

Ophthalmology practice in Afghanistan during the COVID-19 pandemic

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Abstract. – This short communication described the actions taken in ophthalmic practice in Kabul, Afghanistan during the COVID-19 pandemic to effectively protect both patients and staff. By following World Health Organisation (WHO), international and local guidelines it has been possible to continue treating ophthalmic outpatients with minimum risk to both patients and staff. The changes which have been implemented may allow better overall infection control in the hospital which will continue to have benefits post-pandemic.

Key Words:

Afghanistan, COVID-19, Ophthalmology, Safety, Infection control.

Introduction

Coronaviruses exist in many different forms and cause respiratory and systemic disease in a wide range of animals and the common cold and pneumonia in humans¹. A newly identified *Coronavirus*, SARS-CoV-2, has caused a worldwide pandemic of respiratory illness called COVID-19 which was first reported in Wuhan, China, on 31 December 2019². COVID-19 has spread into a global pandemic, with the WHO declaring it a Public Health Emergency of International Concern on 30 January 2020 and a pandemic on 11 March 2020³. The reproduction number of COVID-19 (R_0) has been shown to be greater than the R_0 for Severe Acute Respiratory Syndrome (SARS)^{4,5} indicating that COVID-19 is much more transmissible than SARS. If $R_0 > 1$, the number infected is likely to increase, and if $R_0 < 1$, transmission is likely to decline. The R_0 for the *Coronavirus* responsible for COVID-19 was estimated to be 2.2 in Hubei Province, China, based on cases in December 2019 and January 2020. Following one month of social distancing and lockdown, the reproduction number decreased to 1.6⁶.

COVID-19 can spread from the mouth or nose in aerosols when coughing, sneezing, speaking, singing or breathing heavily⁷. The COVID-19 virus has also been shown to be present in faeces⁸ and in tears and conjunctival secretions⁹. The detection of SARS-CoV-2 in tears and conjunctival secretions of infected patients with conjunctivitis, similar to findings during the 2003 SARS¹⁰ outbreak, suggests an increased risk of COVID-19 infections to those attending and working in ophthalmology departments.

The most common symptoms of COVID-19 include flu-like symptoms, such as fever, dry cough, and shortness of breath. Symptoms may also include chills and repeated shaking, myalgia, headache, pharyngitis, anosmia and ageusia¹¹. Symptoms typically appear within 2 days to 14 days after exposure to the virus. It is important to note that 0.8% of COVID-19 patients presented with conjunctival congestion¹² create new challenges to ophthalmologists. Interestingly, the first medical professional to sound the alarm on a possible COVID-19 outbreak was the late Chinese ophthalmologist Li Wenliang from Wuhan, Hubei, China.

The first case of COVID-19 in Afghanistan was confirmed on February 24th, 2020 in patient who recently visited neighbouring Iran and had tested positive for the coronavirus. He was treated in isolation in a hospital in the Western border province of Herat.

In this paper we review the impact COVID-19 has had on our ophthalmology practice, detail our past experiences with infection control in ophthalmology and apply these concepts to develop the best practice of ophthalmology at the Noor Eye Training Centre (NETC) of the International Assistant Missions (IAM) based in Kabul. Our experience may serve as a model to guide future management in ophthalmology clinics when faced with the current and similar disease outbreaks.

The Challenges to Ophthalmologists in Afghanistan During the COVID-19 Pandemic

The NETC of the IAM in Afghanistan is one of the main eye hospitals based in Kabul province seeing 250-350 outpatients daily. During the pandemic the NETC of the IAM was the only eye health hospital operating in Kabul, Afghanistan. All of the other private and governmental hospitals were closed. There is a high risk of transmission between doctors and patients because in ophthalmology practice there are many medical devices which are re-usable, such as the slit lamp, Goldmann Applanation Tonometer (GAT), contact lenses, eye-drops, chin rest and table surface of ophthalmic diagnostic and laser devices such as Humphrey Visual field and Optical Coherence Tomography. It is also useful to note that ophthalmological investigations and treatment often require very close face-to-face contact between patient and healthcare professional¹³. The majority of available studies concerning the persistence of Coronavirus species in animated environments and surfaces were conducted on a surrogate human Coronavirus strain, HCoV-229E on different surfaces of various materials, such as plastic, metal, or glass, the virus is able to survive from 2 hours to 9 days¹⁴. Limited access to hand sanitizer, face shields, protective surgical masks (N95) and gowns led to an increased risk for healthcare professionals. In addition, a limited availability of hospital beds for COVID-19 cases, poor access to some medication and low income or poverty of the people contributes to the overall morbidity and mortality of COVID-19 which may also result in nurse and physician 'burn out'¹⁵.

Actions Taken to Minimise the Incidence COVID-19 in Afghanistan

The Mental Health Program (MHP) of the NETC of the IAM in Afghanistan has been carrying out the following activities in parallel to international mental health support¹⁶⁻¹⁷:

Printing and dissemination of awareness and prevention banners, brochures, and billboards, showing the key health messages of social distancing¹⁸.

Preparing, printing and disseminating of mental awareness materials about managing stress and anxiety people are experiencing at this time¹⁹.

Participating in different TV shows and speaking about controlling stress and anxiety during the pandemic.

Providing telephone support to patients for mobile counselling. This service is accessible to people throughout Afghanistan.

Preparing and distributing of personal protection equipment (PPE)²⁰ to the health sector and to MHP health centers.

Providing technical and management assistance to the Provincial Public Health Directory and Health Committee.

Holding a workshop for hospital staff working with COVID-19 patients about psychological first aid²¹.

Our MHP is continuing to serve the Afghan people through raising awareness and providing vital mental health services during this difficult time.

During the COVID-19 lockdown, the NOOR program of the NETC of the IAM has put the following practices in place to keep both staff and patients safe in hospital during the pandemic:

Before entering the NOOR hospitals patients and visitors must wear masks²². Hospitals have a stock of masks available if patients and visitors do not have any themselves.

On arrival, we check patients and visitors' body temperature although there have been reports of low sensitivity of such temperature screening²³. If a high temperature is found, then, the patient is referred to the relevant hospital for further investigations.

Whoever enters the hospital should wash their hands with soap and water²⁴.

All healthcare workers are equipped with appropriate PPE²⁵, such as masks and gloves, when they are examining patients to reduce the level of risk.

Hospitals are cleaned throughout the day, including doors, door handles and bathrooms, and all of the hospitals are cleaned by using disinfectant at the end of the day²⁶.

Our staff are practicing social distancing and good hygiene, sanitation of public places, eating meals separately, and avoiding all unnecessary risk and contact

Hand sanitizer²⁷ is available all around the hospital for staff, patient and visitor use.

Training is given to all healthcare staff to raise their awareness about COVID-19²⁸.

In summary, the practice of ophthalmology in our hospital has continued during the COVID-19 pandemic and safety has been optimized by applying the actions described in this paper. No COVID-19 outbreaks related to the ophthalmology service have been identified. It is hoped that

many of the infection control procedures will continue post-pandemic to improve the overall infection control in the hospital.

Conclusions

The COVID-19 pandemic has disrupted all medical services across the world. Our experience in the provision of ophthalmic services in Afghanistan during the pandemic has shown that, by employing internationally and locally recommended precautions, a safe and effective ophthalmic service can be provided to the population. This enabled not only the protection of patients but also the protection of medical and nursing staff providing the service. This best practice in infection control may result in better overall infection control in ophthalmic practice in the future.

Conflict of Interest

The Authors declare that they have no conflict of interests.

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