

Brief Communication

# Revamping the Ophthalmic Clinical Practice during Pandemic Covid 19; A Potential New Normal

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## ABSTRACT

This paper discusses how COVID-19 affected ophthalmology practices at JPMC and the measures taken to minimize the spread of infection among doctors, nurses, administrative staff, and patients. Staff members and doctors were divided into groups consisting of a consultant, two trainees, a house-officer and eight paramedics. Out of the eight paramedics, three were posted in theatre, two inwards and the remaining in outpatient clinics. These measures helped us in the restoration of our services quickly. All elective surgeries were cancelled. In the ward, social distancing was observed. No one was allowed inside the ward without thermal scanning. Only one attendant was allowed with pediatric patients and all the adults, including patient were required to wear masks. Before admitting patients to the ward, a negative COVID-19 PCR test was compulsory. These precautionary measures helped to reduce the spread of coronavirus among the department staff.

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## INTRODUCTION

COVID-19, which is caused by Severe Acute Respiratory Syndrome Corona virus 2 (SARS-CoV-2), emerged in Wuhan, China in 2019 and spread rapidly across the world.<sup>1</sup> World Health Organization (WHO) declared COVID-19 as a pandemic on 11<sup>th</sup> March 2020.<sup>2</sup> There are over 130 million confirmed cases so far and over 3 million people have lost their lives in Pakistan, The confirmed cases are over 700,000, resulting in over 15,000 deaths.<sup>3</sup> All across the world, governments announced kerbs on movement of people including lockdowns to control the spread of virus. Pakistan went into a nationwide lockdown on 1<sup>st</sup> April 2020, with all businesses closed and only emergency services allowed to operate to curb the growing spread

of COVID-19.

Jinnah Postgraduate Medical Centre (JPMC), the largest tertiary care hospital in Karachi, took immediate measures by making compulsory to wear masks, closing OPDs, postponing elective surgeries and allowing only on-call doctors and paramedics. The Eye department conducted a risk review, considering the additional danger posed to ophthalmologists due to proximity between the doctor and the patient during ophthalmic examination. It was also reported by Lu et al. that ocular surfaces potentially transmitted coronavirus.<sup>4</sup>

This paper discusses how COVID-19 affected ophthalmology practices at JPMC and the measures taken to minimize the spread of infection among doctors, nurses, administrative staff, and patients. Staff members and doctors were divided into groups consisting of a consultant, two trainees, a house-officer and eight paramedics. Out of the eight paramedics, three were posted in theatre, two inwards and the remaining in outpatient clinics. These measures helped us in the restoration of our services quickly.

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Later, two parallel teams were created to work on alternate days, thus minimizing the physical contact between the two teams to contain the virus spread.<sup>5</sup> General adult and pediatric outpatient clinics remained open, whereas all specialised clinics were closed. In the general clinic, the team comprised of a consultant and four resident physicians, whilst in the paediatric clinics, the team comprised of a consultant and two resident physicians [Figure 1].

In the outpatient clinics, all surfaces were disinfected daily with alcohol and chlorine-based chemicals. Specially-designed face shields covered slit lamps to prevent infection.<sup>6</sup> The slit lamp, breath shields, tonometer tips and other instruments were disinfected after each use. Hand sanitisers and alcohol swabs were provided in all the rooms and were used after examining every patient.

A **triage counter** was setup (Figure 2) to screen patients for body temperature and other COVID-19 symptoms. Patients with minor ailments, such as allergic, viral, or mild bacterial conjunctivitis, were seen at the triage counter with a pen-torch and given appropriate treatment.

Considering infection transmission via conjunctiva of the eye, optometry services were shut down to reduce the risk to the staff and the patients, except in cases where biometry services were required for the urgent surgeries.<sup>7</sup> PPEs, including hazmat suits, aprons, face shields, KN95 masks, gloves, and disposable scrub caps, were provided to doctors and staff.

All elective surgeries were cancelled. In the ward, social distancing was observed. No one was allowed inside the ward without thermal scanning. Only one attendant was allowed with pediatric patients and all the adults, including patient were required to wear masks. Before admitting patients to the ward, a negative COVID-19 PCR test was compulsory.

All doctors, nurses and administrative staff in the ward, clinics and ORs took **periodic COVID-19 antibody test**. In the case of a positive test result, the individual was required to isolate at home, take a COVID-19 PCR test, and return after two consecutive negative PCR tests. After two months of lockdown, all doctors, paramedics, and other staff underwent serum Corona virus antibody test. Results revealed the following:

- *Mean age: 36.32 ± 12.10 years.*
- *Gender Distribution: Male (64%), Female (36%).*

- *Antibody positive rate: 20%.*
- *Gender distribution of antibody positive: Male (16%), Female (4%).*

It was found that the oldest age group of 61 – 70 years showed negative results (Graph 1). All members with positive COVID-19 antibody test were placed on the front line in emergency.

Academic activities such as daily and weekly rounds were suspended, while teaching was continued online. RUBRIC Grading was introduced for academic assessment of trainees. **Wet lab** for phacoemulsification and corneal suturing, was conducted weekly with reduced number of participants, while wearing masks and maintaining two meters amongst the participants. **Telemedicine** was not feasible due to lack of infrastructure especially at the patients' end.

