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STUDY OF CLINICAL AND DEMOGRAPHIC PROFILE OF PATIENTS VISITING A TERTIARY EYE CARE CENTRE ALONG WITH THE EFFECT OF LOCKDOWN DURING COVID-19 PANDEMIC

Ophthalmology

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ABSTRACT

Aim – To study the clinical and demographic profile of patients visiting a tertiary eye care centre along with the effect of lockdown during Covid-19 pandemic.

Material and Methods – This cross-sectional study included patients presenting during the entire lockdown period i.e. 25th March to 31st May, 2020. Records of the patients relating to symptoms, diagnosis and treatment modalities were analysed.

Results – A total of 723 patients presented in the ophthalmology department of which 82.43% were in the OPD and 17.57% in the emergency. 60.03% were male and 39.97% were female. In the OPD, 21.81% patients had refractory errors, 12.08% presented with corneal disorders of which viral keratitis was the most common disorder. 10.57% presented with retinal disorders, 8.05% of patients had cataract and 4.69% had glaucoma. During this period 21 emergency surgeries were conducted.

Conclusion – As a result of the nationwide lockdown in response to Covid-19 pandemic, there was considerable reduction in patients indicating lesser accessibility of health services to the needy patients. This needs to be addressed by planning delivery of health services in an effective and better way.

KEYWORDS

Covid-19, Lockdown, Eye care.

INTRODUCTION

In early 2020, WHO declared outbreak of corona virus disease (Covid-19) as a global pandemic which lead to many countries across the globe enforcing lockdown of varying degrees. In order to restrict the spread of the disease Government of India imposed the country wide lockdown from 25th march 2020 till 14th April for a period of 21 days [1,2]. The lockdown was placed when the number of confirmed Covid-19 positive cases in India was around 500 [3]. Subsequently the lockdown was implemented for another 19 days in phase II, 14 days in phase III and finally another 14 days in phase IV till 31st May [4, 5, 6]. During this period all transport services – road, air and rail were suspended and only essential services were allowed to function. Covid-19 manifested primarily as flu like illness with sore throat, cough, fever, dyspnoea and diarrhoea occasionally with a very high infectivity rate. It has high mortality in elderly and immuno-compromised patients. The danger is amplified due to lack of the vaccine and effective therapeutic agents against this novel virus. The policy of social distancing posed new challenges in accessing and delivering the needed eye care across the country.

The entire regular outpatient clinics and hospitals except the emergency services were closed across the country as a result of the lockdown. Only outpatient department of government hospitals were functioning though they were difficult to access due to lack of transport.

The AIOS issued several guidelines for ophthalmological practice keeping safety of healthcare workers (HCW) in mind [7]. Initially AIOS advocated for postponement of all routine outpatient consultations, elective surgeries and procedures for a period of 4 weeks. AIOS also advised to triage patients and decide their emergency or urgent nature while delivering eye services so as to minimize exposure chances for both patients and HCWs. This study was conducted to know the demographic details of patients presenting to the tertiary eye care centre along with effect of lockdown on it.

MATERIAL AND METHODS

This cross-sectional observational study was conducted in a tertiary care hospital in eastern India which included all patients presenting at Ophthalmological OPD from 25th March to 31st May, 2020. The study was performed after approval from Institutional Ethics Committee.

A total of 723 patients presented during the study period (25th March to 31st May, 2020). Data of these patients were retrieved from the electronic medical record of the hospital. All the guidelines advised by AIOS were strictly followed. The guidelines included triage, use of personal protective gear, precautions to be taken in the OPD and Operating theatre etc. These guidelines have been prepared based on the current situations but are expected to evolve continuously. Data on patient demography and clinical profile, ocular diagnosis and treatment was used for analysis. Patients were graded as emergency and non-emergency based on the published AIOS guideline for India during Covid-19 pandemic. Demographic details of patients presenting during lockdown period and pre-lockdown period (25th March to 31st May, 2019) were compared.

Statistical analysis- Data was entered in to a Microsoft Excel sheet and statistical analysis was performed.

RESULT

A total of 723 patients presented to the ophthalmology department during the study period of which 596 presented in the OPD and 127 in the emergency. 398 new and 198 old patients visited the OPD. During corresponding period last year a total of 9476 presented in the OPD of which 5976 were new, 3500 were old patients and 1393 came in the emergency.

There were 434 male (60.03%) and 289(39.97%) female patients. The male: female ratio was 1.5:1 as compared to 1.27:1 in the pre-lockdown period.

