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PREVALENCE OF DRY EYE AMONG THE STUDENTS OF RIPANS, MIZORAM: A QUESTIONNAIRE BASED STUDY

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ABSTRACT

Objective: *Dry eye disease (DED) is a general ocular condition characterized by insufficient tear production or poor tear quality, leading to discomfort, visual disturbances, and potential damage to the optical surface of eye. This study aimed to assess DED prevalence and threat factors among the students of Regional institute of Paramedical & Nursing Sciences (RIPANS), Mizoram.*

Materials and Methods: *A cross-sectional, analytical, survey-based analysis was carried out between Jan – March, 2024. An online questionnaire was distributed through goggle form to all the students of RIPANS, Mizoram. A self-administered questionnaire was used in the assessment. The questionnaire included queries related to ocular symptoms, lifestyle factors, screen usage, and ocular health history. Participation was voluntary and anonymous.*

Results: *Out of 464 students participated in the survey, 6.3% reported experiencing dry eye syndrome. Common symptoms included ocular discomfort (such as itching, burning, or foreign body sensation), redness, and blurred vision. Factors such as prolonged screen time, inadequate blinking, and contact lens wear were identified as potential risk factors associated with the development of dry eye symptoms among students.*

Conclusion: *This research emphasizes a significant occurrence of dry eye syndrome among students at RIPANS, Mizoram, attributable to excessive screen usage and reduced outdoor activities. Implementation of preventive measures such as ergonomic adjustments, regular breaks from screen usage, and promotion of outdoor activities may help to reduce the burden of dry eye syndrome among students.*

Keywords: *Dry Eye Syndrome (DES), Prevalence, College Students, Online Questionnaire, RIPANS.*

Introduction

Dry eye syndrome (DES) is an ocular condition with multiple factors caused by a lack of sufficient lubrication and moisture on the surface of the eye [1]. It can lead to discomfort, visual disturbances, and potentially significant impact on daily activities [2]. In severe cases, there is an increased risk of ocular infection, surface damage, or corneal ulceration [3]. While it affects individuals of all ages, certain demographics, such as students who spend prolonged periods engaging with digital screens, may be particularly susceptible[4][5].

The Regional Institute of Paramedical and Nursing Sciences (RIPANS), Mizoram provides an ideal setting to investigate the prevalence of dry eyes among students. Mizoram, situated in northeastern India, experiences unique environmental conditions, including high humidity levels and contact with allergens, which can influence the development of dry eye symptoms [6].

Furthermore, the academic curriculum at the institute may entail prolonged periods of study, contributing to rise in screen exposure and potential ocular strain.

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This research aims to assess the prevalence of dry eyes among students of the RIPANS, Mizoram through a comprehensive questionnaire-based study. By elucidating the extent of this condition among the student, valuable insights can be gained into its etiology, factors that contribute to it, and potential interventions.

The questionnaire will cover various aspects concerning dry eye syndrome, including frequency and severity of symptoms, duration of screen usage, environmental factors, ocular health history, and measures taken for symptom relief. By collecting quantitative data from a substantial group of students, statistical analyses will be performed to identify patterns and associations between different variables.

The implications for both healthcare professionals and educational institutions can be significant when it comes to understanding the incidence of dry eyes among students in this academic setting. It has the potential to shape the creation of focused interventions, such as ergonomic adjustments in classrooms, educational campaigns promoting healthy screen habits, and the provision of preventive eye care services. Additionally, findings from this study could enhance the existing knowledge on dry eye syndrome within the framework of regional environmental factors and academic demands.

In conclusion, this research endeavor seeks to shed light on the prevalence of dry eyes among students of the RIPANS, Mizoram, providing valuable insights into the burden of this condition and avenues for mitigation. Through collaborative efforts between healthcare providers, educators, and students, proactive steps can be taken to safeguard ocular health and enhance overall well-being within the academic community.

Materials and Methods

Study Design

This research aims to assess the prevalence of dry eyes among students of the RIPANS, Mizoram using an online questionnaire. Data from the target population was collected using a cross-sectional survey design.

Study Population

The study population comprised students the students of RIPANS. The study employed convenience sampling to recruit participants.

Data Collection Instrument

An online questionnaire was distributed through goggle form to all the students of RIPANS, Mizoram. The questionnaire consisted of questions related to demographic information, symptoms of dry eye, risk factors, and frequency of digital device usage.

Data Collection Procedure

The online questionnaire was distributed to the students of the RIPANS using the Google form. Participants were provided with a link to access the questionnaire, along with instructions for completion.

Data Analysis

The demographic characteristics of the participants, prevalence of dry eye symptoms, and frequency of digital device usage were analyzed using descriptive statistics.

