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Eye health in older people at the time of corona

A day before the start of 2020, Dr Li Wenliang, a 33-year-old ophthalmologist working at the Wuhan Central Hospital sent a series of mobile texts that predicted a global tragedy in the offing, changing the course of his life in the process [1]. In these texts, sent to his medical school friends through the popular Chinese messaging service WeChat, Dr. Wenliang raised the alarm for 7 confirmed cases of an illness that resembled acute respiratory syndrome (SARS), with no clear subtype, in his hospital. In the following days, his texts went public, leading to government censorship and admonishment, and he was sent back to work with a warning. Only a few days later, on January 8, 2020, Dr. Wenliang himself contracted the mysterious virus while treating a glaucoma patient (who worked at Wuhan’s seafood market), and developed what we now know as Coronavirus Disease 2019 (COVID-19). Despite his relatively young age and no underlying comorbidities, the disease progressed rapidly, leading to Dr Wenliang’s death on February 7, 2020. Soon after his passing, his early signals transformed into a major global pandemic [1].

Three months later, at the time of writing on May 18, COVID-19 has reached all countries in the world, infected almost 5 million people and caused deaths of over three hundred thousand globally. The disease has led to a near-collapse of some of the best global healthcare systems, and an existential threat to many global economies. As the pandemic represents an on-going global crisis, unlikely to disappear in 2020, a Doctor– once viewed as a “rumour-spreader”– is now heralded for his early communication and alarm. Ironically, the very eyes of this ophthalmologist that saw the crisis coming, may also be the route through which Dr Wenliang was exposed to SARS-CoV-2 [2].

Much has been written of the transmission of SARS-CoV-2 through aerosols and surfaces encountering the mucous tissue in the mouth and nose as main points of entry. However, besides these conventional routes, the virus may also be transmitted through the conjunctiva if people touch their eyes after touching an infected surface or through direct exposure with aerosols suspended in the air [3]. Additionally, there has been a case report of an anesthesiologist developing ocular symptoms, fever and cough after practicing intubation without goggles [3].

For contact lens wearers, it is recommended to switch to eyeglasses for a while in order to reduce contagion, keeping in mind that people with contact lenses often touch their eyes and face more frequently than others, owing to irritation and the need to manipulate contact lenses. Glasses do not completely protect them from potential infection; however, they serve as a barrier to reduce the likelihood of touching the eyes frequently. Nevertheless, frequent and optimum handwashing is recommended for anyone using contact lenses or eyeglasses to avoid contagion. This is particularly important in patients with reduced dexterity due to comorbid disease or advanced age (e.g., people with co-morbid conditions and/or over 65 years of age) since they are at higher risk of death attributed to COVID-19 [6].

As globally populations are aging, vision loss from eye disease has become a public health issue. With increasing age, issues with vision augment, including seeing close-up objects clearly, difficulty to distinguish colors and more light is needed to see well [7]. Furthermore, poor sight or progressive loss of sight can also lead to falls, injuries and car accidents, all major public health priorities for prevention.

It is unclear how COVID-19 and the lockdown measures taken to control the pandemic might affect visual health in the long run, but protection of the vulnerable, including of the elderly, might imply elderly populations in confinement for many months in a row in the coming months. Therefore, as the scientific knowledge evolves, below is a set of recommendations, which aims to facilitate optimal care in order to maintain good visual health (Fig. 1):

1. Visual health at the time of corona

   Until there is definitive evidence of SARS-CoV-2 transmission through the conjunctiva, it is important to avoid touching eyes frequently and to maintain optimal hygiene practices. Thus far, protective glasses and face shields have been recommended solely for healthcare personnel. However, face shields, in particular, could also be a practical solution to prevent contagion in the general population, especially given the gradual relaxation of containment measures worldwide. In this regard, production of face shields will need to be ramped up substantially, so that the enhanced demands from both healthcare and general community sectors could be met appropriately [6].

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1. Apply the 2020 tip: After every 20 min of work, close your eyes for 20 s. This can be specially helpful for patients working long hours in front of a computer at home.
2. Avoid touching eye discharge.
3. Make sure you have sufficient supply of medications needed, especially in chronic conditions such as glaucoma or dry eye disease.
4 Avoid eye-rubbing.
5 Avoid direct exposure to chemicals such as bleach or other household cleaners.
6 Avoid direct air conditioning exposure to your eyes.
7 When reading assure a well lighted surrounding environment.
8 As quarantine measures are released and outdoor exposure returns, wear sunglasses when taking a stroll.

2. When to call the ophthalmologist?

One of the key aspects to prevent vision loss is to have regular comprehensive dilated eye exams among the elderly as many age-related eye disorders (e.g. age-related macular degeneration, cataract, diabetic retinopathy, glaucoma and dry eye) do not present early symptoms [7]. Furthermore, strict lockdowns could keep people from seeking emergency healthcare and thus treatable conditions and regular examinations (e.g. retinal detachments, retinal screenings for diabetics) would not be attended on time or at all, leading to longlasting consequences such permanent loss of sight. In line with this, eye specialists have seen more than 75% drop in consultations as fear of COVID-19 exposure has spread in addition to mitigation measures to manage the pandemic. While for many conditions an eye specialist can provide guidance via telephone or electronic means (tele-consultation), as listed below, additional ocular conditions may require a physical visit to the ophthalmologists in order to ensure appropriate diagnosis and care [8–10]:

1. Age-related macular degeneration or diabetic retinopathy that require regular intra-ocular injections.
2. Changes in vision: blurred vision, changes in the visual field, sudden visual loss.
3. Accident/eye injury (even if it is mild).
4. Vision of flashes of light and floaters which may indicate a retinal tear or detachment.
5. Eye pain associated with headache, red eye, photophobia, nausea or vomiting.
6. Complex cases requiring close monitoring such as corneal transplantation follow-up, uncontrolled glaucoma, etc.

COVID-19 will remain a threat until adequate treatment is discovered, an efficient vaccine is developed or at least two-thirds of humankind is infected. None of these conditions are likely to occur in 2020. Doctor Wenliang’s warnings proved right and the world only wishes to have seen them in a different -and earlier- light. This pandemic will bring despair and isolation but also opportunities to adapt and identify efficient forms of care that guarantee patients’ health and physicians’ safety. Perhaps with a better utilisation of resources leading to more efficient care, the experiences accumulated during this period of crisis could constitute the foundations of future ophthalmological and general health care. 2020 could see the genesis of a new era of reinforced safety for patients and healthcare practitioners together with optimal utilization of technological advances gravitating around telemedicine, which could also result in improved access for elderly populations and those with restricted mobility. Adaptation to times of need and crisis could lead to advances and improvements not previously foreseen in a compressed period of time.

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