426(58.92%) patients came from urban area whereas 297 (41.08%) came from distant rural areas. In the pre-lockdown period 5117(47.08%) were urban and 5752(52.92%) were rural population.

Surgery- As per AIOS guidelines all elective surgeries were postponed so routine cases were not done in the lockdown period in our hospital. A total of 21 surgeries were undertaken for emergency reasons with only 4 cataract surgeries whereas in pre-lockdown period 327 cataract surgeries alone were performed. Among 21 surgical interventions, there were 2 corneal repairs, 4 antiVEGF injections and 3 intravitreal injections for endophthalmitis, 1 ERM peeling, 1 evisceration, 3 lid repairs, 4 cataract extraction, and 3 subconjunctival injections. Among the emergency interventions, 5 Panretinal Photocoagulation, 2 laser peripheral iridotomy and 1 YAG capsulotomy was done during this period.

OPD – out of 596 patients presenting to the OPD most common

presenting complaint was dimness of vision due to refractive errors (21.81%). Comprehensive ophthalmology contributed to most number of cases i.e.42.79% and included post operative visits (14.26%) and conjunctivitis (10.23%) as major contributing causes. Other causes of OPD visits were associated with disorders of cornea (12.08%), retina (10.57%), cataract (8.05%) and glaucoma (4.7%).

Emergency - A total of 127 patients presented to the ophthalmological emergency during this period. The main presenting complaints were red eye n=68(53.54%) and ocular trauma n=41(32.28%), oculoplasty related visits n=10(7.87%), glaucoma n=5(3.94%), sudden dimness of vision n=3(2.36%). There was decrease of patients at the emergency by 90.88% in comparison to prelockdown period.

Table - 1

	Distribution of Ocular disorders in outpatient department during		
	Lockdown period in routine category, n=596		
	Ocular disorders	**n**	**%**
1	**Cataract**	**48**	8.05%
2	**Cornea**	**72**	12.08%
	Viral Keratitis	17	2.85%
	FB cornea	15	2.52%
	Corneal opacity	15	2.52%
	Microbial corneal ulcer	9	1.51%
	Pseudophakic bullous keratopathy	4	0.67%
	Severe dry eye	5	0.84%
	F/U/C of TKP	7	1.17%
3	**Refractive error**	**130**	**21.81%**
4	**Glaucoma**	**28**	**4.70%**
	POAG	7	1.17%
	PACG	17	2.85%
	GOA	4	0.67%
5	**Medical Retina**	**63**	**10.57%**
	Diabetic Retinopathy	22	3.69%
	Hypertensive Retinopathy	9	1.51%
	CME	9	1.51%
	Central Serous Retinopathy	5	0.84%
	BRVO	5	0.84%
	ROP	6	1.01%
	Macular hole	2	0.34%
	Stargardt disease	1	0.17%
	ARMD	4	0.67%
6	**Comprehensive Ophthalmology**	**255**	**42.79%**
	Conjunctivitis	61	10.23%
	Post operative visit	85	14.26%
	Episcleritis	23	3.86%
	Stye	9	1.51%
	Sub conjunctival Haemorrhage	17	2.85%
	Floaters	9	1.51%
	Headache	37	6.21%
	Epiphora	14	2.35%

Abbreviation:- TKP – Therapeutic Keratoplasty, POAG- Primary Open Angle Glaucoma, PACG – Primary Angle Closure Glaucoma, GOA – Glaucomatous Optic Atrophy, CME – Cystoid Macular Oedema, BRVO – Branch Retinal Vein Occlusion, ROP – Retinopathy o f Prematurity, ARMD – Age related Macular Degeneration.

Table - 2

Distribution of ocular disorders in Emergency Department, n=127		
Ocular disorders	**n**	**%**
Red eye	**68**	**53.54**
Acute uveitis	6	4.72
Sub-conjunctival haemorrhage	13	10.24
Viral keratitis	10	7.87
Foreign body in eye	15	11.81
Conjunctivitis	24	18.9
Ocular trauma	**41**	**32.28**
Blunt trauma	15	11.81
Chemical injury	10	7.87
Lid laceration by dog bite	5	3.94
Corneal rupture	8	6.3
Blast injury	1	0.79
Orbital floor fracture	2	1.57
Glaucoma	**5**	**3.94**
ACG	3	2.36
LIG	2	1.57
Sudden DOV	**3**	**2.36**
Optic neuritis	1	0.79
Ptosis with mydriatic pupil	1	0.79
DOV due to CSCR	1	0.79
Oculoplastics	**10**	**7.87**
Pre-septal cellulitis	5	3.94
Swelling on eyelid	4	3.15
Orbital SOL	1	0.79

Abbreviation – ACG – Angle Closure Glaucoma, LIG – Lens Induced Glaucoma, DOV – Dimness of Vision, CSCR – Central Serous Chorioretinopathy, SOL – Space Occupying Lesion.

