International Journal of Medical Ophthalmology

E-ISSN: 2663-8274
P-ISSN: 2663-8266
www.ophthalmoljournal.com
IJMO 2023; 5(1): 25-29
Received: 22-11-2022
Accepted: 28-12-2022

Dr. Govind Gurung
Pediatric Ophthalmologist, Kedia Eye Hospital, Birgunj, Nepal

Dr. Krishna Kant Gupta
Glaucoma Surgeon, Kedia Eye Hospital, Birgunj, Nepal

Dr. Gaurav Dhungana
Oculoplastic Surgeon, Kedia Eye Hospital, Birgunj, Nepal

Dr. Nitin Tulsyan
Vitrreoretinal Surgeon, Kedia Eye Hospital, Birgunj, Nepal

Corresponding Author:
Dr. Govind Gurung
Pediatric Ophthalmologist, Kedia Eye Hospital, Birgunj, Nepal

Impact of COVID 19 pandemic lockdown in pediatric ophthalmology service in Kedia eye hospital, Nepal

Dr. Govind Gurung, Dr. Krishna Kant Gupta, Dr. Gaurav Dhungana and Dr. Nitin Tulsyan

DOI: https://doi.org/10.33545/26638266.2023.v5.i1a.136

Abstract
Purpose: The Objective of the study is to know and record the effect of lockdown in the outpatient and emergency services of pediatric ophthalmology department of Kedia Eye Hospital.
Method: Comparison of the children attending the Pediatric Eye Department of Kedia Eye Hospital during and before lockdown. Data of February 16 2021 to April 15 2021 was compared with April 16 2021 to June 15 2021. Collection of data was done from the Kedia Eye Hospital Outpatients and Emergency Eye Register.
Results: Children below 15 years of age were enrolled in this study. Number of patients recorded from February 16 to April 15 2021 were 2030 and from April 16 to June 15 2021 were 318. Male patients attending hospital before lockdown was 51.62% and 55.47% during lockdown. Before lockdown female patient in the hospital was 55.47% and during lockdown was 44.02%. Total surgeries performed before lockdown was 94 and during lockdown was 11. Before lockdown Refractive error (43.15%) was the most common problem followed by Dry eye (16.55), vernal keratoconjunctivitis (15.41%). During lockdown Refractive Error (32.38%) was common followed by viral conjunctivitis (17.92%), Nasolacrimal duct obstruction (13.83%) and Trauma (11.63%).
Conclusion: COVID -19 Lockdown reduced the number of patients and surgeries in the hospital. Trauma related eye disease, ocular infections and nasolacrimal duct obstruction increased in children during the lockdown.

Keywords: COVID-19, eye disease, ocular infections, dry eye

Introduction

Ram Kumar Mahabir Prasad Kedia Eye Hospital was established by Kedia Sewa Trust in 1975 to provide best available eye care services to the blind people of Nepal. This hospital is a non-profit making, non-governmental, welfare oriented social organization affiliated to Nepal Netra Jyoti Sangh (NNJS) and Social welfare Council (SWC) of Nepal. The institute has been developed from 5 bedded eye hospital to 175 bedded institution providing secondary level eye care services to the people of Nepal. At present it stands third among the eye hospitals of Nepal, It is situated in Birgunj, Eastern Region of Nepal. Birgunj is a metropolitan city in Parsa and is attached in north to Raxaul in the border of Indian state of Bihar.

Pneumonia with unknown origin first diagnosed in Wuhan on December 31, 2019. Spread progressively to other countries with WHO declaring it a public health emergency of International concern. On January 13, 2020, a Nepalese student who returned to Nepal from Wuhan, China was the first 2019 novel corona virus case in Nepal. Since then 616000 are already infected with 8597 deaths [1].

The Second wave of COVID – 19 had hardly any effect until March but rapid growth was noticed with the start of April which led to nationwide pandemic lockdown. The effect of lockdown was observed in almost all the hospital of Nepal.

Kedia Eye hospital pediatric ophthalmology services, under the proper protective equipment's and health protocols were continued even during the pandemic for the ocular care and ocular safety of children.