The above-mentioned precautionary measures helped to reduce the spread of coronavirus among the department staff.

Following guidelines were practiced throughout the pandemic and which can be recommended to the ophthalmic community.

1. Urgent care should be given to sight-threatening or life-threatening conditions, such as; trauma, tumours, proptosis, retinal detachment, pediatric traumatic cataract or retinal detachment, examination under general anaesthesia of children suspected of glaucoma, retinoblastoma and retinopathy of prematurity.
2. Social distancing should be practiced waiting area, doctors and staff community rooms and wards which make a significant difference.
3. Frequent surface disinfection with alcohol and chlorine-based chemicals.
4. Personal protective equipment including face shields, slit lamp shields, protective goggles, hazmat suits, gloves, hand sanitizers and disposable aprons should be provided to all staff.
5. Triage area should be set up to ascertain symptoms, recent travelling and recent contact with a COVID positive patient in family and close friends.
6. COVID testing should be made part of all pre-operative assessment, particularly for the patients undergoing general anaesthesia.

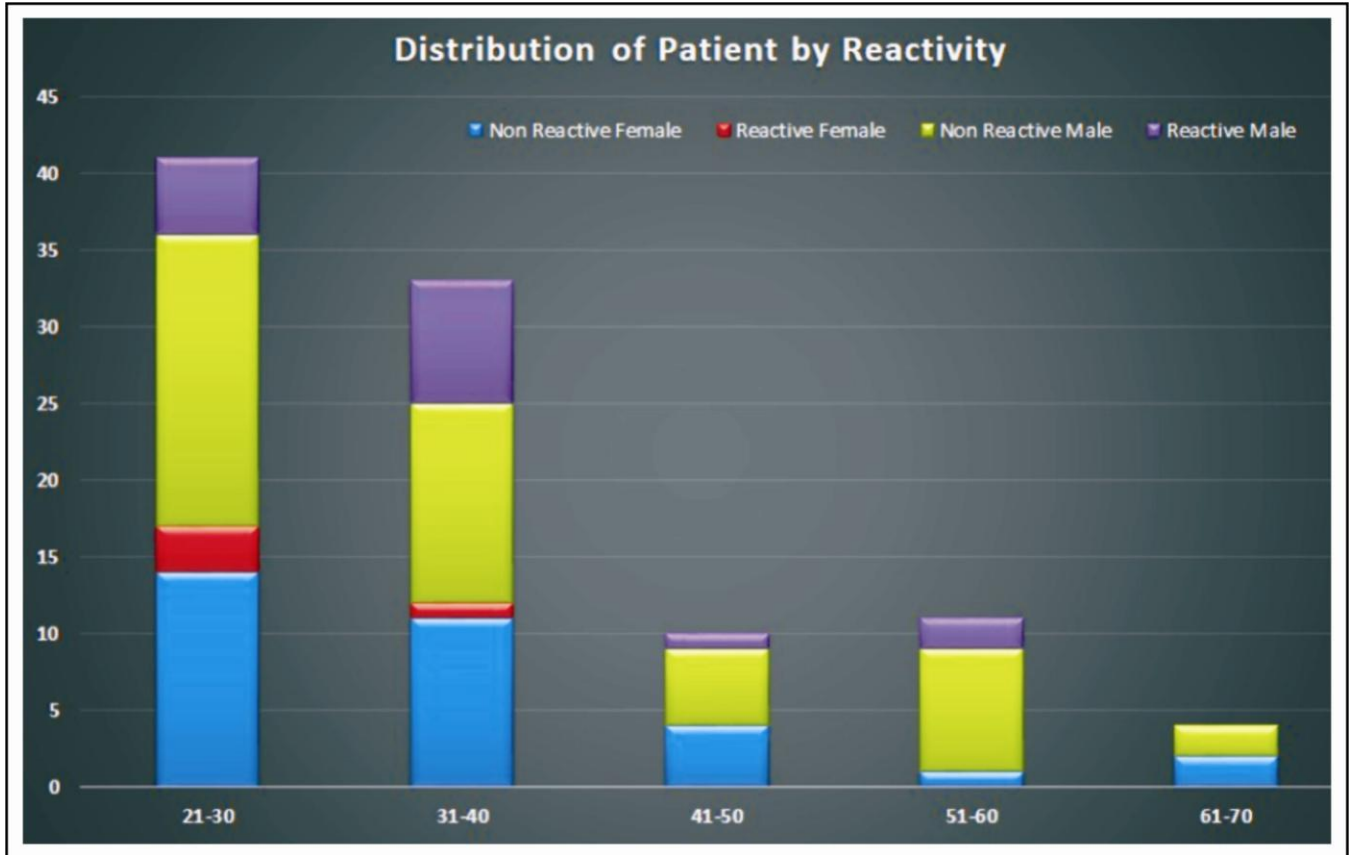


Figure 1: Distribution of patient by age groups and reactivity.



Figure 2:

7. Avoid surgeries which includes contact with nasopharyngeal fluids e.g., DCR.

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## Author's Designation and Contribution

Nausheen Hayat; Professor: *Concepts, Design Literature Search, Manuscript Preparation, Manuscript Editing, Manuscript Review.*

