



Journal Homepage: -www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI:10.21474/IJAR01/14861
DOI URL: <http://dx.doi.org/10.21474/IJAR01/14861>



RESEARCH ARTICLE

A STUDY ON THE EFFECT OF COVID-19 ON EYE CARE AND ACADEMICS IN A TERTIARY CARE TEACHING HOSPITAL

Dr. K.S Rajiv Krishna M.S

Assistant Professor of Ophthalmology, Andhra Medical College/ Government Regional Eye Hospital, Visakhapatnam, Andhra Pradesh.

Manuscript Info

Manuscript History

Received: 05 April 2022
Final Accepted: 08 May 2022
Published: June 2022

Key words:-

Covid-19, Pandemic, Eye Care, Medical Education

Abstract

Objective: Covid-19 has severely affected both clinical and medical education work in all teaching hospitals including eye care hospitals. The objective is to study the effect of covid-19 in a regional eye hospital.

Material and Methods: This study is a descriptive cross-sectional study. Data from April 2016 to March 2021 -regarding census, effect of pandemic on patients from different backgrounds, patient care services like OP, IP, Refraction and Surgeries were collected from the hospital records before and during Pandemic period and is tabulated and analysed.

Results: In this study Data from April 2016-March 2021 at our centre is analysed. OPD census reduced to almost 1/3rd in the pandemic year 2020-21. In patient census reduced to one-seventh when compared to admissions in non-Pandemic years. Similarly, refractions were reduced to half to one-third in comparison with previous years data, refraction being one of the most common OPD procedure. On the surgical side, Cataract surgeries and minor surgeries performed were also reduced significantly to one-seventh & one-sixth respectively when compared with previous years performances. On the medical education front both Undergraduate and postgraduate teaching could not take place for about (50%) half of the academic year 2020-21 on any platform.

Conclusions: Unforeseen Pandemic Covid-19 has severely affected eye care services, including basic services at our tertiary eye care centre. Pandemics like covid-19 emphasize on improving eye care at all levels and also the need of developing infrastructure for Teleophthalmology to cater the need of patients.

Copy Right, IJAR, 2022, All rights reserved.

Introduction:-

Covid-19 (Corona virus disease 2019) is caused by Virus (SARS-CoV-2)¹. This disease first started in Wuhan, China² and later spread globally causing a Pandemic. India is one of the countries which got effected severely in the Pandemic. In order to curtail the pandemic various measures like national lock-downs, travel restrictions and quarantines were imposed throughout India³. All these measures severely affected the Eyecare³ and academics⁴ even in a teaching hospital like ours. All the health care systems were focussed on managing covid-19 and related complications in mass scale⁵. Our hospital was also converted to Covid-19 treatment centre to cater the needs of our city population which accounts to roughly two million. These circumstances lead to difficulty for patients in getting

Corresponding Author:- Dr. K.S Rajiv Krishna, M.S,

Address:- Assistant Professor of Ophthalmology, Andhra Medical College/ Government Regional Eye Hospital, Visakhapatnam, Andhra Pradesh.

treated for routine, acute and chronic eye diseases⁶ and also lead to severe disruption in Under graduate as well as Post graduate medical education. Lack of cross training for specialists, knowledge gap in managing covid-19 patients lead to difficulty in management of pandemic.

This study is aimed to analyse the effect of covid-19 at our centre in clinical as well as academic perspective.

Material & Methods:-

This study is a descriptive cross-sectional study, the objective being assessment of impact of covid-19 on clinical and medical education activities at our centre. Data from the hospital medical records department from the April 2016-March 2021 is taken and tabulated. Data is analysed using Microsoft excel-2019 software.

Results:-

On an average 1 to 1.2 lakh people come to our OPD for various eye ailments per annum. In the pandemic year Outpatient census fell to almost one-third, actual number being 32946 (Fig.1). Inpatient census which is on an average between 6 to 6.5 thousand fell below thousand, actual number being 846 (Fig.2). Patients coming for refraction also reduced from 40-50 thousand per year to below twenty thousand (Fig.3). Only 733 cataract surgeries (Fig.4) were performed in the pandemic year which is only 13% when compared to previous years performances. Very few minor surgeries just 99 (Fig.5) were performed during pandemic year. 60% of the OPD (Fig.6) were refraction cases, 20% were cataract cases. Eye infections and other eye subspeciality cases constituted 12% and 8% respectively. 90% of the cataract surgeries (Fig.7) were done for mature cataracts. Trauma constituted major share in minor surgeries, lid lacerations being 65% and open globe injuries 33% (Fig.8).

