



## A Study of Conjunctivitis During Epidemic in the July-August 2023 Among Patients at B.M.G.M.C. Shahdol (M.P.)

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### OPEN ACCESS

#### Key Words

Conjunctivitis, bacterial, viral, moxifloxacin, ciprofloxacin, blepharitis

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**Received:** 03 November 2023

**Accepted:** 16 November 2023

**Published:** 30 November 2023

**Citation:** Pranda Shukla, Pankaj Kataria and Shoaib Arshad, 2023. A Study of Conjunctivitis During Epidemic in the July-August 2023 Among Patients at BMGMC Shahdol (M.P.). Res. J. Med. Sci., 17: 215-218, doi: 10.59218/makrjms.2023.11.215.218

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#### ABSTRACT

The objective of this study is to assess discover the conjunctivitis causing the current epidemic and to determine the cause and to find the better medical management of conjunctivitis during the July-August 2023 pandemic. At Birsa Munda Government Medical College a Tertiary care Center at Shahdol a cross-sectional, retrospective study comparing conjunctivitis patients of different ages was conducted. In this study, 447 patients were recruited after an informed consent and assessments were conducted in batches between July and August 2023. Patients with recurring bouts of conjunctivitis, concurrent ocular pathologies such as uveitis, glaucoma, corneal dystrophy and a history of anti-infective therapy were not included in this study. Thorough assessment that includes slit lamp bio-microscopy the patient's name, age, demographics, socioeconomic status, family history and the severity of their symptoms, along with at least one week of follow-ups. Based on signs and symptoms, the patient's initial visit data was gathered and the conjunctivitis was classified as either viral or bacterial. There were 447 patients 227 men and 220 women-with uniocular or binocular conjunctivitis during the pandemic in July and August 2023. Our research contains documentation of these occurrences. Conjunctivitis affects most persons between the ages of 21 and 40. Thirteen of the 447 were from rural areas and the rest 316 were from cities. All patients were diagnosed with either bacterial or viral conjunctivitis based on their symptoms and signs in our study, 97 patients had bacterial conjunctivitis and 350 patients had viral conjunctivitis and In conclusion, despite the prevalence of viral illnesses, our data revealed that conjunctivitis was the most common condition seen by patients attending the eye outdoor patient department of the tertiary medical center of Shahdol between July and August 2023. The bulk of those impacted by this epidemic were found to be between the ages of 21 and 40 and more urbanized patients than rural patients visit the outpatient department. After receiving care in the outpatient department, each patient was discharged. For bacterial conjunctivitis, combination therapy was the recommended course of action for viral infections, eye drops containing moxifloxacin were used in conjunction with combination therapy. Conjunctivitis, bacterial, viral, moxifloxacin, ciprofloxacin, blepharitis.

## INTRODUCTION

In primary care, conjunctivitis is the most prevalent cause of red eye<sup>[1]</sup>. The three most prevalent varieties of conjunctivitis are viral, allergic and bacterial and they can present in either acute or chronic forms the patient's age, time of the year and physical examination results are crucial in distinguishing between the different types of conjunctivitis<sup>[1]</sup>. Reddening of the eyes, itching, soreness and a watery or thicker discharge are all signs of conjunctivitis<sup>[5]</sup>. It is still difficult to distinguish between acute viral and bacterial conjunctivitis. Patients with long-lasting symptoms a poor response to first treatment or evidence of serious disease should be sent to ophthalmology for evaluation. Conjunctivitis sometimes known as "pink eye" is becoming more common due to the country's ongoing rain, particularly in New Delhi, Chandigarh, Gujarat and Madhya Pradesh. This study during the epidemic of conjunctivitis in India sought to comprehend the acute viral and bacterial conjunctivitis in the city of Shahdol in the state of Madhya Pradesh's tertiary medical center. The primary goals and implications of this study are to discover the conjunctivitis causing the current epidemic and to determine the cause and to find the better medical management of conjunctivitis during the July-August 2023 pandemic.

## MATERIALS AND METHODS

A retrospective, cross-sectional comparison research of conjunctivitis patients of various ages was undertaken at Shahdol Tertiary Center. In this study 447 patients were assessed serially between July and August 2023 and recruited in this study after an informed consent. This study enrolled new episodes of conjunctivitis, excluding patients with recurrent conjunctivitis concomitant ocular pathology such as uveitis, glaucoma, corneal dystrophy and so on and a history of anti-infective therapy.

Comprehensive examination, including patient name, age, demographic, socioeconomic status, family history, slit lamp bio-microscopy, intensity of signs and symptoms and a minimum of one week of follow-ups. Data was collected on the patient's first visit and classified as bacterial or viral conjunctivitis based on signs and symptoms. Complications and recurrences have been observed during follow-up examinations following symptomatic medication or antibacterial medication with eye drops Moxifloxacin and Ciprofloxacin or a combination of Moxifloxacin and Tobramycin Ciprofloxacin and Tobramycin medications. On a computer the acquired data was entered into a Microsoft 365 Excel sheet. The chi-square test was used to analyze qualitative data and the paired t-test was used to analyze quantitative variables.