Limitations

The study constraints encompassed dependence on self-reported data, potential recall bias, and the cross-sectional study design, which limited the establishment of causal relationships. Additionally, the study was limited to students of a single institution, which may affect the transferability of the findings.

Results

Demography

The Goggle form was distributed to all students and interns amongst the students of Regional institute of Paramedical & Nursing Science (RIPANS), Mizoram, 464 responded to the questionnaire and confirmed their participation in the research. So, our study included 464 students, who completed a self-administered questionnaire for dry eye disease. The majority of participants were female, representing the highest percentage (n=322, 69.39%) (Table 1).

Table 1: Demographic feature of the Study Participants

(N =464)

Variable		N=464	%
Age	18 - 22	313	67.46
	23 - 27	151	32.54
Sex	Female	322	69.39
	Male	142	30.60
Department	B. Optometry	99	21.34
	BRIT	84	18.10
	MLT	91	19.61
	Pharmacy	88	18.96
	Nursing	102	21.98

Out of 464 students, 396 students reported as they suffered from at least one symptom of DED. The most commonly reported symptom of DED was discomfort (33.8%), followed by burning or watering (25.3%) and dryness, grittiness or scratchiness (23.7%). Alternatively, less frequent symptoms included soreness or irritation (17.2%). The diagnoses of dry eye disease was based on constantly or often experiencing at least one symptom of the disease, according to the questionnaire. Women were more likely to report symptoms. The symptoms of DED reported by students of RIPANS is illustrated in Table 2 & Figure 1, and the frequency of symptoms is illustrated in Table 3.

Table 2: Symptoms reported by students of RIPANS

Symptoms	N=396	%
Dryness, grittiness or scratchiness	94	23.7%
Soreness or irritation	68	17.2%
Burning sensation associated with watering	100	25.3%
Discomfort	134	33.8%

Figure 1: Symptoms Reported by Students of RIPANS

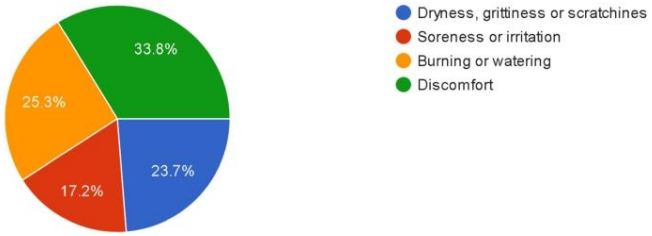

Table 3: Frequency of Symptom as Reported by Students of RIPANS

Frequency of Symptom	N=396	%
Never	60	15.1%
Rarely	112	28.2%
Sometimes	199	50.2%
Constantly	25	6.3%

Discussion

Dry eye syndrome is a common ocular condition that affects individuals worldwide, causing discomfort and affecting their quality of life. This study demonstrated that the prevalence rate of dry eye disease is 6.3% amongst the students of the RIPANS, Mizoram. Numerous factors can disrupt the delicate balance of the tear film and ocular surface, causing instability in this complex system [7]. There are various factors that could contribute to the high occurrence of dry eye among students. These may include prolonged screen time associated with academic activities, inadequate blinking, environmental factors, and personal habits [8]. Furthermore, DED was determined to have a strong correlation with the occurrence of redness and irritation in the eyes when exposing outdoor activities and having previous prescriptions of drops or treatment for dry eyes. It is crucial to identify dry eyes at an early stage as it may suggest the existence of systemic illnesses like systemic lupus erythematosus, rheumatoid arthritis, and Sjogren's syndrome. [9]. The presence of dry eye can have a negative impact on academic performance and overall well-being. Symptoms such as eye fatigue, discomfort, and blurred vision may interfere with reading, studying, and other academic activities.

Educating patients is crucial for effectively managing DED and it is vital to include strategies for avoiding factors that worsen the condition as a key component of the treatment plan. [10]. Therefore, this study examined the risk factors that are significantly linked to Dry Eye Disease (DED) among students at RIPANS.

It is crucial to recognize the constraints of the research, dependence on self-reported data and the potential for response bias inherent in online questionnaires. Future research could employ objective examination, like tear film assessment tests and ocular surface assessments, to certify the prevalence rates obtained in this study.

Conclusion

The research was carried out with the students of RIPANS, Mizoram. The findings revealed that a significant proportion of 6.3% experienced dry eye disease. Furthermore, our research also revealed multiple risk factors linked to the onset of DED. In conclusion, this research paper highlights the significant occurrence of dry eye syndrome among students at RIPANS, Mizoram, and underscores the need for proactive intervention strategies. By raising awareness, promoting healthy eye care practices, and optimizing the academic environment, stakeholders can be a powerful tool in relieving the discomfort of dry eye syndrome and enhancing the general eye health and well-being of students.

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Disclosure

The authors affirm that there are no conflicts of interest.

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