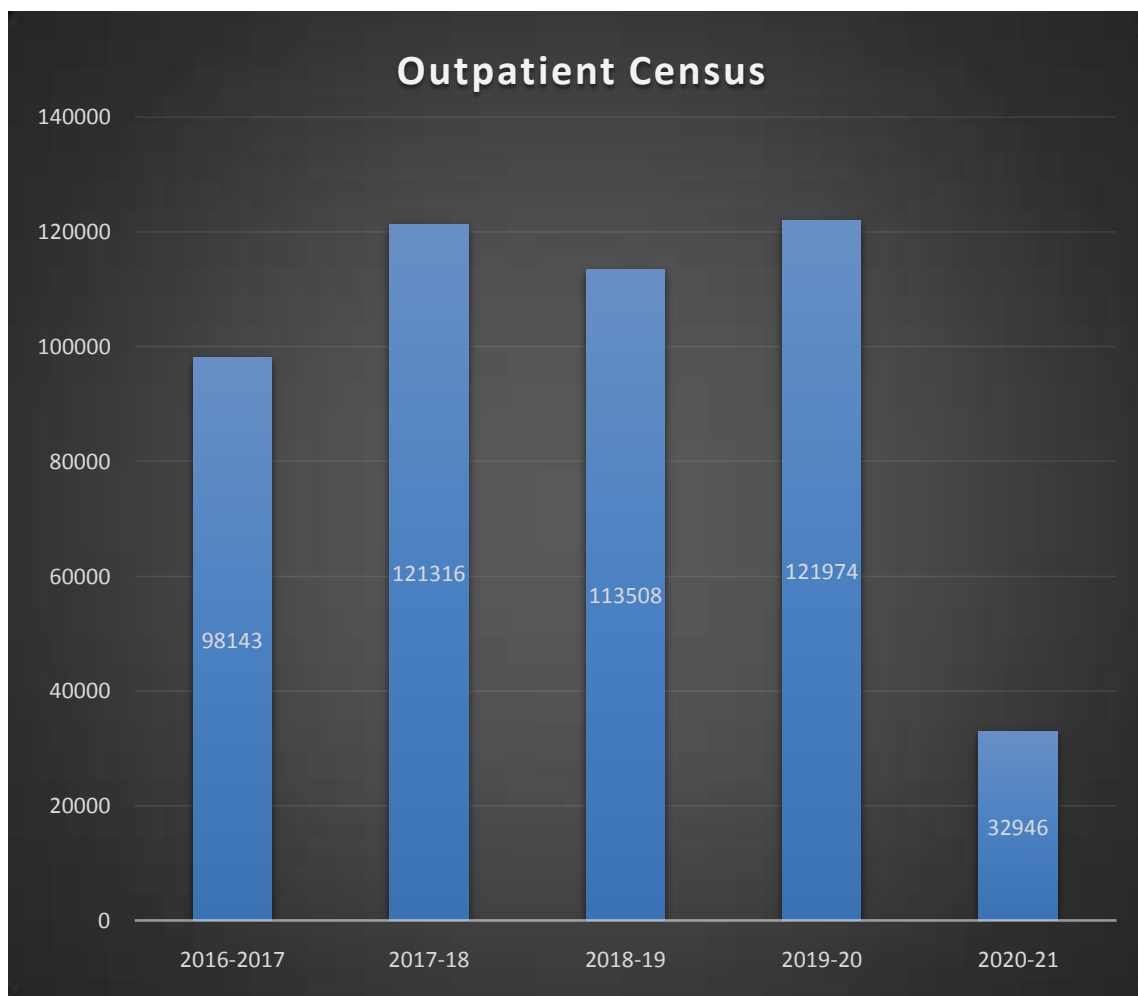


Fig. 1:- Outpatient census.

