**Journal of Cardiovascular Disease Research**

ISSN:0975-3583,0976-2833 VOL13, ISSUE08,2022

**Original research article**

# To study clinical profile of ENT manifestations among COVID-19 patients

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**Abstract**

**Background:** COVID-19 has been one of the worst pandemics faced by the human Civilization, The most common ENT symptoms with which the patients presented were sore throat, loss of smell, loss of taste and headache**.**

**Objective** of our study to detect, analyze and discuss the different ear nose throat (ENT) manifestations those were reported in COVID-19 positive patients

**Material and Methods:** A cross-sectional, record-based study was conducted in a tertiary care hospital of India. The patients were assessed for their signs and symptoms and the findings were analyzed

**Result:** A total of350 patients with age ranged from 18 to 70 years enrolled in our study. 188 (53.7%) were male and 162 (46.3%).were females. The most common ENT manifestation were sore throat (79.4%), headache (76.6%) and decreased or loss of sense of smell in 44.6% cases, whereas most common non ENT manifestation was fever (90.9%) and cough (84.6%).

**Conclusion:**The most common presenting symptoms in COVID-19 patients are fever and cough but a significant proportion of patients do have ENT manifestations which may go unnoticed. Hence it becomes necessary to screen all COVID patients for ENT symptoms so that high quality care can be provided for patients.

**Keywords:**COVID-19, ENT manifestations, sore throat, loss of sense of smell

## Introduction

COVID-19 is an infectious disease caused by a novel virus, the Severe Respiratory Syndrome Corona Virus 2 (SARS-CoV- 2) [1, 2]. The disease was officially named as COVID-19 by the World Health Organization (WHO) on February 11, 2020 [3]. This disease started in China and, due to the high infectivity of the virus, rapid transmission occurred, leading to a pandemic [2].The COVID-19 is presented mainly by lower respiratory tract related symptoms such as fever, cough, dyspnea and chest tightness that could progress rapidly to acute respiratory distress syndrome (ARDS) [4].The most common ENT symptoms with which the patients presented were sore throat (80%) and headache (76%). The other ENT.

Symptoms were hyposmia (44%), dysgeusia (32%) and nasal congestion (28%) [5].This clinically avoids the fear of the disease, delays the diagnosis and quarantine of the infected patient, thus complicating the treatment of the disease. Therefore, the first and most important step in identifying an infected patient is to fully understand the symptoms that may be related to the virus [6]. Early detection of ENT manifestation in COVID-19 patients may help in the categorization of patients depending on the severity of the disease. This could eventually lead to an interruption of the transmission chain of the virus

## Aim

The present study focuses on the ear, nose, and throat (ENT) manifestations in patients diagnosed with COVID -19.Knowledge of the symptoms helps in the early identification of the affected individuals.

## Material and Methods

All patients with confirmed reverse transcriptase polymerase chain reaction (RT-PCR)-positive testing for the SARS -CoV-2viral genome were assessed for symptoms and signs. 350 patients who presented to a tertiary care designated COVID hospital were included in the study. Health workers with confirmed

ISSN:0975-3583,0976-2833 VOL13, ISSUE08,2022

positive PCR test results were voluntarily enrolled in the study. All subjects provided informed consent to participation in the study.

**Inclusion criteria**

a) Patients>18 years of age with a positive COVID -19 test.
b) Patients having mild to moderate symptoms.

**Exclusion criteria**

a) Age < 18 years old.
b) No confirmed positive PCR test result.
c) A history of chronic nasal problems.
d) Recent head injury, recent nasal surgery.
e) Severe respiratory failure or treatment in the intensive care unit.

Proper history of all the confirmed COVID 19 patients was taken and clinical examinations were performed. They were also advised to do the necessary blood investigations, electrocardiogram and chest X-rays

**Statistical analysis**

All statistical analyses were performed using version 22 software.A value of $p< 0.05$ was considered statistically significant.

