Cardiovascular, neurological, and ocular complications of COVID 19 among Indian patients – A Targeted Literature Review

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INTRODUCTION

- The Covid-19 global pandemic has been caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) virus. Apart from respiratory disfunction, COVID-19 causes a serious cardiovascular, neurological and ocular complications.
- The brain is one of the most affected organs post-recovery
- As soon as the virus enters the nasal region, It is exposed to the olfactory nervous system which is linked with the visual system.

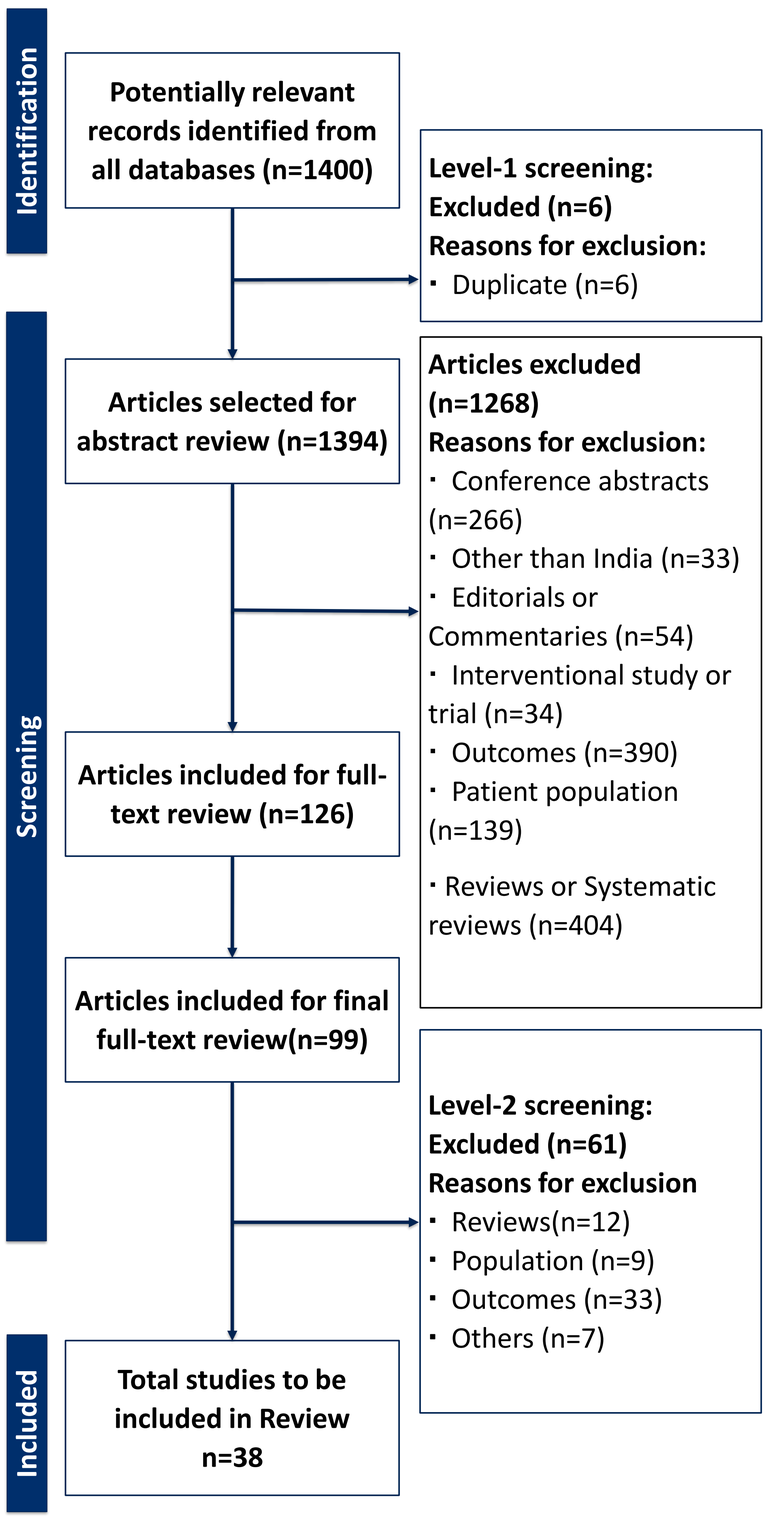
OBJECTIVE

- We aimed to analyse the complications of COVID-19 on cardiovascular, neurological, and ocular system in Indian patients

METHODOLOGY

- A systematic literature review was conducted using comprehensive searches in Embase to identify studies reporting the complications of COVID-19 in Indian patients from inception of the database to 07 June 2022.
- Narrative/systematic reviews were excluded.

