

# Changes in contact lens wear and compliance to contact lens hygiene practices during the COVID-19 pandemic

Ajay Kumar Vijay, Amanda Duffy, Nanthitha Gunaseelan, Lily Ho

School of Optometry and Vision Science, UNSW Sydney, NSW, Australia

## Introduction

- Contact lens (CL) wear and compliance to hygiene behaviours may have changed during the COVID-19 pandemic.<sup>1</sup>
- To minimize the transmission of the virus, the World Health Organisation (WHO) and the Australian Government have advised regular handwashing, reduced face touching with hands and postponing non-essential activities.<sup>2,3</sup>
- There is no current evidence that suggests CL wear poses a greater risk for COVID-19 transmission. It is recommended that CL wearers avoid lens wear if feeling unwell and continue to follow advised CL hygiene practices to ensure healthy lens wear.<sup>4</sup>

## Aim

To determine changes in contact lens use and hygiene behaviours during the COVID-19 pandemic.

## Methods

- An anonymous online survey was distributed to Australian contact lens (CL) wearers using Qualtrics between March – August 2020.
- The survey was approved by the UNSW Human Research Ethics committee (HC200317).
- This survey obtained general information including demographics and general CL usage focussing on 4 key areas before and during COVID-19, including:
  - CL usage
  - Optometry advice & visits
  - Hand hygiene practices
  - Storage case hygiene practices and CL care solution use
  - Participants' perception of COVID-19 and its impact on CL wear
- Descriptive statistics and frequencies were obtained for variables such as demographics, CL use and hygiene behaviours
- Data analysis was performed using SPSS and the level of significance was set at 5%.

## Results

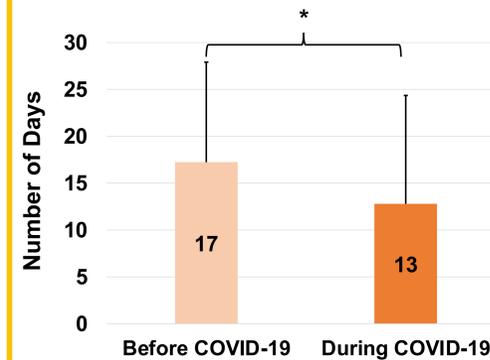


Figure 1: Number of days of CL wear in a 30-day period (Mean ± SD)  
\* -  $p < 0.05$

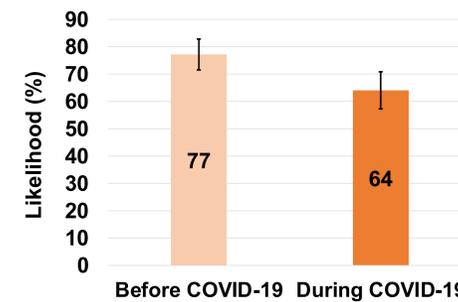


Figure 2: Likelihood of visiting optometrist for CL care (Mean ± 95% confidence interval)