With continued lockdown and the fear of the third wave of COVID 19, our department decided for this retrospective study to analyze the number and changing pattern of ocular disease in the hospital. So the main Objective of the study is to know and record the effect of lockdown in the outpatient, surgery and emergency services of pediatric ophthalmology department of Kedia Eye Hospital.

Method

Data from all the register maintained in the pediatric ophthalmology outpatient department, pediatric ophthalmology emergency and pediatric ophthalmology operation theatre in Kedia Eye hospital were collected and reviewed retrospectively. The data from before lockdown February 16 to April 15 and that of April 16 to June 15 2021 during lockdown were recorded. The primary objective of the study to record the volume of the daily outpatient patient visit and surgeries done in the hospital and to know the impact of lockdown the data were analyzed using SPSS software. Ethical clearance approval was done by Nepal Netra Jyoti Sangh Ethical approval committee.

Table 1: No of patients arrived before lockdown and during lockdown

Time period	Number Of Patients
February 16 2021 to 15 April 2021	2030(86.46)
April 16 2021 to June 15 2021	318(13.54)

Results

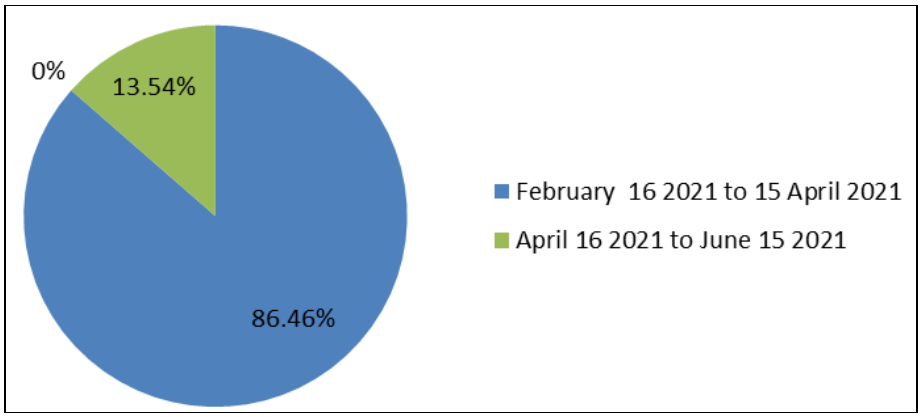

Fig 1: Number of patients before and during lockdown

The results showed that there was highly decrease in number of patients arrived in hospital during the lockdown. The results showed that only 13.54% patients arrived in hospital during lockdown as compared with before lockdown period.

Table 2: Gender Distribution of Patients in 2 period

Gender	February 16 2021 to 15 April 2021	April 16 2021 to June 15 2021
Male	1048 (51.62%)	178 (55.97%)
Female	982 (48.38%)	140 (44.03%)

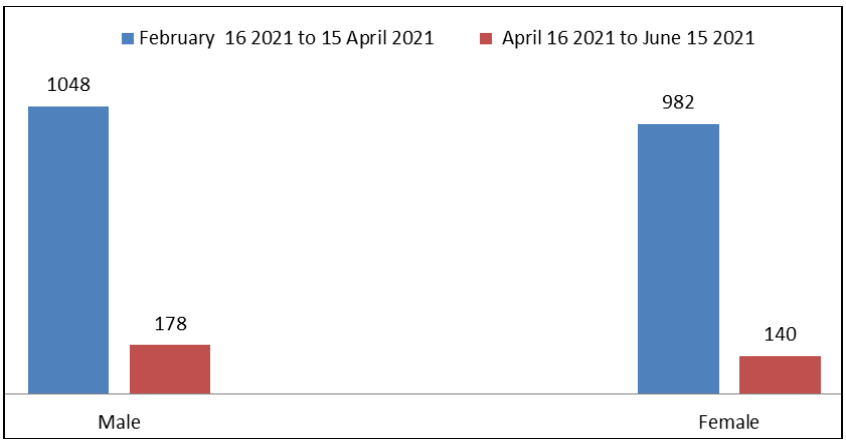

Fig 2: Male and Female patients before and during lockdown

The table no.2 showed that in majority, male patients had arrived during and after lockdown.