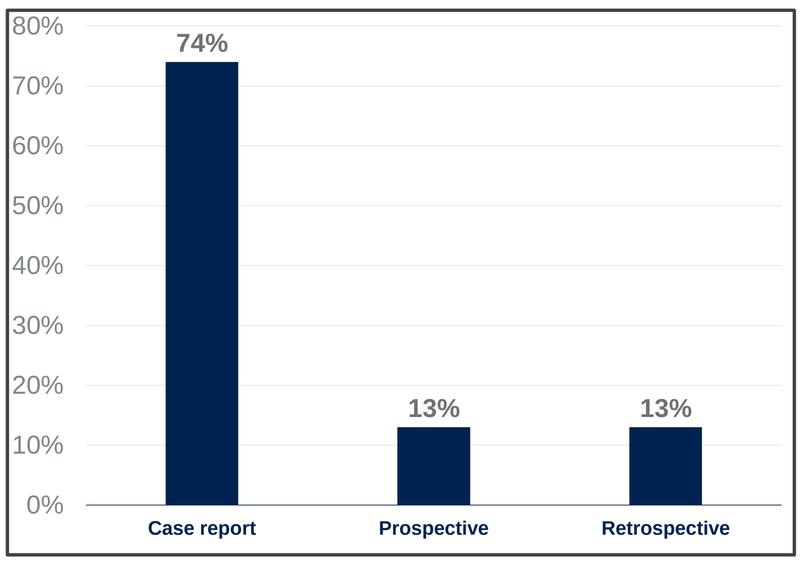
Figure 1: PRISMA low chart



RESULTS

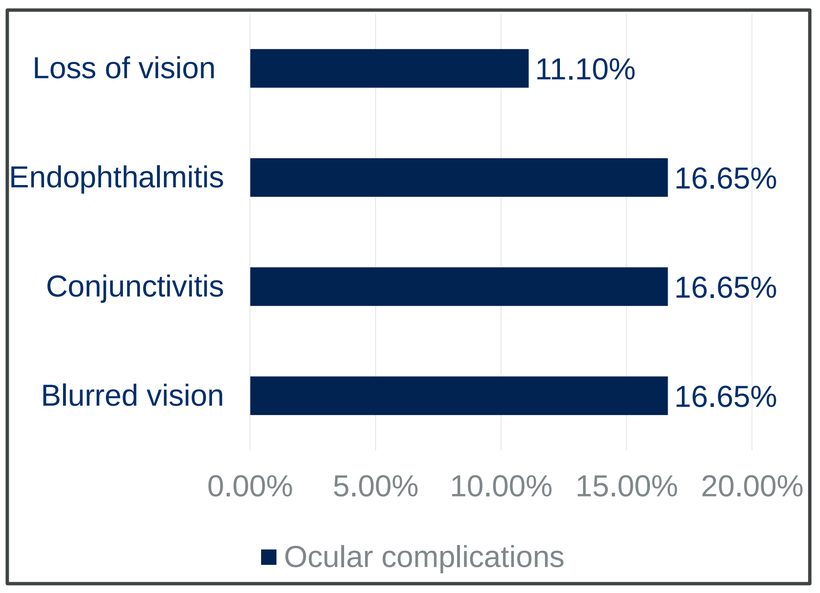
- Of the 1400 studies retrieved from the literature, 38 studies were included. The studies included were mostly case reports (n=28), retrospective observational (n=5), and prospective observational (n=5) studies, Fig: 2.