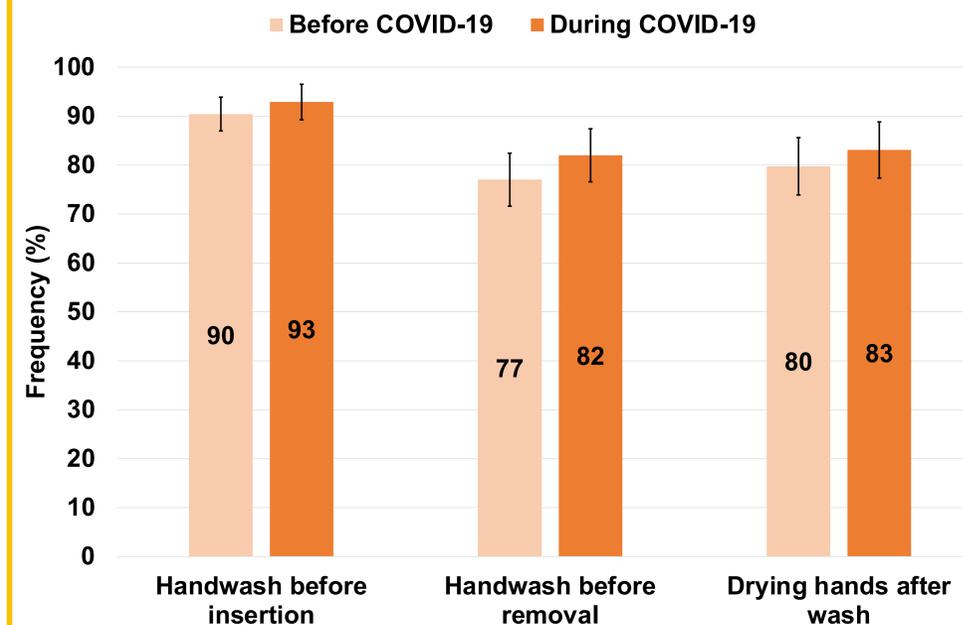


Figure 3: Frequency of hand hygiene while handling contact lenses (Mean ± 95% confidence interval)

Table 1: Frequency of storage case hygiene behavior (Mean ± SD)

Item	Before COVID-19	During COVID-19	p-Value
Replacing solution in storage cases (in 30-day period)	19.7 ± 11.5	18.6 ± 12.7	0.065
Cleaning storage cases (in 30-day period)	13.4 ± 12.8	14.5 ± 12.7	0.167
Replacing storage cases (Months)	3.4 ± 3.1	3.26 ± 3.10	0.414

## Results cont..

- 107 participants completed the survey (Mean age: 29.1 ± 9.9 years old, 80% female).
- Daily disposables (62%) were the most common contact lens modality.
- There was a significant decrease in the number of CL wear days (Figure 1) and participants were less likely to seek optometric care (Figure 2) during COVID-19.
- During COVID-19, the frequency of hand washing increased before handling the CL (Figure 3) and participants spent significantly more time washing their hands (26 ± 13 Vs. 18 ± 12 seconds pre-COVID;  $p < 0.001$ )
- There was no significant change in storage case hygiene behavior during COVID-19 (Table 1).
- 82% of the participants did not believe their risk of contracting COVID-19 would increase with CL wear. However, significantly more participants (40% vs. 23%;  $p < 0.001$ ) reported that they would stop CL wear if they developed flu-like symptoms during COVID-19.

## Conclusion

This study reports a decrease in the contact lens wear during COVID-19 pandemic in Australia. There was a noticeable increase in hand hygiene, but were no significant changes to contact lens or storage case hygiene practices.

## References

1. Vianya-Estopa, M., Wolffsohn, J., Beukes, E., Trott, M., Smith, L., & Allen, P. Soft contact lens wearers' compliance during the COVID-19 pandemic. *Contact Lens and Anterior Eye*. 2021 Aug; 44(4): 101359.
2. World Health Organization. Coronavirus disease (COVID-19) advice for the public 2020 [updated 13 October 2020].
3. Department of Health 2020, Australia Government, *COVID-19 Frequently Asked Questions*. Accessed 15 October 2021 <[https://www.health.gov.au/sites/default/files/documents/2020/04/coronavirus-covid-19-frequently-asked-questions\\_10.pdf](https://www.health.gov.au/sites/default/files/documents/2020/04/coronavirus-covid-19-frequently-asked-questions_10.pdf)>
4. Jones L, Walsh K, Willcox M, Morgan P, Nichols J. The COVID-19 pandemic: Important considerations for contact lens practitioners. *Contact Lens and Anterior Eye*. 2020;43(3):196-203.

## Contact

[v.ajaykumar@unsw.edu.au](mailto:v.ajaykumar@unsw.edu.au); [lily.ho@unsw.edu.au](mailto:lily.ho@unsw.edu.au)