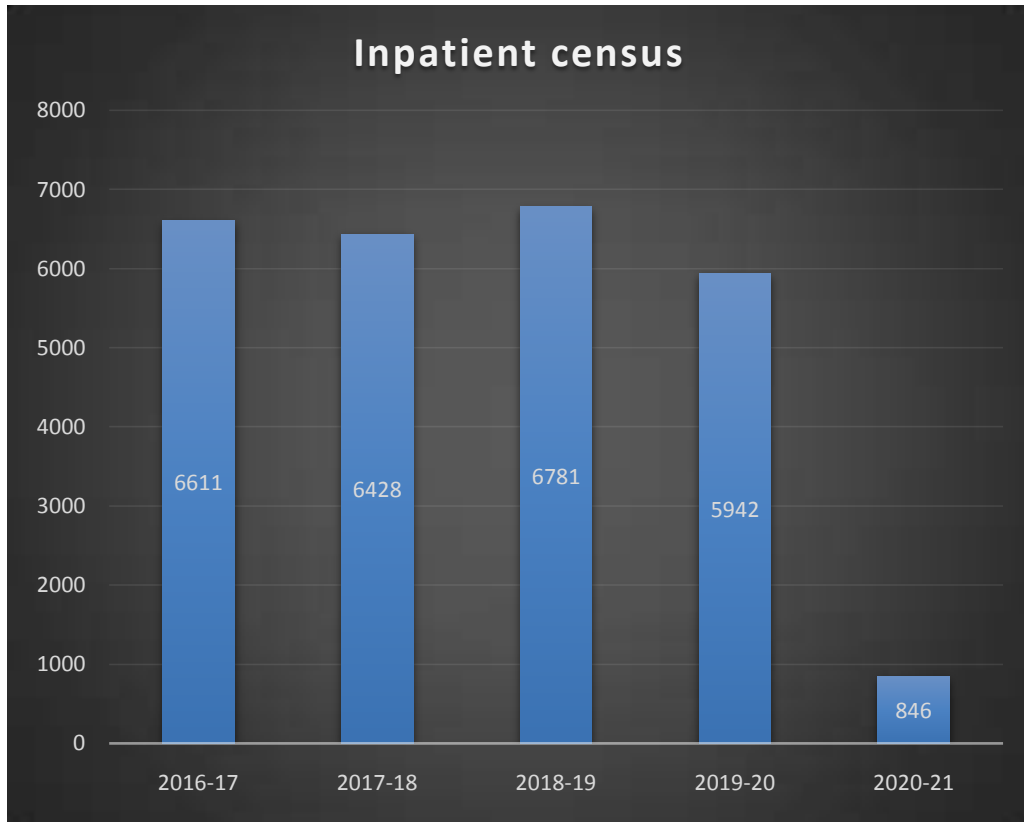


Fig.2:- Inpatient census.

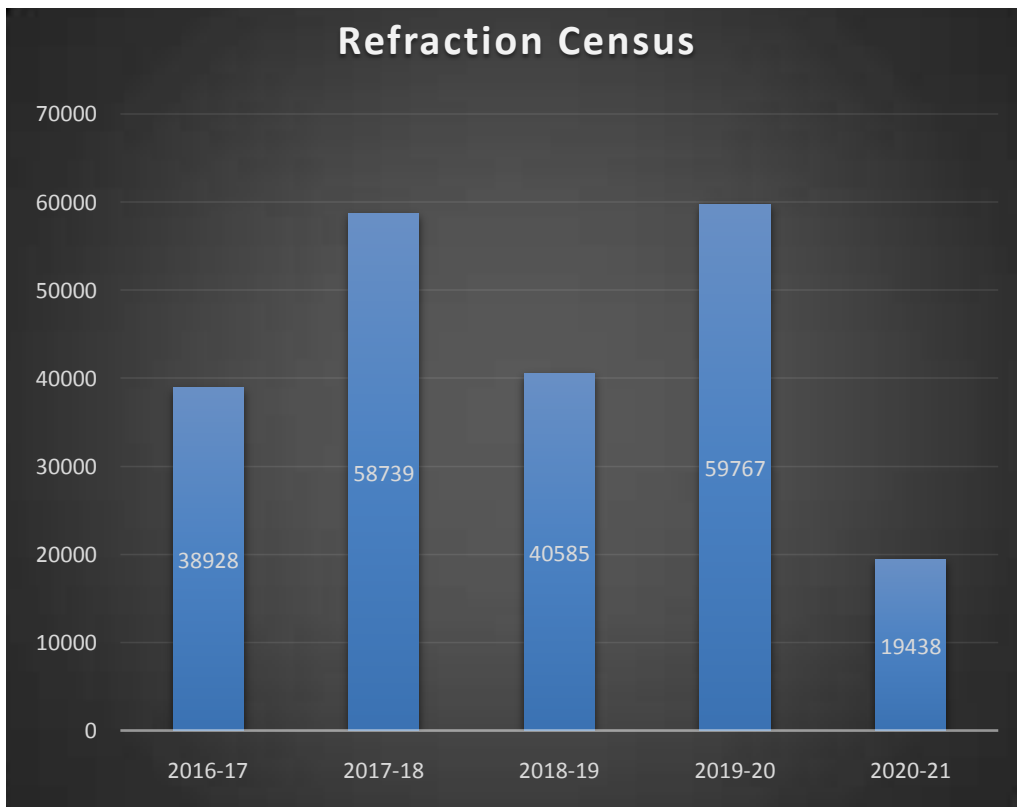


Fig.3:- Refraction census.

