

## Causes of red eye in Aminu Kano Teaching Hospital, Kano- Nigeria

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### Abstract

**Introduction:** The red eye is one of the commonest reasons for presenting to the eye clinic. Red eye due to serious conditions that may threaten patient's vision require early detection and referral to ophthalmologists for prompt care. The aim of the study is to determine the prevalence and causes of red eye amongst patients' attending the eye clinic over a two year period from 2004 to 2005.

**Methods:** The eye clinic register was used to determine the total number of new patients attending the eye clinic and those found to have red eye. The information retrieved included patients age, sex, laterality of the condition and cause of red eye.

**Results:** During the review period 4723 new patients were seen in the eye clinic and 693 patients (14.8%) had red eye. There were 356 males and 337 females (M: F=1.1:1). Sixty three percent of the patients were below the age of 20 years. The common causes of red eye were allergic conjunctivitis in 40%, microbial conjunctivitis in 17%, corneal ulcer 11% and inflamed pterygium in 11%.

**Conclusion:** Red eye is a common cause of presentation to the eye clinic. Most of the common causes of red eye in our environment are treatable.

**Keywords:** Red eye, prevalence, causes

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### Introduction

The red eye is one of the commonest reasons for presenting to the eye clinic. Red eye due to serious conditions that may threaten patient's vision require early detection and referral to ophthalmologists for prompt care.<sup>1</sup> Red eye can be a manifestation of soft tissue injury to the globe or adnexiae in patients with head injury.<sup>2</sup> A sub conjunctival hemorrhage may be an indicator of diencephalic bleeding from trauma.<sup>3</sup> The causes of red eye includes sight threatening conditions such as acute angle closure glaucoma, eye injuries, corneal ulcers, intra ocular malignancy,<sup>4</sup> and chemical burns to the eyes. Others are microbial or, allergic conjunctivitis which may

not lead to direct loss of vision. It is of great importance to know the common causes of red eyes in our environment as this aid in prompt diagnosis and management. This knowledge is useful in guiding hospital management on facilities to provide in the outpatient eye clinic and common eye medications to provide in the pharmacy for the treatment of such conditions. This study is a two year retrospective review of the causes of red eye in Aminu Kano Teaching Hospital Kano- Nigeria. The aim of the study is to determine the prevalence and common causes of red eye.

### Patients and methods

The eye clinic register contains the list of all new patients who presented to the unit from January, 2004 to December, 2005. The register was used to retrieve the patient's case folders and the following information extracted; total number of out patients seen during the review period and the number of those who presented with red eye. Other data retrieved includes patient's age, sex, and causes of red eye (diagnosis). The information obtained was tabulated and manually analyzed.

### Results

Between January 2004 to December 2005, 4723 new eye patients were seen and 693 patients (14.8 %) presented with red eye. There were 356 males and 337 females (M: F=1.1:1). The sign occurred in one eye in 216 patients (31%) and was bilateral in 477 patients (69%). Thirty three percent of the patients were below the age of 9 years and those below the age of 20 years accounted for 63% as shown in table I. Allergy accounted for 40% of the patients. Vernal conjunctivitis was the most common cause of red eye accounting for 25% of the patients seen. Other causes included (non vernal) allergic conjunctivitis seen in 15%, microbial conjunctivitis 17%, corneal ulcers and inflamed pterygia accounted for 11% each as shown in table II.

**Table I: Age and sex distribution of 693 patients who presented with red eye**

Age in years	Sex		Total (%)
	Male	Female	
<9	134	94	228 (33)
10-19	99	112	211 (30)
20-29	61	62	123 (18)
30-39	29	38	67 (10)
40-49	22	20	42 (6)
50-59	8	7	15 (2)
60+	3	4	7 (1)
Total	356	337	693 (100)

**Table II: Causes of red eye among 693 new eye patients**

Cause of red eye	Number of patients (%)
Vernal conjunctivitis	172 (25)
Allergic conjunctivitis (Non-vernal)	103 (15)
Microbial conjunctivitis	121 (17)
Corneal ulcer	77 (11)
Trauma	36 (5)
Inflamed pterygium	77 (11)
Trichiasis/ entropion	39 (6)
Anterior uveitis	52 (8)
Others	16 (2)
Total	693 (100)

## Discussion

Redness of the eye is one of the most common causes of presentation to the eye clinic and it affected both sexes almost equally. Redness of the eye affected both eyes in two thirds of the patients and more than half of these patients were below the age of 20 years. The commonest cause was allergic (including vernal) conjunctivitis. vernal conjunctivitis is a distinct form of ocular allergy that predominantly affects young children. Perilimbal

pigmentation is an indicator of this condition.<sup>5</sup> A study in Oshogbo, Nigeria showed that eye trauma was the most common cause of red eye in 41.03%, and allergic conjunctivitis was seen in 24.77% of the patients.<sup>6</sup> Allergic conjunctivitis was one of the most common causes of red eye seen in staff presenting to the eye clinic of a health institution in Lagos.<sup>7</sup> Antihistamines, mast cell stabilizers, non-steroidal anti inflammatory drugs, steroids and cyclosporine can be used in patients with allergic conjunctivitis.<sup>8</sup> Microbial conjunctivitis mainly of bacterial origin was the second cause of red eye. In Ibadan, conjunctivitis was the commonest cause of presenting to the eye clinic and was reported in 32.9% of the patients.<sup>9</sup> Conjunctivitis tend to be self limiting though this pattern is altered in our environment by harmful eye practices such as application of sugar solution and other substances that can damage the eye leading to its removal.<sup>10</sup> One tenth of the patients had corneal ulcers and this can lead to scar formation and blindness. Corneal scar accounted for 7% of those found to be blind during a prevalence survey in Dambatta local government area of Kano state.<sup>11</sup> Trauma was not a common cause of red eye in our study unlike in the study at Oshogbo.<sup>6</sup> The dry and dusty environment in the location of this study is and presence of trachoma are possible causes. Inflamed pterygium, trichiasis and anterior uveitis are noted causes of red eye which were not seen in other studies.<sup>6,7,8</sup> Other causes of red eye are conjunctiva foreign body, and effect of some facial cosmetic cream whose active ingredient is not known. Most of the causes of red eye in our study are amenable to treatment.

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