Table 3: Number of surgeries during and after lockdown

Time Period	Number of Surgeries
February 16 to April 15 ‘ 2021	94(89.52)
April 16 to June 15 ‘ 2021	11(10.48)

The results showed that almost 90% surgery was done before lockdown and only 10% surgery was done in during lockdown.

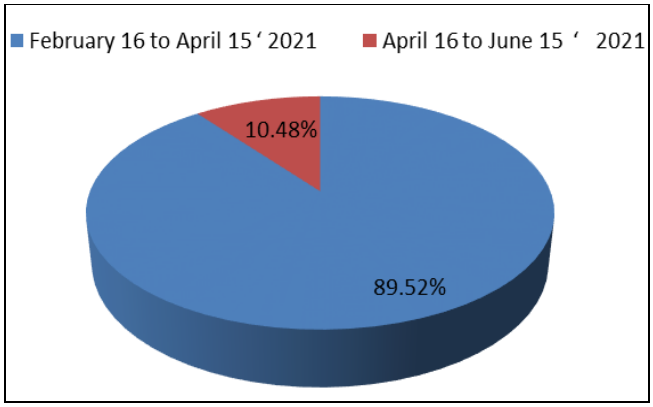

Fig 3: Number of surgeries

Table 4: Disease found during and after lockdown

Disease	February 16 to April 15 ' 2021	April 16 to June 15 ' 2021
Trauma	11(0.54)	37(11.63)
Refractive Error	876(43.15)	103(32.38)
Dry Eye	336(16.55)	27(8.49)
Vernal Keratoconjunctivitis	313(15.41)	23(7.23)
Viral Conjunctivitis	76(3.74)	57(17.92)
Nasolacrimal Duct Obstruction	215(10.59)	44(13.83)
Posterior Segment Disease	121(5.96)	11(3.46)
Strabismus	13(0.64)	2(0.62)
Cataract	32(1.6)	3(0.94)
Corneal Ulcer	37(1.82)	11(3.5)

