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Exploring the Etiological Spectrum of Headaches in Patients Seeking Care at an Ophthalmology Outpatient Department

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Abstract:- Headaches are a common complaint among patients seeking care in eye outpatient departments (OPDs). This study aimed to investigate the gender distribution, age distribution, occupational characteristics, ocular and systemic causes, and symptom duration among patients presenting with headaches in an eye OPD setting. A comprehensive analysis of patient data from this population provides valuable insights into the epidemiology and clinical characteristics of these cases.

Objective: This study's primary objective was to look into the demographics and clinical characteristics of patients who visited an eye OPD complaining of headaches. We aimed to specifically: Determine the gender distribution of the patients. Look into the age range of the patients. Look into the job history of the patient group. Analyze the distribution of the causes of ocular and systemic headaches. Examine how long the patient claims to have had the symptoms.

Methods: after approval by the ethics committee over a predetermined time, patient information from an eye OPD was gathered.

Data analysis: The percentages for gender, age, occupation, ocular causes, systemic causes, and symptom duration were calculated from the dataset.

Statistical Analysis: The results were presented and summarized using spss 24 ver. descriptive statistics, such as percentages.

Result: Gender Distribution: About 78% of the patients were female, whereas 22% were male. Age Distribution: Adolescents and young adults made up the bulk of patients (22.4%), who were in the 10 to 19 age range. Occupational Characteristics: "Housewives" made up 45.6% of cases, with "School Students" (32.0%) and "Madrasa Students" (10.0%) also being common. Ocular Causes: "Myopic" disorders (48.0%) and "Hypermetropia" (24.8%) was the most prevalent. Systemic Causes: The two most prevalent systemic causes were "Systemic Hypertension" (28.8%) and "Ear & Sinus Disorder" (21.6%). The plurality (39.2%) of people reported having symptoms for 0–1 months, whereas only a small percentage (0.8%) said they experienced them for more than 12 years.

Conclusion: Young adults and women are more likely to seek medical attention for headaches. Myopia in particular is a major contributing factor in these cases. Notable systemic causes include ear, sinus, and systemic hypertension. Since the majority of patients report recently developing symptoms, it is critical to identify and treat patients with these conditions as soon as possible. These discoveries can help clinical practice and direct

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additional investigation into headache management in eye OPD settings.

Keyword:- *Students, Headache, Hypertension, Pregnancy, Myopia*

I. INTRODUCTION

An analysis of the National Emergency Department Sample data set revealed that about one-third of ED visits for eye complaints are related to eye trauma, which is more common in males, during the summer, and in patients between the ages of 20 and 60. The majority of patients who present to the ED have non-traumatic eye complaints[1-2]. Traumatic eye injuries account for around one-third of all eye-related ED visits in the US each year[3]. An estimated 2-3 million emergency department (ED) visits for eye symptoms are made each year in the United States; estimates are expected to rise as a result of difficulties in accessing care and a diminishing ophthalmology staff[4-5]. Unilateral blindness and visual impairment are frequently caused by ocular trauma, which is also highly preventable. Ocular trauma is more likely in White men between the ages of 45 and 64. Car crashes are the leading cause, followed by falls and infections[6]. ED providers understand how to recognize and treat eye complaints to rapidly identify urgent and emergent eye conditions requiring prompt referral and treatment to promote optimal visual outcomes and prevent disability[7]. Ocular surface diseases, such as Dry Eye Disease (DED) with headache, are commonly encountered in day-to-day clinical practice, and multiple studies have demonstrated an increasing incidence of DED in the general population[8-9]. The presentations of comorbid illnesses differ; persons with systemic immunological disorders are more likely to have aqueous tear deficit, and those with migraine are more likely to have symptoms that are out of proportion to clinical indicators[10]. The ensuing neurological symptoms can differ, although they frequently include focal-onset seizures, hemiparesis, and migraines, episodes similar to strokes, behavioral issues, learning disabilities (LD), and deficiencies in the visual field[11].

II. METHODOLOGY

A retrospective observational strategy was used for this investigation. It required examining patient files from the Mardan Medical Complex's Eye OPD for a year. The Eye OPD's patient files and electronic health records (EHRs) served as the main source of data. All patients who visited the Eye OPD throughout the designated study period complaining of headaches were included in the study. We gathered the following information from the records: Age in years, occupation, headache duration, ocular etiology (if known), systemic cause (if known), gender, and further clinically important data, characteristics of headaches. In order to verify that patient data were handled ethically, the study acquired ethical approval from the relevant institutional ethics committee. The demographic and clinical traits of the patients were compiled using descriptive statistics. To determine the distribution of gender, age groups, jobs, headache duration, ocular reasons, systemic causes, and other clinical characteristics among the patients, the data were analyzed. The study's main goal was to identify the demographic and medical characteristics of patients who presented with headaches to the Mardan Medical Complex's Eye OPD. The research was carried out from January 2022 to December 2022 over a one-year period. The study took into account potential restrictions and moral issues pertaining to patient privacy, consent, and data use. Spss 24 version was used for data analysis.