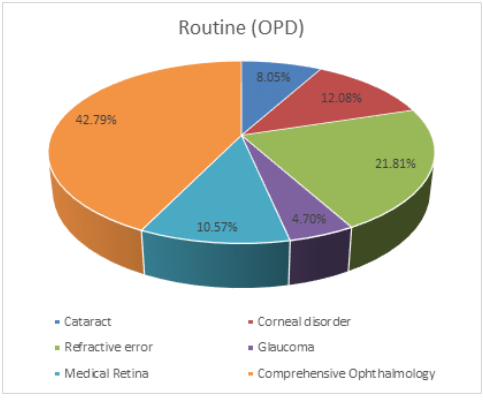

Figure – 1A: Clinical distribution of patients presenting in the OPD during lockdown period.

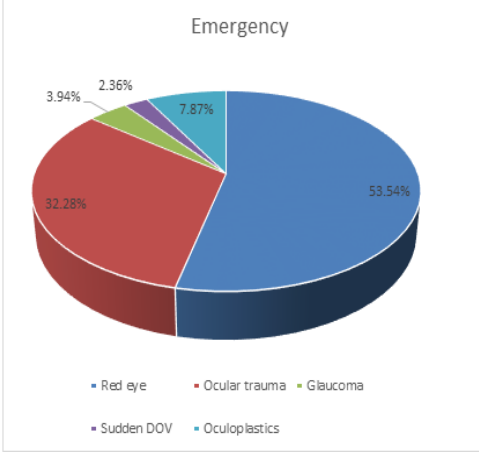

Figure 1B: Clinical distribution of patients presenting in the emergency during lockdown period.

Table - 3

Comparison of patient profile between Pre Lockdown* and Lockdown* Period				
	Pre lockdown		Lockdown	
Parameter	n	%	n	%
OPD	9476	87.18	596	82.43
New	5976	63.06	398	66.78
Old	3500	36.94	198	33.22
Emergency	1393	12.82	127	17.57
Male	6087	56.00	434	60.03
Female	4782	44.00	289	39.97
Urban	5117	47.08	426	58.92
Rural	5752	52.92	297	41.08
Total Patients	10869		723	
Pre lockdown*-25th April 2019-31st May 2019				
Lockdown*-25th April 2020 -31st May 2020				

DISCUSSION

This study has effectively described the impact of lockdown on the different types of patients seeking ophthalmological care. Due to enforcement of strict lockdown measures to curb the spread of Covid-19 pandemic whole nation came to a standstill. As a result, footfall of patients drastically reduced in our hospital. There was 93.71% decrease in OPD and 90.88% decrease in emergency patients. The patients were predominantly male and adults from the surrounding urban areas indicating lesser accessibility of health services to females, children and rural population. Pellegrini et al also reported similar observations i.e. higher incidence of male and adult patients [8]. There was drastic reduction in total number of surgeries (n=21) in this period with 98.77% reduction in cataract surgeries. Penetrating keratoplasty could not be done due to unavailability of donor corneal tissue leading to visual loss in some patients.

Due to higher rate of missed visits to the hospital because of lockdown and fear of infection, a large number of patients were deprived of the much needed early intervention and management leading to progression of disease, morbid complications and visual loss [9]. We need to triage patients into low risk and high risk groups so as to provide early and prompt medical attention to the needy ones. This pandemic has necessitated the need for attention to the underserved and marginalised populations holistically, to prevent long lasting adverse health outcomes.

CONCLUSION

Covid-19 infection has emerged as a deadly infectious disease causing the greatest pandemic in the planet and is anticipated to stay for a pretty long period. It has imparted a huge impact on ophthalmological practices and patient care. A large bulk of patients was deprived of the needed eye care due to strict lockdown. Therefore a thorough understanding of the demographic and clinical profile of patients will help us to plan and prepare for future by efficiently utilising our resources and delivering quick and safe eye care to the needed individuals.

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