



# **A Comprehensive Review of the Ocular Manifestation and Role of Shalakyā in Managing Novel Corona Virus 2019 Disease**

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## **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

## **Article Information**

DOI: 10.9734/JPRI/2021/v33i64A35301

## **Open Peer Review History:**

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here:

<https://www.sdiarticle5.com/review-history/80021>

**Original Research Article**

**Received 24 November 2021**

**Accepted 27 December 2021**

**Published 30 December 2021**

## **ABSTRACT**

A Novel corona virus (CoV) in December 2019 cause with the aid of using the sever Acute Respiratory Syndrome Corona Virus -2 (SARS-Cov-2) emerged from Wuhan China. The Coronavirus Pandemic has become the global's interest the immune mechine, The Body's Defense Mechanism towards Disease inflicting virus & different organism that we contact inquest & Inhale each day [1]. 'The idea of epidemic become very a whole lot properly outline in Ayurved Charaka the fantastic health practitioner of every ages has referred to epidemic Diseases beneath Neath the Heading of Janapadodhwans. In gift time whilst there may be no Absolute remedy for the virus whilst there may be no 100% vaccine safety proved, The Role Ayurved Stand ideally suited .Shalakyā one the Eight Branches of Ayurved has an ideally suited function in preventing in opposition to the lethal Novel corona Virus. Ayurved Drugs are capable of enhance the immunity & combat in opposition to the Infection in a far powerful manner. The predominant goal to the assessment to recognized ocular Manifestation & Role of shalakyā in coping with novel corona virus 2019.

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**Keywords:** Novel corona virus; SARS-CoV-2; Janapadodhwans; Shalakyas; immunity; Ayurved; ocular manifestation; vaccine.

## 1. INTRODUCTION

Novel corona virus are a huge own circle of relatives viruses that motive contamination, not unusual place bloodless to Severe Disease along with MERS-CoV (Middle East Respiratory Syndrome) & intense severe Acute Respiratory syndrome (SARS-CoV) is New Strain (Novel) that has now no longer been formerly Identifies in humans beings which has emerged in 2020 as pandemic. The worldwide Organization declared the outbreak a Public fitness Emergency of International assignment on 30 Jan and Pandemic on eleven march [2].

Symptoms of its contamination are Malaise, Fever, and dry cough, Shortness of breath & Respiratory Distress. A Recent observe said that SARS CoV -2. Also make use of the mobileular access receptor, angiotensin changing enzyme 2(ACE 2) [3]. Moreover the interest and expression of ACE2 can be Noticed inside facet the ocular floor, collectively with the cornea and conjunctiva which gives Trans ocular access an opportunity for covid 19 [4]. The Virus Transmits via Droplet and Nasal oral, eyes & distinctive mucosa. The inflamed finger if touched to pinnacle mucosa motives the virus go into the frame and motive Covid 19 contamination. Sometime affected person may also continue to be a symptomatic and no longer display any symptom for a long term that's the reason. The affected person may also transmit the virus unknowingly & Increase the Morbidity.

The available studies differ in their content and significance, causing further dilemmas among professionals, hence, we designed this review to evaluate the current available evidence for covid 19 infection of ocular tissue in humans as well as its ocular manifestations and role of shalakyas for managing covid 19.furthermore, we strive to bridge the space of understanding in area and

placed the bottom for in addition studies from an shalakyas factor of view.

### 1.1 Aim

To study the ocular manifestations provoked with the aid of using novel corona virus diseases and position of shalakyas in dealing with covid 19.

### 1.2 Objective

To examine ocular manifestations enraged with the aid of using covid disorder in human, the natural history of the disease in the eye.

To examine position of shalakyas in dealing with novel corona virus 2019 diseases.

## 2. MATERIALS AND METHODS

We designed a sequential evaluate of the ocular manifestations and position of shalakyas in covid 19 primarily based totally at the literature posted untill May 31, 2021, inclusive of the preprint and peer reviewed research. The following key phrases utilized in numerous mixture has been tailored for every seek novel corona virus SARS-CoV-2, shalakyas, immunity, Ayurveda, vaccine. These seek keyphrases had been tailored to be used in distinctive facts bases: Scopus, PubMed, google search, and technology direct and historical Ayurveda literature. The seek method turned into used to get the title and the abstracts of the pertinent research in any language because the first level of seek with the aid using writer (R.S.B and P.S) then, they retrieved the abstract. In second level of the quest they reviewed the entire take a look at of article to decide the suitability of implication. Dispute ruling turned into executed with the aid using third writer (P.S) very last choice turned into taken with the aid of using the primary writer (A.W.C).all writer collaborated in facts extraction for in addition facts evaluation to bring the applicable facts.

### 2.1 COVID-19 (SAR CoV -2) Structures

SARS CoV-2 associated with to  $\beta$  corona viridian own circle of relatives & sub own circle of relatives Orthocorona virus primarily based totally on their Serological and genomic sequences the sub own circle of relatives orthocorona viridase has Divide into four sub-groups.