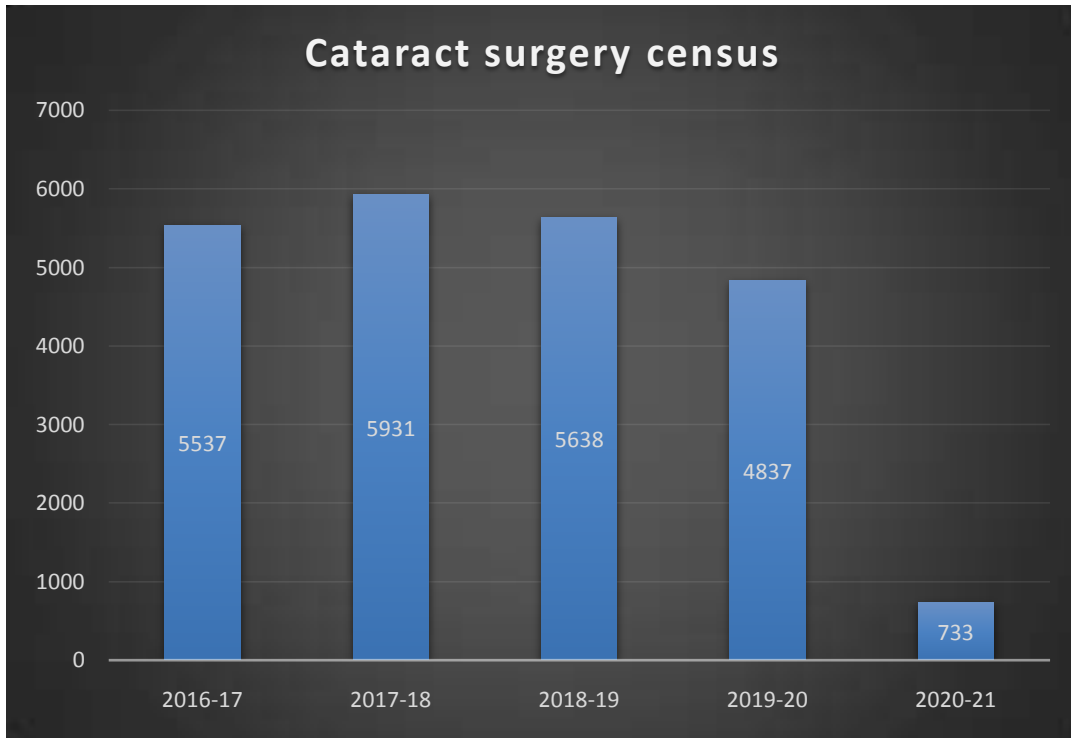


Fig.4:- Showing number of cataract surgeries done.

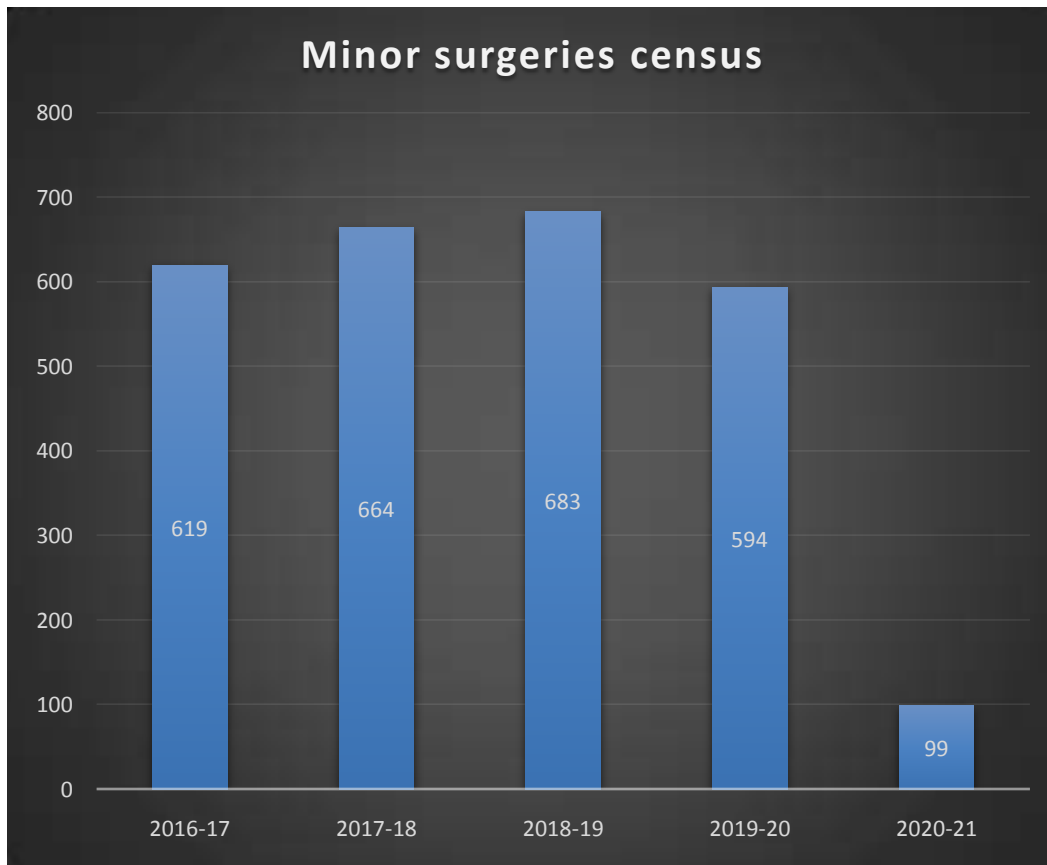


Fig.5:- Minor surgeries done.

