Impact of COVID-19 pandemic on retinopathy of prematurity screening at a tertiary care center of South India

Dear Editor,

The coronavirus disease 2019 (COVID-19) pandemic had deleterious effects on health care systems in all parts of the country. Following the nationwide lockdown, all elective and emergency services were at a standstill.[1] Retinopathy of prematurity (ROP) is an emergency eye condition, and screening of all preterm and low-birth-weight newborns is of paramount importance. Delayed intervention can cause irreversible blindness in premature babies.[2] Due to the COVID-19 pandemic, the number of babies screened and diagnosed for ROP reduced.[3] Though effective treatment modalities of ROP are available, babies have lost vision due to delayed presentation to the ophthalmologists because of COVID-19 restrictions.[4] There has also been a shortage of resident doctors in many centers as residents were posted in COVID-19 wards and were providing direct care to COVID-19 patients.[5] Lack of public transportation, travel restrictions, ignorance among the parents, fear of contracting the COVID-19 virus, and several restrictions and protocols in hospitals contributed to the reduced numbers of babies screened for ROP.

We, however, had continued ROP screening during the pandemic at our tertiary care institute, Jawaharlal Institute of Postgraduate Medical Education Research (JIPMER), Puducherry. In a retrospective review, we analyzed the number of ROP babies screened during the pandemic compared to the preceding year. The mean number of babies screened/month decreased from 37.5 ± 9.5 babies (total: 450 babies in 12 months) in 2019 to 26.6 ± 9.9 babies (total: 319 babies in 12 months) in 2020. The mean number of babies newly diagnosed with any stage ROP also reduced from 13.17 ± 5.04 (total: 150 babies in 12 months) in 2019 to 8.33 ± 2.31 (total: 98 babies in 12 months) babies in 2020 [Table 1]. Statistically, there was a significant difference in the mean number of babies screened in 2020 as compared to 2019 as shown by post hoc analysis (P = 0.016; 95% C.I.: 1.70–20.13). However, a significant increase in the number of babies screened in 2021 was noted as compared to 2020 (P = 0.001; 95% C.I.: −27.72 to −7.11). This increment can be attributed to a few policies that we devised during the second wave of the pandemic. We started a social networking group on WhatsApp in March, 2021 that included the concerned consultants, senior residents, junior residents, and nursing officers from Ophthalmology and Neonatology departments of JIPMER. Cross references across the departments are facilitated via text in the WhatsApp group in addition to routine referral letters. This hastens the screening process and reduces the waiting period for the babies. Simultaneously, we also created a Google Sheet where the details of each baby were updated. The parents are reminded of their next visit via a phone call and a short message service (SMS) text 3 days prior to their next follow-up visit. The SMS facilitated their entry at the hospital gate and expedited registration at the reception desk on the day of their scheduled visit. To tackle the reduced manpower, all senior residents and final semester ophthalmology post graduate students (prior experience of 2 years in performing indirect ophthalmoscopy) were also trained to conduct ROP screening with indirect ophthalmoscopy. Regular auditing of the screening services is being done, and feedbacks are being provided to the residents by the vitreo-retina consultant. The new screening and follow-up policies devised during the pandemic are still being adhered to at our institute. Training additional manpower in ROP screening is essential, especially in centers where ROP imaging modalities are not available. Digital widefield fundus cameras for ROP are costly and currently available in only limited centers around the nation. Therefore, in addition to training additional manpower for ROP screening, we need to develop low-cost wide field retinal photography devices to facilitate screening and referral of the babies whenever needed.[6]

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

Sandip Sarkar, Anureet Kaur, Tanmay Gokhale, Ajax Jossy, Sangaraju Suneel, Amit K Deb

Department of Ophthalmology, Jawaharlal Institute of Post Graduate Medical Education and Research, Puducherry, India

Correspondence to: Dr. Amit K Deb, Department of Ophthalmology, Jawaharlal Institute of Post Graduate Medical Education and Research, Gorimedu, Puducherry - 605 006, India.
E-mail: amitjipmer@yahoo.co.in

Table 1: Impact on ROP screening of COVID-19 pandemic

	Phase 1 (April 2019-March 2020)	Phase 2 (April 2020-March 2021)	Phase 3 (April 2021-November 2021)	*P*
New babies screened/ month	37.5±9.5 (Total: 450 babies in 12 months)	26.6±9.9 (Total: 319 babies in 12 months)	44.00±5.45 (Total: 352 babies in 8 months)	0.001
New babies Diagnosed with any stage ROP/month	13.17±5.04 (Total: 150 babies in 12 months)	8.33±2.31 (Total: 98 babies in 12 months)	15.25±3.02 (Total: 122 babies in 8 months)	0.001
New babies Treated/month with laser	0.58±0.79 (Total: 7 babies in 12 months)	0.25±0.45 (Total: 3 babies in 12 months)	0.50±0.93 (Total: 4 babies in 12 months)	0.516

*One-Way ANOVA[7]

References

1. Nair AG, Gandhi RA, Natarajan S. Effect of COVID-19 related lockdown on ophthalmic practice and patient care in India: Results of a survey. Indian J Ophthalmol 2020;68:725-30.
2. Katoch D, Singh SR, Kumar P. Impact of the COVID-19 pandemic on retinopathy of prematurity practice: An Indian perspective. Indian Pediatr 2020;57:979-80.
3. Kaur R, Sachan A, Thukral A, Chandra P. Impact of COVID-19 pandemic lockdowns on retinopathy of prematurity services at a tertiary eye care center in India. Indian J Ophthalmol 2021;69:2903-4.
4. Singh SR, Dogra M. Commentary: "Innovation" in retinopathy of prematurity management during COVID-19 times. Indian J Ophthalmol 2021;69:409.
5. Deb AK, Gokhale TN, Mani M, Sarkar S. Perspective of ophthalmologists providing direct care to COVID-19 positive patients at JIPMER, Puducherry. Indian J Ophthalmol 2020;68:2315-6.
6. Goyal A, Gopalakrishnan M, Anantharaman G, Chandrashekharan DP, Thachil T, Sharma A. Smartphone guided wide-field imaging for retinopathy of prematurity in neonatal intensive care unit - A Smart ROP (SROP) initiative. Indian J Ophthalmol 2019;67:840-5.
7. Kim HY. Analysis of variance (ANOVA) comparing means of more than two groups. Restorative dentistry & endodontics. 2014;39:74-7.

Access this article online	
Quick Response Code:	Website: www.ijo.in
	DOI: 10.4103/ijo.IJO_2715_21

Cite this article as: Sarkar S, Kaur A, Gokhale T, Jossy A, Suneel S, Deb AK. Impact of COVID-19 pandemic on retinopathy of prematurity screening at a tertiary care center of South India. Indian J Ophthalmol 2022;70:702-3.