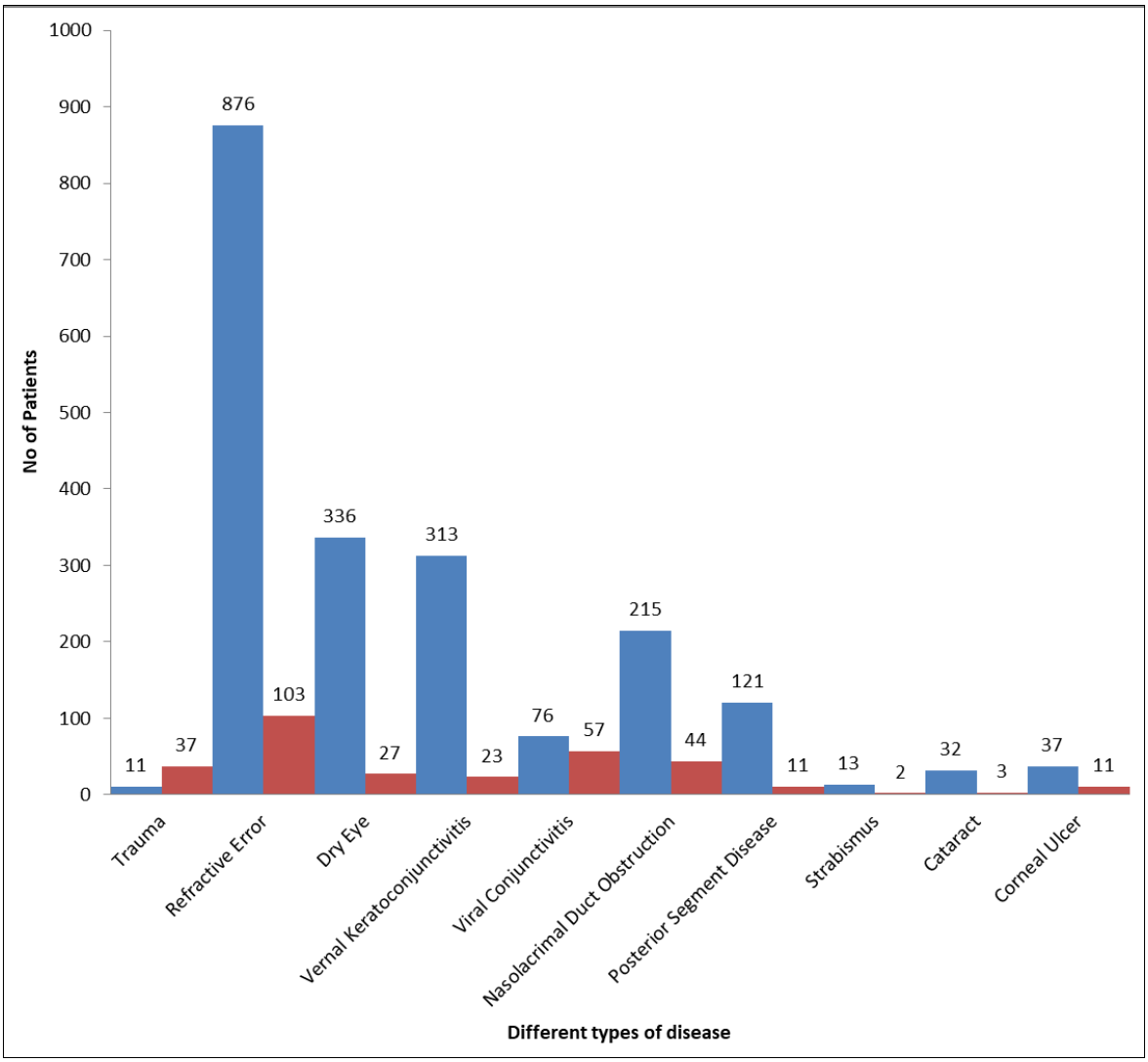

Fig 4: Different types of diseases during and after lockdown

The table no.4 results showed that the most common disease found during the period from February 16 to April 15 was refractive error (43.15), dry eye (16.55), vernal kerato conjunctivitis (15.41) & Nasolacrimal Duct obstruction (10.59).

Similarly, the most common disease found during the period of April 16 to June 15 was refractive error (32.38), viral conjunctivitis (17.92), Nasolacrimal Duct obstruction (13.83) &trauma (11.63). Number of cases of ocular trauma increased during the lockdown period.

Table 5: Association between different variables with during and after lockdown time period

Variables		February 16 to April 15 ' 2021	April 16 to June 15 ' 2021	P Value
Diseases	Trauma	11(22.92)	37(77.08)	<0.001
	Refractive Error	876(89.48)	103(10.52)	
	Dry Eye	336(92.56)	27(7.44)	
	Vernal Kerato conjunctivitis	313(93.15)	23(6.85)	
	Viral Conjunctivitis	76(57.14)	57(42.86)	
	Nasolacrimal Duct Obstruction	215(83.01)	44(16.99)	
	Posterior Segment Disease	121(91.66)	11(8.34)	
	Strabismus	13(86.66)	02(13.34)	
	Cataract	32(91.43)	03(8.57)	
	Corneal Ulcer	37(77.08)	11(22.92)	
Gender	Male	1048(85.48)	178(14.52)	0.178
	Female	982(87.52)	140(12.48)	
No of patients		2030(86.46)	318(13.54)	<0.001
No of surgery		94(89.52)	11(10.48)	0.015

There was statistically significant association between Disease and time period before and during lockdown (p<0.001). The results showed that there was significant difference in proportion of patients suffering from refractive error, dry eye, posterior segment diseases, cataract from time period February 16 to April 15 and April 16 to June 15. Higher proportion of these diseases was found mostly in time period from February 16 to April 15.

