

Impact of COVID-19 on Ophthalmologists

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Author's Contribution

^{1,2} Conception of study

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Abstract

Objective: To determine the effects of the COVID-19 pandemic on the professional lives of ophthalmologists.

Introduction: This survey aims to determine the effects of the COVID-19 pandemic on the professional lives of ophthalmologists. The summative opinion of ophthalmologists can help to build an evolving better standard operative procedures for safe ophthalmic practices, later translated into policies.

Materials and Methods: This cross-sectional survey was conducted for 6 months, July 2020 to December 2020, and used google forms for data collection. It was a descriptive, cross-sectional survey conducted (after synopsis, approval by ERC, RMU). A Likert questionnaire was developed, later converted into a google survey form, and sent via WhatsApp to ophthalmologists (consultants and residents) of both government and private sectors (accompanied by an introduction, dept. correspondence, and reminders)

Results: The final assembled data sheet was generated by google sheets. A total of 68 respondents gave their Likert responses for each of the 20 statements. The ordinal data was coded, and entered into an excel sheet. The Median, Mode, and Interquartile range (IQR), of all respondent's Likert sentiments for each statement (S), were calculated by excel and assembled.

Surprisingly the survey results showed a trend of 'general consent and consensus' over the statements (high central tendency and low dispersion with IQR-1

Conclusion: The survey was small-scale yet clear-cut. The results showed compliance towards statements and harmony amongst opinions, thus endorsed that COVID-19 has a definitive impact on the professional lives of ophthalmologists. COVID-19 has influenced the professional lives of ophthalmologists.

Keywords: COVID-19, ophthalmologists.

Introduction

Coronavirus disease (COVID-19) is a highly infectious disease caused by acute respiratory distress syndrome coronavirus 2, also called (SARS-Cov-2).¹ This virus spreads through close contacts and the droplets produced during coughing and sneezing become the reason for its spread.² The virus started in Wuhan city of China and till now has spread to 220 countries of the world including Pakistan.³ Till May 4, 2020, more than 3 million cases of COVID 19 have been reported and the world health organization has declared this disease a pandemic.³ During this Pandemic, the health professionals being the front liners are bearing the brunt of the burden.⁴ It is very obvious that ophthalmologists, due to the close contact nature of their work, are at higher risk of getting infected with COVID-19.⁵ All doctors including the ophthalmologists need protection and support both mentally and physically.⁶

This survey aims to determine the effects of the COVID-19 pandemic on the professional lives of ophthalmologists. The summative opinion of ophthalmologists can help to build an evolving better standard operative procedures for safe ophthalmic practices, later translated into policies.

Materials and Methods

It was a descriptive, cross-sectional survey conducted (after synopsis, approval by ERC, RMU), from July 2020 to December 2020. A Likert questionnaire was developed, later converted into a google survey form, and sent via WhatsApp to ophthalmologists (consultants and residents) of both government and private sectors (accompanied by an introduction, dept. correspondence, and reminders). The sample size was not predetermined. Sampling was done via simple random.

Results

The final assembled data sheet was generated by google sheets.

A total of 68 respondents participated in the study.

Numbers (N) and **averages (%)** of each Likert sentiment, for each of the 20 statements (S) were calculated and displayed by google forms (Figure 1), compiled in Table 1.

Further, the ordinal data was coded, and entered into an excel sheet. The **Median, Mode, and Interquartile range (IQR)**, of all respondent's Likert sentiments for each statement (S), were calculated by excel and assembled.

(Median and mode were chosen to measure central tendency while IQR to measure dispersion. IQR is the difference of the value of the 3rd and 1st quartile i.e, Q3 and Q1 respectively).

Median values showed that the respondents:

“Agreed” in twelve statements,

“Strongly Agreed” in four statements

“Neutral” in two statements

“Disagreed” in two statements

Median and mode values for all statements remained the same, except for statement 19.

The prevalent lower IQR values (1,0) suggest strong consensus among respondent's opinions (clustering). Only three statements showed slight polarised respondent's opinions (IQR 2).

Two respondents gave their own opinions for statements 9 and 20.

One respondent did not respond at all. Few missed responses were also noted (S-4, 8, 19, 20).

Table 1: Numbers (N.) and averages (%) of sentiment, for each statement (S)

S	RESPONDENT SENTIMENT											
	STRONGLY AGREE		AGREE		NEUTRAL		DISAGREE		STRONGLY DISAGREE		NO ANSWER	
	N.	%	N.	%	N.	%	N.	%	N.	%	N.	%
1	37	54.41	21	30.88	4	5.88	4	5.88	1	1.47	1	1.47
2	19	27.94	38	55.88	5	7.35	4	5.88	1	1.47	1	1.47
3	2	2.94	5	7.35	13	19.12	28	41.18	19	27.94	1	1.47
4	20	29.41	26	38.24	14	20.59	5	7.35	1	1.47	2	2.94
5	5	7.35	30	44.12	24	35.29	8	11.76	5	7.35	1	1.47
6	4	5.88	35	51.47	16	23.53	11	16.18	1	1.47	1	1.47
7	6	8.82	33	48.53	21	30.88	6	8.82	1	1.47	1	1.47
8	8	11.76	27	39.71	13	19.12	15	22.06	3	4.41	2	2.94
9	9	13.24	33	48.53	12	17.65	12	17.65	1	1.47	1	1.47
10	35	51.47	28	41.18	2	2.94	2	2.94	0	0	1	1.47
11	46	67.65	19	27.94	2	2.94	0	0	0	0	1	1.47
12	16	25.53	33	48.53	10	14.71	7	10.29	1	1.47	1	1.47
13	31	45.59	34	50	2	2.94	0	0	0	0	1	1.47
14	43	63.24	22	32.35	2	2.94	0	0	0	0	1	1.47
15	3	4.41	12	17.65	10	14.71	28	41.18	14	20.59	1	1.47
16	18	26.47	35	51.47	11	16.18	3	4.41	0	0	1	1.47
17	16	23.53	41	60.29	5	7.35	4	5.88	1	1.47	1	1.47
18	15	22.06	38	55.88	12	17.65	2	2.94	0	0	1	1.47
19	2	2.94	11	16.18	21	30.88	26	38.24	5	7.35	3	4.41
20	6	8.82	20	29.41	22	32.35	14	20.59	3	4.41	3	4.41