- |    |                |             |   |                                  |
|----|----------------|-------------|---|----------------------------------|
| a) | $\alpha$ - COV | infecting   | } | mammals                          |
| b) | $\beta$ - COV  |             |   |                                  |
| c) | $\gamma$ - COV | Transmitted | } | between birds (Mona et al. 2020) |
| d) | $\delta$ -COV  |             |   |                                  |

In which Two recognized  $\beta$  CoV, SARS CoV & MERS CoV are the number one causative agent for intense deadly Respiratory Tract Infection (Yan et al 2020) SARC CoV 2 associated with to  $\beta$  corona Viridian own circle of relatives have an equal genomic sequence (nearly 96%) with is Natural host bat  $\beta$  coronavirus. The virus is maximum possibly lint to humans beings and assaults the top and decrease Respiratory Tract in humans beings. The shape of covid 19 (SARC CoV-2) include following.

- A Spike protein (S)
- Hemagglutinin – esterase dimer (HE)
- A membrane glycol protein (M)
- An envelope protein (E)
- A Neucleolapid protein (N) & RNA [5]

## 2.2 COVID-19 Context to Ocular Manifestation and Shalakya

Shalakya is one of the Branches of Ashtanga Ayurveda which offer with the illness of upper clavicular Diseases [6]. As the symptom of Novel corona virus are in the main limited to top clavicular and top respiratory tract. The function of shalakya within side the prevention and remedy of covid 19 could be a very whole lot critical. From the ocular angle those were reviews suggesting CoV Affecting the eye. In 2004 toward the stop of the SARC-CoV Cries, a New Human coronavirus become diagnosed. This become the HCoV-NL63. The virus become First Isolated from a 7 month baby earlier than being diagnosed in seven extra individuals. During the Infection the kid had sign and symptoms and bodily exam locating of Bronchiolitis and conjunctivitis [7].

In 2005 a Retrospective observe that analyzed the Nasal swabs kid with Respiratory contamination from 2000 to 2003 for HCoV-NL63 was performed in France. In this observe they observed that 17% (n = s) of HCoV-NL63 Patient (n = 18) has advanced conjunctivitis [8]. However, to date, there has not been any further studies detailing the pathogenic mechanism of HCoV-NL63 in the infection of ocular tissues.

Now ocular Manifestation of covid 19 are mentioned within side the shape of elevated conjunctival secretion epiphora and Diminution of imaginative and prescient may also inflamed instances has been first supplied through conjunctivitis earlier than Pneumonia occurred [9].

The symptom of Covid 19 are Running Nose, sore throat, Fever and Dry cough. In shalakya the same function are observed in vatika Pratishtyaya [10]. The purva Roopa of pratishtyaya are just like the medical presentation in Covid 19 [11].

## 2.3 Two Important Goals of Shalakya for Treatment

- 1) Protection of eye and mucosa of Nose, Throat.
- 2) Boost Immunity a good way to make frame successful to combat in opposition to infections.
  - i. Protection of eyes
    - Caring eyes for the duration of the covid 19 outbreak
    - Expect adjustment in your routine eye exam and procedure
    - Ophthalmologist follows very strict cleansing and Disinfection recommendations
    - Non-Emergency surgical procedure and system can may be postponed
    - Were double mask, protection covering, and wash hand with cleaning soap and water proper manner.
    - If you put on touch lenses attempt switching so glasses for a sometime due to fact silicon lenses are liable to bind the pathogens than hydrogels [12].
    - Contact lens exercise has become more sophisticated to reduce the transmission rate of covid 19 in CL users [13]. Contact lens practice is one that can be greatly impacted by an infectious and transmissible disease. Although we did not found any original articles mentioning this dilemma, we addressed this issue based on the data in two review article. The other secondary research dealt with ocular manifestations and ocular transmission of SARS-CoV-2 comprehensively, and it was hard to classify them.
    - Wearing glasses may also upload a layer of safety
    - Stock up on eye remedy prescription if you may.
    - Avoid rubbing your eye.

ii. Protection of mucosa of Nose and Throat.

- The Best manner to save you contamination is to keep away from being uncovered to the virus. Spread particularly from character to character near touch with some other inside approximately 6 feet.
- Respiratory droplets produced whilst an inflamed character cough, sneeze or talks those droplets can land within side the mouth or Nose of folks who are close by or viable through inhaled into the lungs.
- The foremost course of Transmission of the virus is through droplets.
- Wear Mask once they must exist in public.
- Social distancing [14].
- Hand wash at the least 20 second, Hand sanitizer that content material at least 70% alcohol
- Avoid touching Nose and mouth with unwashed fingers.