Likewise, there was statistically significant association between number of patients arrived before and during lockdown (p<0.001). The results showed that about 86% patients had arrived during the time period February 16 to April 15.

Similarly, there was statistically significant association between number of surgeries done before and during the lockdown (p=0.015). The results showed that nearly 90% patients had done surgery during the time period February 16 to April 15.

Discussion

A novel corona virus COVID -19 causing severe acute respiratory syndrome was first identified in a seafood market in Wuhan City, Hubei Province in China, at the end of 2019. On 13 January, a 31-year-old Nepali student of Wuhan University, who had returned home on 5 January, was the first with COVID-19 infection [1]. Until the preparation of this article total COVID -19 cases were 610524 with 8465 deaths in Nepal.

COVID-19 pandemic has led to decrease ophthalmology services worldwide. The second wave of COVID -19 Pandemic lockdown started mid-April in Nepal. The second wave was spreading quickly all over Nepal than the first wave 2020. Huge impact was noticed in the pediatric ophthalmology department due to lockdown and with the fear of third wave. This study of four months period reported that there was decline in the children attending the hospital by 84%. Similar reduction was seen in the study by Kausher *et al.* [2, 4].

In urban areas of Birgunj, with the start of lockdown all the school, playground, parks were closed and gathering of children were stopped. The children were more attracted towards indoor sedentary activities. This might be the reason for decrease in the incidence of Refractive Error, Dry eye, Vernal Keratoconjunctivitis, Posterior Segment disease, Strabismus and Cataract [3].

The major part of Birgunj is rural and remote areas with families fully dependent on Agriculture. Majority of children in this area do not attend school. They help their parents in agriculture, pickup sticks for firewood which is used for cooking purposes. They use stones, stick, leaves, and tree branches for playing. Their activities were not restricted by lockdown. This might explain the cause of Increase in COVID -19 infection in the villages and the increase of trauma in the eye and diseases like Viral Conjunctivitis, Nasolacrimal duct Obstruction, Corneal ulcer [5].

The Hospital had very few surgeries after lockdown. Only 11 surgery were done which was for trauma, open globe injury in the eye. There was no elective surgery performed.

Conclusion

COVID -19 Lockdown reduced the number of patients and surgeries in the hospital. Trauma related eye disease, ocular infections and nasolacrimal duct obstruction increased in children during the lockdown.

References

1. Bastola A, Sah R, Morales AJR, Lal BK, Jha R, Ojha HC, *et al*. The first 2019 novel coronavirus case in Nepal. The Lancet. 2020;20(3):279-280.
2. Kauser H, Khan T. Changing trend in the pattern of ocular diseases in patients attending ophthalmology department of a teaching institute in North India during COVID-19 pandemic. J Family Med Prim Care. 2021;10:1197-203.
3. Agrawal Deepanshu, Sahu Anupam, Agrawal Deepshikha. Prevalence of ocular morbidities among school children in Raipur district, India, Indian Journal of Ophthalmology. 2020;68(2):340-344. DOI:10.4103/ijo.IJO_1454_19
4. Wood M, Gray J, Raj A, Gonzalez-Martin J, Yeo DCM. The Impact of the First Peak of the COVID-19 Pandemic on a Pediatric Ophthalmology Service in the United Kingdom: Experience from Alder Hey Children's Hospital. British and Irish Orthotic Journal. 2021;17(1):56-61. DOI: http://doi.org/10.22599/bioj.164
5. Madan AH, Joshi RS, Wadekar PD. Ocular Trauma in

Pediatric Age Group at a Tertiary Eye Care Center in Central Maharashtra, India. Clinical Ophthalmology. 2020;14:1003-1009. Published 2020 Apr 1. DOI:10.2147/OPTH.S244679.

How to Cite This Article
Govind G, Gupta KK, Dhungana G, Tulsyan N. Impact of COVID 19 pandemic lockdown in pediatric ophthalmology service in Kedia eye hospital, Nepal. International Journal of Medical Ophthalmology. 2023;5(1):25-29.