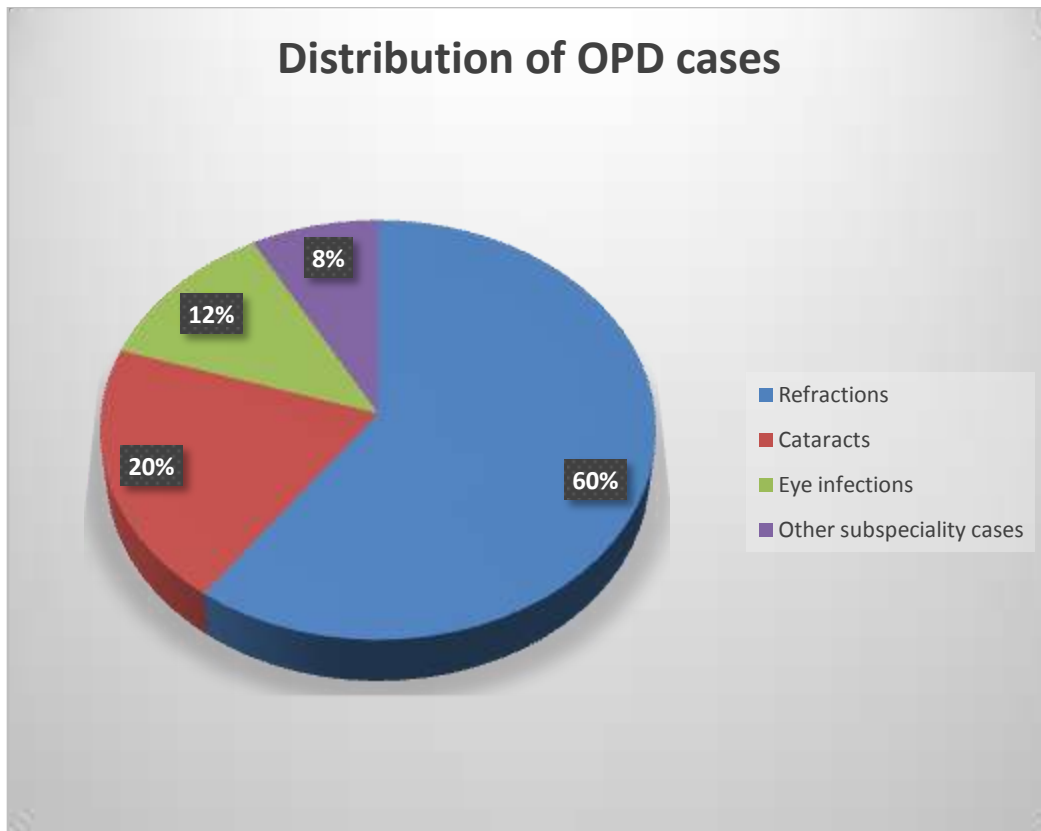


Fig.6:- Distribution of OPD cases.

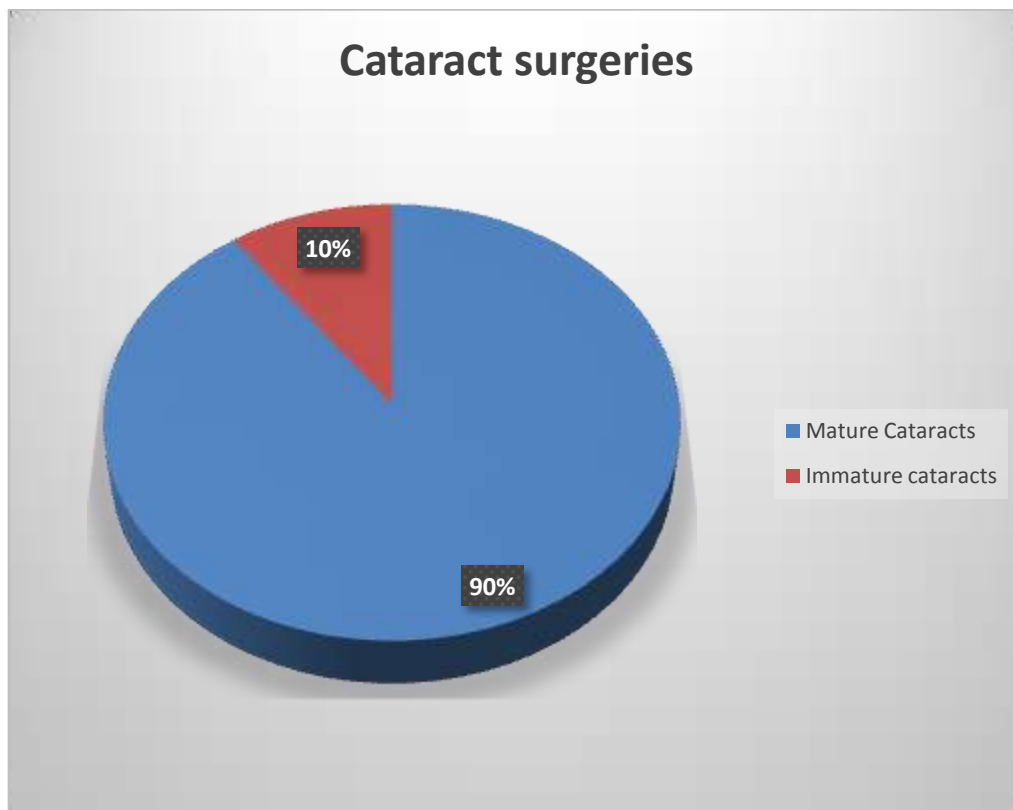


Fig.7:- Nature of cataracts operated.