III. RESULTS:

Table 1: Gender Distribution

Gender	Percentage
Female	78%
Male	22%

Table 2: Age Distribution

Age Group	Percentage
0-9	
10-19	22.4%
20-29	21.2%
30-39	15.6%
40-49	11.6%
50-59	10.4%
60-69	6.6%
70+	2.8%

Table 3: Occupation Distribution

Occupation	Percentage
Housewife	45.6%
School Student	32.0%
Madrasa Student	10.0%
Worker	6.4%
Health Worker	3.2%
Teacher	1.6%
Shop	1.6%
Driver	1.6%
Uneducated	1.6%

Table 4: Ocular Causes Distribution

Ocular Cause	Percentage
Myopic	48.0%
Hypermetropia	24.8%
Astigmatism	14.4%
Normal	12.8%
Acute ACG Glucoma	0.8%
Glaucoma Inflammatory	1.6%
Rapd	0.8%
Post Adeoviral (Pek)	0.8%

Table 5: Systemic Causes Distribution

Systemic Cause	Percentage
Systemic Hypertension	28.8%
Ear & Sinus Disorder	21.6%
Normal	8.0%
Pregnancy	4.0%
Typhoid	2.4%
Diabetes	2.4%
Mobile access use	1.2%
Depression	1.6%
Convergence Insufficiency	1.6%
Meningitis	1.6%
Toothache	0.8%
With Hot Temperature	0.8%
T.B	0.8%
Bipolar disorder	0.8%
Trauma Stone	0.8%
Brain tumor	0.3%
Depression/anxiety	0.8%
Toothache	0.8%

Table 6: Duration of Symptoms Distribution

Duration	Percentage
0-1 month	39.2%
1-3 months	18.4%
3-6 months	12.8%
6-12 months	14.4%
1-2 years	11.2%
2-5 years	2.4%
5-12 years	1.6%
Over 12 years	0.8%

IV. DISCUSSION

The majority of patients in the dataset are female, constituting approximately 78% of the cases, while males account for around 22%. This suggests that females are more likely to present with headaches in the eye OPD. Most patients fall within the age groups of 10-19 (22.4%) and 20-29 (21.2%), indicating that adolescents and young adults are commonly affected. Fewer patients had ongoing seizures than the 83% of adults in one sample that had previously been reported[12]. The prevalence of patients decreases with age, with smaller percentages in older age groups. The dataset includes a small proportion of patients aged 70 or older, indicating that the condition affects a wide age range. The most common occupation among patients is "Housewife," making up 45.6% of cases. "School Students" and "Madrasa Students" also represent significant proportions, accounting for 32.0% and 10.0%, respectively. Other occupations, such as "Worker," "Health Worker," "Teacher," "Shop," and "Driver," have smaller percentages. "Myopic" conditions are the most common (48.0% of cases), indicating that refractive errors might be a significant contributor to headaches. "Hypermetropia" is the second most common ocular cause at 24.8%. "Astigmatism" is present in 14.4% of cases, while 12.8% of cases have "Normal". "Systemic Hypertension" is the most prevalent, accounting for 28.8% of cases. "Ear & Sinus Disorder" is also a significant systemic cause, with 21.6%. Several other systemic conditions, such as "Pregnancy," "Typhoid," "Diabetes," "Glaucoma Inflammatory," and "Depression," have lower percentages but contribute to the diversity of systemic causes. "Convergence Insufficiency," "Meningitis," "Toothache," and other rare causes are present in a smaller percentage of cases. The majority of patients (39.2%) have experienced symptoms for 0-1 month, indicating recent onset or acute cases. A significant portion (18.4%) reports symptoms lasting 1-3 months. A substantial number of cases (14.4%) have symptoms persisting for 6-12 months. Longer-term cases, lasting 2-5 years and 5-12 years, are relatively rare but still present. Very few cases (0.8%) report symptoms lasting over 12 years.

V. CONCLUSION

This study highlights several key findings regarding patients presenting with headaches in an eye OPD. Females and young adults are more likely to seek care for headaches. Ocular causes, especially myopia, play a significant role in these cases. Systemic hypertension and ear and sinus disorders are notable systemic causes. The majority of patients report recent-onset symptoms, emphasizing the importance of early diagnosis and management in this patient population. These insights can inform clinical practice and guide further research into improving the management of headaches in eye OPD settings.

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