Safety of video-based telemedicine compared to in-person triage in emergency ophthalmology during COVID-19

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Background

The need for social distancing midst the COVID-19 pandemic has forced ophthalmologists to innovate with telemedicine. The novel process of triaging emergency ophthalmology patients via videoconsultations should reduce hospital attendances. However, the safety profile of such services were unknown.

Methods

In this retrospective cohort study, we reviewed case notes of 404 adults who used our videoconsultation service from 20/04/2020 to 03/05/2020. We compared these to 451 patient who attended eye casualty in person at the same time who were deemed not to require same day ophthalmic examination.

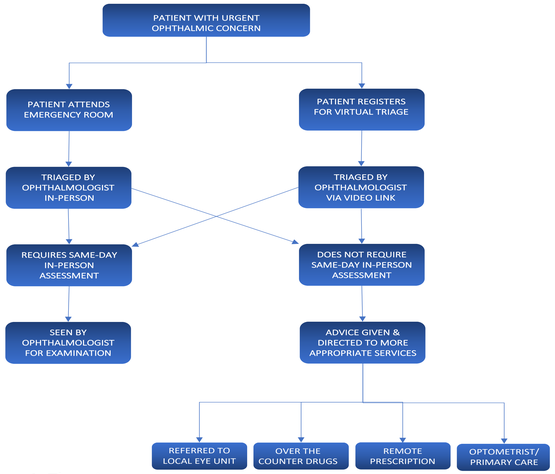


Figure 1. The triage process.

Findings

Patients seen by videoconsultations tended to be younger (Median=43 years, Inter-quartile range = 27 vs Median=49 years, Inter-quartile range = 28).

More males used the face-to-face triage (55%) while more females used videoconsultation (54%)%. Fewer patients seen by videoconsultations required specialist review compared to face-face triage [X^2 (1, N=854) = 128.02, p<0.001)]. 35.5% of the patients initially seen by videoconsultation had unplanned reattendance within 1 month, compared to 15.7% in the group initially seen in person. X^2 (1, N=234) = 7.31, p=0.007). The rate of actual harm was no different (at 0% for each method), with perfect inter-grader correlation when graded independently by two senior ophthalmologists. 97% of patients seen on the video platform surveyed were satisfied with their care.

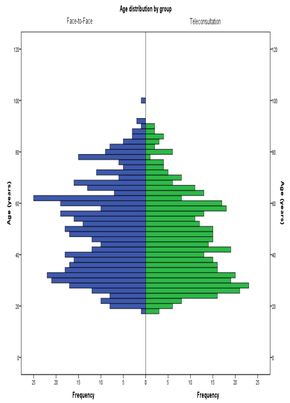


Figure 2. Comparison of the age distribution between those attending face-to-face versus videoteleconsultation.

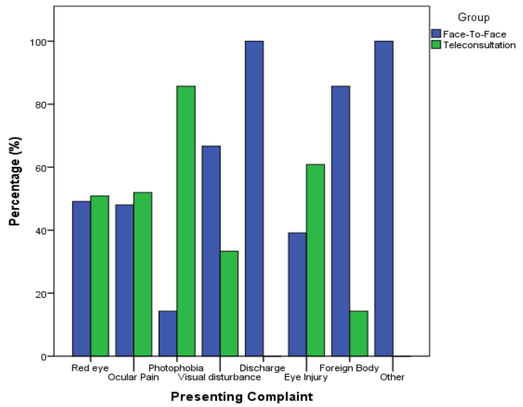


Figure 3. Comparison of the presenting complaints between those attending face-to-face versus videoconsultation.

Interpretation

We demonstrate comparable patient safety of videoconsultations at one-month follow-up to in person review. The service is acceptable to patients and reduces the risk of COVID-19 transmission. We propose that videoconsultations are effective and desirable as a tool for triage in ophthalmology.

Table 2. Comparison between face-to-face vs videoconsultation triage reattendance rate within 1 month.

			Method of Triage		
			Videoconsultation	Face-to-face	Total
Did the patient re-attend ?	No	Count	118	43	161
		% within Method	64·5%	84·3%	68·8%
		Adjusted Residual	-2·7	2·7	
	Yes	Count	65	8	73
		% within Method	35·5%	15·7%	31·2%
		Adjusted Residual	2.7	-2.7	
Total		Count	183	51	234
		% within Method	100·0%	100·0%	100·0%

Table 1. Comparison between face-to-face vs videoconsultation triage: referred to in-person evaluation with an ophthalmologist

			Method of Triage		
			Videoconsultation	Face-to-face	Total
Patients triaged to in-person evaluation	No	Total	183	51	234
		% within Method	45·4%	11·3%	27·4%
		Adjusted Residual	11.2	-11·2	
	Yes	Total	220	400	620
		% within Method	54·6%	88·7%	72·6%
		Adjusted Residual	-11·2	11·2	
Total		Total	403	451	854
		% within Method	100·0%	100·0%	100·0%

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