## RESULTS

Conjunctivitis is defined as any inflammation of the membrane lining the eyelids and covering the exposed surface of the sclera. During the epidemic in July and August 2023 447 patients with uniocular or binocular conjunctivitis 227 males and 220 females-presented to the outdoor patient department of the tertiary medical center (BMGMC ) in Shahdol. These instances are documented in our research. Most people between the ages of 21 and 40 suffer from conjunctivitis. Three hundred sixteen of the 447 were from cities with the remaining 131 from rural areas. Based on their symptoms and signs, all patients were classified as having bacterial or viral conjunctivitis in our study, 97 and 350 patients had bacterial and 350 patients had viral conjunctivitis, respectively.

In the case of bacterial conjunctivitis 68 patients received combination therapy, while the remaining 15 and 12 patients received moxifloxacin and ciprofloxacin, respectively. In the case of viral conjunctivitis 109 patients were treated with a combination of drugs, while the remaining 134 and 97 patients were treated with moxifloxacin and ciprofloxacin, respectively.

Cases were observed for at least one week and up to two weeks, if necessary to monitor management and any complications caused by conjunctivitis. In bacterial conjunctivitis 14 cases had blepharitis and 5 cases had superficial keratitis, whereas in viral conjunctivitis only 2 cases had blepharitis and 5 cases had superficial keratitis.

Other minor complications observed in bacterial and viral conjunctivitis were superficial punctate epitheliopathy, sub-epithelial keratopathy, marginal corneal ulcer Table 1 and 4.

## DISCUSSION

While most of the studies were performed on the OPD basis and the data been analyzed prospectively, this study was done seeing the sudden rise in the number of conjunctivitis patients in the OPD. In the present study 447 patients with complaints of conjunctivitis excluding concomitant ocular pathology such as uveitis, glaucoma, corneal dystrophy and a history of anti-infective therapy were assessed serially between July and August 2023. It demonstrates that 48.7% of patients who presented in the department of ophthalmology, suffered from conjunctivitis. The percentage of males and females was 227(50.8%) and 220 (49.2%) respectively. Majority of the patient were of the age group 21-30 years followed by 31-40 years. This can be due to close proximity of these age groups to children. Around 70.7% of the patients were urban whereas it was higher amongst the rural population (62.4%) in the study of solanke *et al.*<sup>[4]</sup> and even higher (70%) in Maha Abdelrahman<sup>[3]</sup>. Higher percentage of

Table 1: Age And Gender Distribution of Conjunctivitis

Age group	Male	Percentage	Female	Percentage
0-5	23	10	11	5
6-10	15	6.6	10	4.5
11-15	13	6	9	4
16-20	21	9	25	11.4
21-30	76	33	93	42.3
31-40	31	13.6	35	16
41-50	17	7.5	10	4.5
51-60	7	3	4	2
61-70	8	3.5	10	4.5
≥70	16	7	13	6
Total	227	220	447	

Table 2: Comparative Analysis of Conjunctivitis Patients in Rural and Urban

Urban	No	Rural	No
Male	160	Male	67
Female	156	Female	64

Table 3: Prevalence of Bacterial and Viral Conjunctivitis

Bacterial		Viral	
Male	Female	Male	Female
48	49	179	171
Total	97	Total	350

Table 4: Medication in bacterial cases

Symptomatic	Moxifloxacin	Ciprofloxacin	Combination
2	15	12	68

Table 5: Medication in viral cases

Symptomatic	Moxifloxacin	Ciprofloxacin	Combination
10	134	97	109

Table 6: Complication in bacterial cases

Complication	Male	Female	Total
Superficial punctate epitheliopathy	0	1	1
Sub-epithelial keratopathy	1	0	1
Marginal corneal ulcer	0	0	0
Superficial keratitis	3	2	5
Blepharitis	7	7	14
Dacryocystitis	0	0	0

Table 7: Complication in viral cases

Complication	Male	Female	Total
Superficial punctate epitheliopathy	1	1	2
Sub-epithelial keratopathy	1	1	2
Marginal corneal ulcer	0	0	0
Superficial keratitis	3	2	5
Blepharitis	2	0	2
Dacryocystitis	0	0	0

urban population clearly indicating the ill-effect of overcrowding of homes and workplaces here. Viral conjunctivitis (78%) was more prevalent than bacterial (22%) one whereas the bacterial conjunctivitis was 65% in study conducted by solanke *et al.*<sup>[2]</sup> 5.7% in Maha Abdelrahman *et al.*<sup>[3]</sup> study and 93.7% in Salako *et al.*<sup>[4]</sup> study. All the patients were treated at OPD basis and sent home. Treatment of choice for bacterial conjunctivitis was combination therapy whereas in viral cases, it was moxifloxacin followed by combination therapy. The most common complication in the present study was blepharitis followed by superficial keratitis Table 4 and 7.

#### Limitation:

- Since the study was conducted in a single city hospital, it cannot be generalized
- To confirm the pathogenic organism responsible for the conjunctivitis, no microbiological

investigation was conducted and diagnosis was solely on basis of signs and symptoms

#### CONCLUSION

In conclusion, our analysis found that the majority of patients visiting the eye outdoor patient department of tertiary medical center of Shahdol between July and August 2023 had conjunctivitis, even though viral cases were prevalent. The majority of people in the 21-40 age range were found to be affected by this epidemic and more patients that attend OPD are urbanized patients. All the patients were treated in the outpatient department and sent home. Combination therapy was the preferred treatment for bacterial conjunctivitis, while Eye drop Moxifloxacin followed by combination therapy was used in viral infections. Blepharitis was the most prevalent complication in this study, followed by superficial keratitis.

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