Figure 2: Study distribution by design



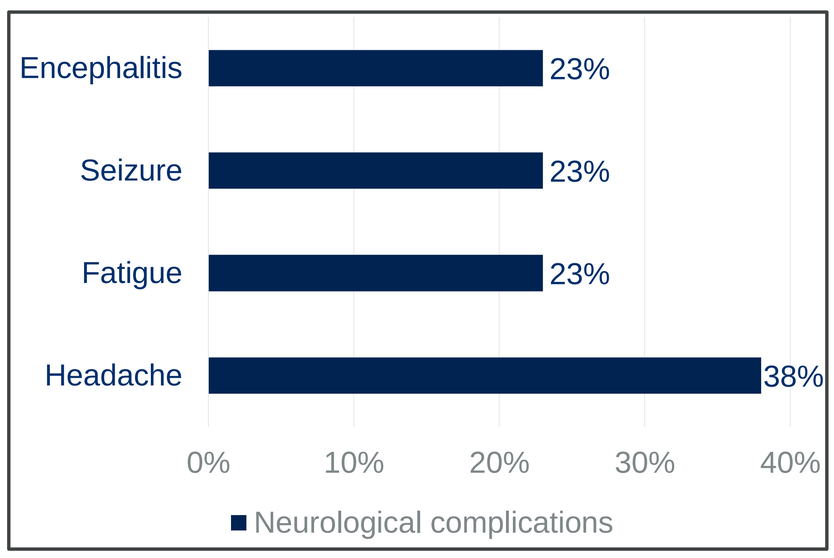
- Patients were adults in most studies (97%).
- Eighteen studies reported ocular complications, with blurred vision, conjunctivitis, endophthalmitis reported by 16.6% of patients each, followed by loss of vision (11.1%).
- Case reports mentioned retinal vein occlusion, retinal artery occlusion, hyperemia, bilateral panuveitis, ophthalmoplegia, acute bilateral retrobulbar optic neuritis.

Figure 3: Ocular complications



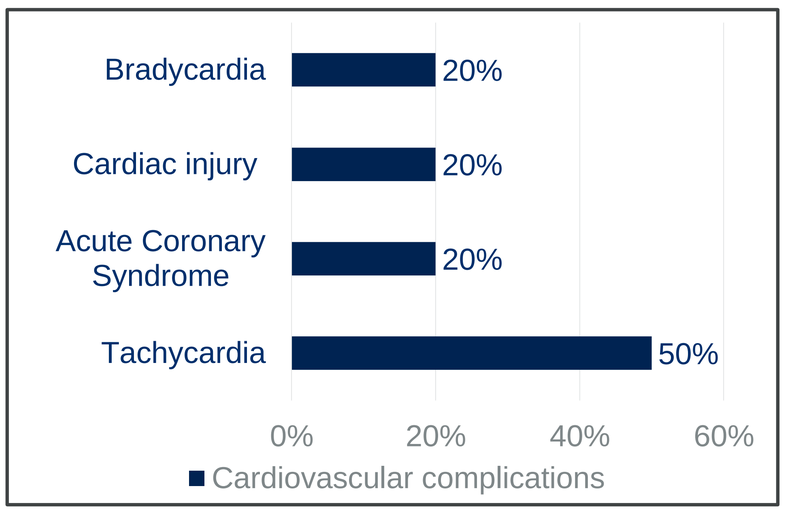
- Thirteen studies reported neurological complications, with headache (38%) being the most common complication, followed by fatigue, seizure and encephalitis (23% each).

Figure 4: Neurological complications



- Case reports described complications such as confusion, depression, anxiety, psychosis, encephalopathy, polyradiculoneuropathy, facial palsy, global aphasia, acute cerebellitis, stroke, cerebral ataxia.
- Ten studies reported cardiovascular complications, and tachycardia (50%) was the most commonly reported complication, followed by acute coronary syndrome, cardiac injury, and bradycardia (20% each).

Figure 5: Cardiovascular complications



CONCLUSION

- This review identified COVID-19 has caused significant complications on the ocular system, followed by neurological and cardiovascular organ system.
- Identification and reporting of these manifestations of SARS-CoV-2 will help in formulating the guidelines and protocol for early diagnosis and management.
- Physicians need to be caution while treating COVID-19 patients with conditions that frequently generate a variety of consequences involving numerous organs and systems.

CONFLICT OF INTEREST

- Rai MK, Krishna A, Vhanakalas A, Gautam R, are employees of EVERSANA India.

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