**Boost Immunity a good way to make frame successful to combat in opposition to infections:**

- Ayurved is a conventional gadget of medicine which offer through treatment centered on two goals.
  - ❖ Swasthasya swasthaya rakshanam
  - ❖ Aaturasya vikar prashmanam [15]
- The Task is to prevent the Diseases which may be viable through unique branches of shalakyā , kayachikitsa can use to curb its spread.
- Single drug Therapy  
Guduchi, Amala, Haridra, Ashwangandha, Tulsi.
- Aurvidic Preparations  
Sitopalad, churna, Haridra khand, Chayawanprash  
Sanshamni vati, sanjeevani vati, Guduchi Rasayan
- Nasya and Kavala [16]  
Nasya – sesame oil and ghee} pratimarsh nasya morning and evening.  
Oil pulling remedy – 1tsp sesame oil in mouth
- Nasa hi shirso dwaram [17]  
As Ayurveda Nasa is entrance of cranial cavity for medicine, enters in shringa tak

marma and spreads in the cranial cavity, eye/ear, throat and minute's capillaries of face and the doshas are removed from the site.

Kavala or Gandusha

Def - Retention of various fluid in mouth called Gandush

Def – The Retained fluid which can be easily rotated from side to side is called kavala (gargle) [18].

## 2.4 Mode of Action

Kavala and Gandusha elimination of vitiated Kapha from surround structures which get mixed with fluid of kavala / gandusha and thrown out along with it at the end of procedure.

## 2.5 Rasayana Therapy (Rejuvenation)

Rasayana therapy has been described in Ayurveda as a scientific clinical and medical discipline. According to Acharya charak the substance which invigorate a wholesome character through generating the excellent exceptional of Rasa, Rakta dhatu and other dhatus are referred to as as Rasayana .It will increase Natural immunity, enhancing the functioning of all Fundamentals organs of the frame and hold the symptom and symptom effortlessly growing older at frame.

It essentially boosts the oja (important pressure of life) and the immune gadget. Most of these rasayana can be used regularly as a food for maintaining balanced mental and physical health.

## 2.6 Classification Rasayan

As per content of Rasayana:

- Aushadha Rasayana (drug based)
- Ahara Rasayayana (diet based)
- Achara Rasayana (good conduct)

## 2.7 Yogasana

Yogasana play critical function in complements the Immunity and Detoxification of frame. Meditation and yogasanas like Bhasrika, Bharami, kapalabharti, rechak, purak and surya namaskar may be accomplished Regularly to make the frame Mind suit and healthy. In today

scenario when there is a panic regarding this novel outbreak.

Yogasana can assist in relieving the stress. Stress and intellectual tension are one the main reason in lowering the immunity as they releases unfastened radicals and make the frame inclined for the access of diverse bacteria and viruses. Last but not least a healthy body and healthy mind depends on healthy life style. So the lifestyle must be good. One should not indulge in adhyashana, vishmanshana. Always have hitkara ahaar and vihaara.

### 3. DISCUSSION

The precise incident of ocular manifestation on covid 19 disorder is uncertain. Consistent with previous studies, most patients with covid 19 present with various respiratory symptoms, such as fever, dry cough and chest tightness, that may rapidly progress to pneumonia [19]. However, covid 19 disease could present with distinguished extra pulmonary manifestations including diarrhea, headache, myalgia or arthralgia. Some patient even present with asymptomatic infection .yet there is large controversy about the relationship between SARS-CoV-2 virus and ocular pathology-Conjunctivitis. It continue to be a debate whether or not the eyes is portal of access for contamination. More Research must be accomplished to verify its capacity to contaminate ocular tissue and its pathogenic mechanisms. As the contemporary epidemic maintains a higher expertise of the virus will emerge, desire completely with extra emphasis on studies into the connection among CoV and the eyes. The authors categorized the virus impacts and the possible ocular manifestations in essential points based on current literature. Ayurveda literatures have defined each epidemic and pandemics really with what preventer degree want to be taken.

### 4. CONCLUSION

Janapadodhvasa way annihilation of society, Thus Nidan parivarjana (Avoiding Causative Factor), pakarshanam (Removing microbe from affected site) and prakriti vighata (Improving environment) are propose to manipulate such condition. Social Distancing and one-of-a-kind remedy have to receive to treat. The etio pathogenesis of such disorder through Ayurveda, we also can the information to govern contemporary pandemic situation, due to fact

there aren't any remedy modalities for the brand new pandemic and now no longer vaccine show 100% in opposition to this pandemic Till now, This is an possibility to discover real ability of Ayurveda gadget and adopting integrative strategies for innovating answer in opposition to covid19 pandemic. India can show the ability of AYUSH System in addressing this international fitness crisis. Epidemics have ability to carry destruction of all people. No Matter how one-of-a-kind they are from one some other. Maintenance of dincharaya rituvharya and sadvrita together with the assist of panchkarma, Aushadha, Yogasana and Rasayana those disorder scan cured.

### CONSENT AND ETHICAL APPROVAL

It is not applicable.

### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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*Peer-review history:*

*The peer review history for this paper can be accessed here:*  
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