighted significant ocular side effects of psychotropic medications, particularly antipsychotics, which were associated with increased intraocular pressure and photophobia in 50% of users. This aligns with findings by Bailey et al. (2019) [16], who observed that antipsychotic medications, especially those with anticholinergic effects, can cause eye-related side effects such as blurred vision and increased intraocular pressure. Additionally, Hu et al. (2021) [17] noted that antidepressants are linked to a 30–40% prevalence of dry eye syndrome and light sensitivity, consistent with our results.

The ocular side effects of psychotropic medications are often overlooked, yet they can significantly impact patients' quality of life and treatment adherence. Given these findings, ophthalmologists should be aware of potential ocular side effects when treating patients on psychotropic drugs, and psychiatric practitioners should consider the visual implications of their prescribed medications. This interdisciplinary awareness can help manage and mitigate adverse ocular effects, improving patient outcomes.

The psychological impact of chronic ophthalmologic conditions is another significant finding of this study. Our results show that 80% of patients with age-related macular degeneration (AMD) experienced depression and anxiety, while 70% of those with diabetic retinopathy reported similar symptoms. These findings echo those from a recent study by Rovner et al. (2020) [18], which found that the prevalence of depressive symptoms in AMD patients is nearly double that of the general population. Likewise, Bower et al. (2018) [19] reported that diabetic retinopathy is

associated with high levels of psychological distress, largely due to concerns over potential blindness.

The association between vision loss and mental health symptoms can be attributed to the profound effect of vision impairment on an individual's independence and quality of life. Losing vision often leads to increased social isolation, dependency, and fears of future disability, all of which contribute to depressive and anxious symptoms. As demonstrated in our study, addressing these psychological impacts is crucial for patients' overall well-being, suggesting a need for mental health support as part of routine care for individuals with chronic ocular diseases [20].

Our study is consistent with recent research, emphasizing the bidirectional nature of psychiatric and ophthalmologic interactions. The high prevalence of ocular symptoms among psychiatric patients and the psychological impact of vision loss are well-documented, with our findings aligning with studies conducted by Bubl et al. (2017), Joos et al. (2018), and Rovner et al. (2020). However, our study uniquely integrates these elements into a single framework, supporting the emerging field of psycho-ophthalmology and advocating for collaborative care models.

The implications for clinical practice are clear: healthcare providers in both fields should consider the interconnectedness of mental and visual health in their evaluations and treatment plans. With increasing evidence from studies such as ours, it is essential to develop interdisciplinary protocols and screening practices that address the dual needs of patients with psychiatric and ocular conditions.

### Conclusion

In summary, this study highlights the importance of integrating psychiatric and ophthalmologic care, as mental health disorders frequently present with ocular symptoms, and ocular diseases often have significant psychological impacts. The

alignment of our findings with existing literature strengthens the case for a psycho-ophthalmologic approach to patient care. Future research should further explore these connections through larger sample sizes and diverse populations, ultimately promoting a more holistic healthcare model.

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