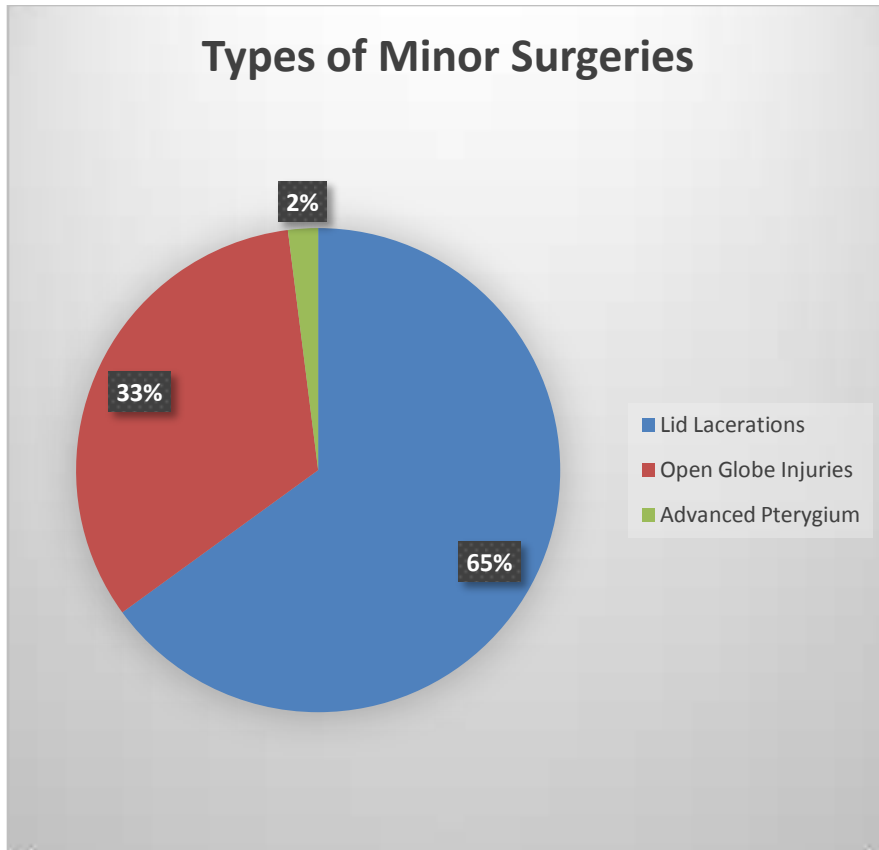


Fig.8:- Types of minor surgeries performed.

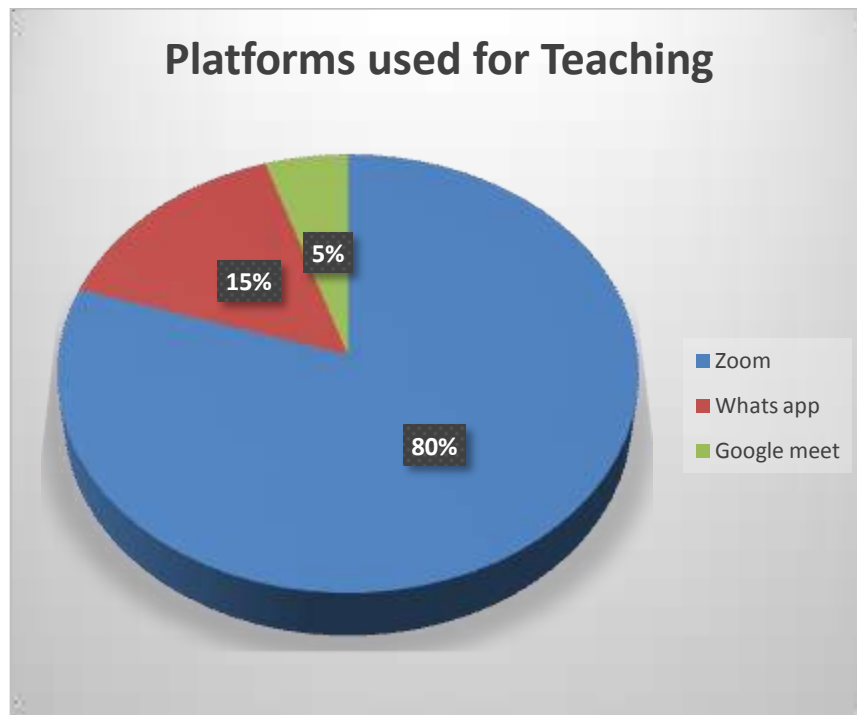


Fig.9:- Shows various platforms used for teaching programmes.