Figure 1: Pie chart showing number and percentage of the respondent's sentiments for statements 01-20

Discussion

The extent of participation was less than expected, despite repeated requests. This points towards a general lack of interest in survey participation.

Statements from 1 to 8 were related to effects of covid on job and training of ophthalmologists

In our survey, 54.41% of respondents believed that clinical and surgical skills are being affected. Ferrara et al have given alarming figures of residents and fellows unable to perform cataract surgery. For that matter, our respondents agreed (55.88%) with the notion that training doctors need extra time to cover up their deficiencies. Such prolonged delay during training will fail in clinical and surgical skill development so the extension of training is justifiable.⁷ The majority of the respondents (41.18%) did not consider the distant learning program as a substitute to practical clinical work, however, Ting et al. are hopeful that virtual clinics and telemonitoring are helpful educational tools for distant learning of clinical skills.⁸ This in away depicts that our respondents understand that developing countries cannot bear these fancy options. 38% agreed that wet labs can help in improving surgical skills. In the western world, simulation-based models, especially Eyesi Surgical Simulator have been adopted effectively for cataract surgery training.⁹ Slight polarised opinion (IQR 2) in this regard can be related to the availability of such tools in our setups. But surgical telementoring,¹⁰ and surgical recorded videos are still a great help. 44.12% of respondents supported that there will be an improvement in theoretical knowledge. Particularly the e-learning has given satisfactory results¹¹. Rather a concept of virtual curriculum in ophthalmology education has emerged.¹² 51.4% of respondents believed that there will be a rise in the trend towards research article writing. However strangely, Anderson et al have found that in 2020 women had contributed less in COVID-19 papers writing as the first author, as compared to 2019.¹³ Many respondents (48.53%) admit the risk of downsizing in the health sector. This can be in reaction to news related to furloughing hospital workers in other countries, those not involved directly in patient care.¹⁴ 39.71% of respondents believed that exams should be postponed. This can be a genuine demand also, as globally residency exams have repeatedly cancelled, with or even without an alternate date.¹⁵

Statements from 9-15 were related to workplace concerns during the COVID-19 pandemic.

48.5% of respondents agreed that their will to work in the hospital has reduced, but despite all the uncertainty and fear mostly ophthalmologists had to keep their practices afloat.¹⁶ This is very much true that compared to last year ophthalmologists are more composed now. 51.47% of respondents strongly believe that a hospital is a high-risk place for getting covid. In a recent case series, nearly 44% of the 179 covid cases were hospital-acquired.¹⁷ The highest i.e., 67.75% of respondents strongly agreed that slit lamp and fundus examination highly increases the risk of getting COVID. Ophthalmologists have close contact with the patient, so exposure to respiratory droplets (greater extent), and conjunctival secretions (lesser extent),¹⁸ impose great threat of transmitting SARS-CoV-2. Lacorzana J reported of 16% of ophthalmologists turning covid seropositive.¹⁹ 48.53% of respondents agreed that focusing during ophthalmic examination is reduced. The reason for this withdrawal is multifactorial but depression has been found to be the one.²⁰ 45.59% of respondents strongly support that PPE makes ophthalmic practice difficult. Although PPE has a vital role in protection tedious PPE doffing has resulted in tiredness which further leads to improper operations and high infection risk²¹. 63.24% of respondents strongly agreed that their family members are at risk of getting covid due to their profession. But fortunately, health workers were not found to be the main source of transmitting covid to families.²² 41.18% of respondents disagree with the idea of leaving the job and show optimism, despite ophthalmology practice being badly affected globally.²³

Statements 16 to 20 were related to patient care 51.47% of our respondents agreed that patient care during COVID-19 has deteriorated. The reason was curtailed ophthalmic practice worldwide.²⁴ 60.29% of respondents agreed that vision loss due to preventable ocular disease will rise. Nearly 75% of vision loss is claimed to be treatable, but the disruption in the provision of eye care, especially in developing countries, is likely to lead to precious vision losses at a large scale.²⁵ 55.88% of respondents remained unsatisfied over the quality of clinical work and the reasons are multiple.^{20,21} 38.24% of respondents disagree about the positive role of telemedicine in eye patient care. But in a recent pilot study, Arntz et al. have given a very high-level satisfaction of both ophthalmologists and patients over ophthalmic telemedicine consultations.²⁶ 32.35% of respondents were neutral (slightly low consensus), over discouraging patient visits to eye clinics. There is no

doubt a difficult decision but one has to weigh the risk of delaying sight-saving visits vs the risk of getting covid.²⁷

Conclusion

The survey was small-scale yet clear-cut. The results showed compliance towards statements and harmony amongst opinions, thus endorsed that COVID-19 has a definitive impact on the professional lives of ophthalmologists. Further larger-scale studies in the future will be needed to address its long-term effects, especially regarding evolving ophthalmic practice.

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