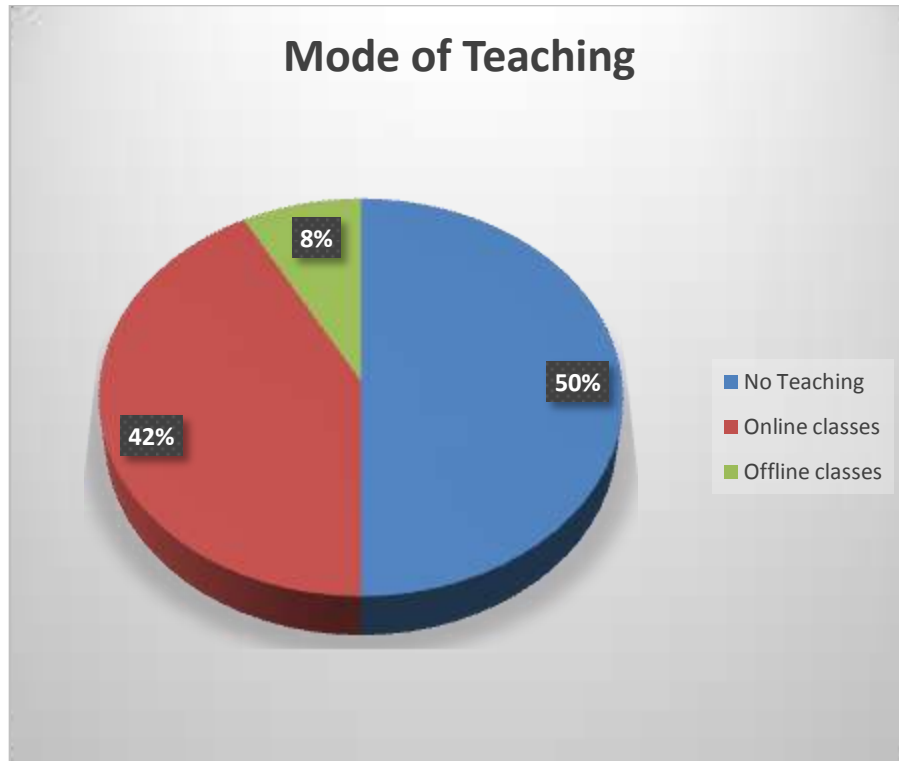


Fig10:- Shows various modes of teaching undergraduates and postgraduates.

Discussion:-

Covid-19 pandemic has thrown a great challenge to health care systems including eye care⁷. The pandemic showed various deficiencies and limitations in our primary, secondary as well as tertiary health care systems⁸. In normal times variations in public attending our centre were seasonal, like there was slight reduction during agriculture and harvesting seasons⁹. But Covid-19 severely affected clinical and medical education services at our centre resulting in drastic reduction in the number of people seeking eye care services. One of the main reasons for reduction in clinical services being lockdown, absence of transport¹⁰. Families had to attend sick covid affected kith and kin for catering their needs in quarantine and isolation¹¹.

Moreover, some of the consultants, staff nurses and medical students got affected with covid resulting in hampering of health services¹². To some extent social media¹³ like WhatsApp played a key role in diagnosing and treating certain eye conditions which require regular follow-ups like glaucoma and retinal disorders and provided a good and reliable alternative to Teleophthalmology¹⁴. Lack of [PPE] personal protective equipment¹⁵, N95 masks etc also hampered eye care delivery as ophthalmic examination is done at a very close distance E.g., Slit lamp examination etc. Providing covid-19 protective gears also incurred huge expenditure to the establishment¹⁶. General psychological well-being of both doctor and patient was affected severely throughout the pandemic.

Our centre was made covid-19 first level treatment centre providing oxygen for covid patients above 93% saturations. All our Inpatient section was dedicated to covid care in peak pandemic and it affected our regular Inpatient census. Our centre was also Covid-19 vaccine centre¹⁷ after vaccine roll out was done in large scale. Community outreach programmes organised by NPCB as well as various NGO organisations came to abrupt standstill. Fear, stigma¹⁸ and difficulty in adapting to new circumstances affected eye care services. Less priority diseases were managed conservatively. Attention was given to sight threatening conditions.

In the medical education front regular clinical discussions, seminars and theory classes could not take place for at least half of the academic year (Fig.10) and were conducted mainly through zoom (Fig.9) App¹⁹. Some students missed classes due to technical issues like lack of internet. Faculty also faced challenge in teaching entire syllabus online and conducting exams. Undergraduates completely lacked clinical exposure in outpatient section as well as in observing surgeries in operation theatres. Theory examinations were postponed and conducted offline only after

vaccinating students and practical were conducted without physical patient examination. All practical examinations were conducted with the help of PowerPoint depicting various clinical scenarios.

In this study Mucor mycosis cases were not included as they started to rise after second wave²⁰.

Conclusions:-

The calamity of covid -19 has wreaked havoc throughout the world. Lack of knowledge on corona virus disease process, treatment and prevention of spread resulted in huge casualties. It also hampered eyecare services severely. Medical education both at the level of under graduation and postgraduation was completely disorganised at our institute. Social media like WhatsApp and teleophthalmology have come to rescue in treatment of various eye disorders. This pandemic also emphasised on strengthening of health infrastructure at primary, secondary and tertiary levels.

Health education, prioritising high risk and low socio-economic status patients in treatment can result in marked reduction of mortality and morbidity especially in Pandemics. Changes in the patient management strategies like scheduling appointments, social distancing and wearing protective N95 masks by clinicians may become a permanent affair in future

In future Covid-19 pandemic must be taken as an example and health care professionals should be trained in preparedness to handle such calamities. Infrastructure and equipment should be geared up for meeting necessary demands. Simulation training facilities should be setup all over the country. Crisis management training should be inculcated in regular academic program.

References:-

1. Xia J, Tong J, Liu M, Shen Y, Guo D. Evaluation of coronavirus in tears and conjunctival secretions of patients with SARS-CoV-2 infection. *J Med Virol* 2020. doi: 10.1002/jmv. 25725
2. Wang C, Horby PW, Hayden FG, Gao GF. A novel coronavirus outbreak of global health concern. *Lancet* 2020; 395:470-3
3. Nair AG, Gandhi RA, Natarajan S. Effect of COVID-19 related lockdown on ophthalmic practice and patient care in India: results of a survey. *Indian J Ophthalmology*. 2020 May;68(5):725–30. doi: http://dx.doi.org/10.4103/ijo.IJO_797_20 PMID: 32317434
4. Kaup S, Jain R, Shivalli S, Pandey S, Kaup S. Sustaining academics during COVID-19 pandemic: The role of online teaching-learning. *Indian J Ophthalmology* 2020; 68:1220-1
5. Honavar, Santosh G Navigating the new normal in ophthalmology, *Indian Journal of Ophthalmology*: June 2020 - Volume 68 - Issue 6 - p 957-958 doi: 10.4103/ijo.IJO_1649_20
6. Babu N, Kohli P, Mishra C, Sen S, Arthur D, Chhablani D, et al. To evaluate the effect of COVID-19 pandemic and national lockdown on patient care at a tertiary-care ophthalmology institute. *Indian J Ophthalmology* 2020; 68:1540-4
7. Khanna RC, Garg P, Vaddavalli PK, Fernandes M, Rath S, Nayak S, Narayanan R, Pappuru RR, Kaliki S, Das AV, Sharma S, Jalali S. Response of L V Prasad Eye Institute to COVID-19 outbreak in India: experience at its tertiary eye care centre and adoption to its Eye Health Pyramid. *Int J Ophthalmology* 2021;14(1):1-9, doi:10.18240/ijo.2021.01.01
8. Analysis: ophthalmology lost more patient volume due to COVID-19 than any other specialty. *Eye wire+*. 2020 Nov 5. Available from: <https://eyewire.news/news/analysis-55-percent-fewer-americans-sought-hospital-care-in-march-april-due-to-covid-19> [cited 2020 Sep 6]
9. Das, Anthony Vipin; Kammari, Priyanka; Vadapalli, Ranganath; Basu, Sayan Big data and the eyeSmart electronic medical record system - An 8-year experience from a three-tier eye care network in India, *Indian Journal of Ophthalmology*: March 2020 - Volume 68 - Issue 3 - p 427-432 doi: 10.4103/ijo.IJO_710_19
10. Singh et al. *BMC Public Health* (2021) 21:685 <https://doi.org/10.1186/s12889-021-10708-w>
11. Galea S, Merchant RM, Lurie N. The mental health consequences of COVID-19 and physical distancing: The need for prevention and early intervention. *JAMA Intern Med* 2020; 180:817-8
12. Shreffler J, Petrey J, Huecker M. The Impact of COVID-19 on Healthcare Worker Wellness: A Scoping Review. *West J Emerg Med*. 2020;21(5):1059-1066. Published 2020 Aug 17. doi:10.5811/westjem.2020.7.48684

13. Bao H, Cao B, Xiong Y, Tang W Digital Media's Role in the COVID-19 Pandemic JMIR MhealthUhealth 2020;8(9): e20156doi: 10.2196/20156PMID: 32530817PMCID: 7532458doi:
14. Kalavar M, Hua HU, Sridhar J. Teleophthalmology: An essential tool in the era of the novel coronavirus 2019. CurrOpin Ophthalmology 2020; 31:366-73
15. Jain U. Risk of COVID-19 due to Shortage of Personal Protective Equipment. Cureus. 2020;12(6): e8837. Published 2020 Jun 25. doi:10.7759/cureus.8837
16. Siddiqui AF, Wiederkehr M, Rozanova L, Flahault A. Situation of India in the COVID-19 Pandemic: India's Initial Pandemic Experience. Int J Environ Res Public Health. 2020;17(23):8994. Published 2020 Dec 2. doi:10.3390/ijerph17238994
17. Gianfredi V, Pennisi F, Lume A, et al. Challenges and Opportunities of Mass Vaccination Centers in COVID-19 Times: A Rapid Review of Literature. Vaccines (Basel). 2021;9(6):574. Published 2021 Jun 1. doi:10.3390/vaccines9060574
18. Dubey S, Biswas P, Ghosh R, Chatterjee S, Dubey MJ, Chatterjee S, et al. Psychosocial impact of COVID-19. Diabetes MetabSyndr 2020; 14:779-88
19. Tabatabai S. COVID-19 impact and virtual medical education. J Adv Med Educ Prof. 2020;8(3):140-143. doi:10.30476/jamp.2020.86070.1213
20. Rahaf Zaben Obaid Alshammari, Shrooq Ibrahim Farhan Alenzi, Lujain Hussain Ahmed Al-Nasser and Soha Abdallah Moursi(2022); CROSS SECTIONAL STUDY AMONG HEALTH CARE STUDENTS DURING COVID-19 4TH WAVE FOR THE AWARENESS OF MUCORMYCOSIS ASSOCIATED WITH THE PANDEMIC Int. J. of Adv. Res. **10** (Apr). 38-46] (ISSN 2320-5407). www.journalijar.com.