**Result**

A total of 350 Covid-19 patients were included in the study. The patients ranged in age from 18 to 70 years, including slight male predominance (53.7%) then female (46.3%) [Fig: 1].
Majority of the cases (25.1%) belong to 51-60 years age group

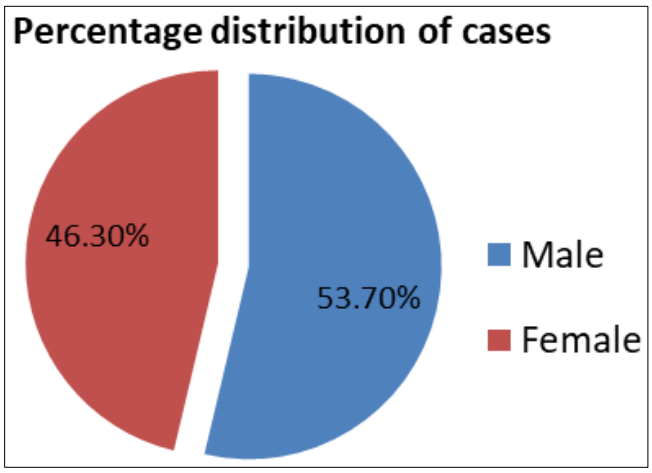


**Fig 1:** Gender distribution of Covid-19 cases

**Table1:** Socio-demographic profile of the COVID-19 cases

| Demographic Variable | | No of cases | Percentage (%) |
|---|---|---|---|
| Age groups(in years) | 18-30 | 31 | 8.9% |
| | 31-40 | 79 | 22.6% |
| | 41-50 | 81 | 23.1% |
| | 51-60 | 88 | 25.1% |
| | > 60 | 71 | 20.3% |
| Gender | Male | 188 | 53.7% |
| | Female | 162 | 46.3% |
| Smoking | Present | 34 | 9.7% |
| | Absent | 316 | 90.3% |
| Alcohol | Present | 61 | 17.4% |
| | Absent | 289 | 82.6% |
| Diabetes mellitus | Present | 90 | 25.7% |
| | Absent | 260 | 74.3% |
| Hypertension | Present | 102 | 29.1% |
| | Absent | 248 | 70.9% |

The most common non ENT symptoms with which these patients presented were fever (90.9%) and

ISSN:0975-3583,0976-2833 VOL13, ISSUE08,2022

cough (84.6%), and the least common symptoms were malaise, generalized bodyache and abdominal symptoms like diarrhea (Table 2).

**Table 2:** Showing the non-ENT manifestations in the cases

| Non-ENT manifestations | No of cases | Percentage (%) |
|---|---|---|
| Fever | 318 | 90.9% |
| Cough | 296 | 84.6% |
| Expectoration | 83 | 23.7% |
| dyspnea/shortness of breathing | 92 | 26.3% |
| Malaise, bodyache | 68 | 19.4% |
| Abdominal symptoms | 18 | 5.1% |

The most common ENT manifestations with which the patients presented were sore throat (79.4%) and headache (76.9%), whereas least common manifestation were Pharyngeal erythema (Table 3).

**Table3:** Showing the ENT manifestations in the cases

| ENT manifestations | No of cases | Percentage (%) |
|---|---|---|
| Sore throat | 278 | 79.4% |
| Headache | 269 | 76.9% |
| Hyposmia/anosmia | 156 | 44.6% |
| Dysphagia | 29 | 8.3% |
| Dysgeusia | 117 | 33.4% |
| Nasal congestion | 99 | 28.3% |
| Pharyngeal erythema | 23 | 6.6% |
| Rhinorrhoea/ nasal discharge | 75 | 21.4% |

**Discussion**

The nasal, nasopharyngeal and/or the orpharyngeal tissue is one of the main harbor sites of the infection, main site of taking the sample for testing and a main source of transmission of infection. However, most published COVID-19 researches are focused on the lower respiratory tract manifestation and sequels due to their life-threatening nature. While, the literature on ENT manifestation during COVID- 19 infection is still sparse, thus, there is value in studying ENT manifestations of such novel virus and there is a need to identify the defining ENT epidemiological and clinical characteristics with more precision.

Present study have slight male predominance was found, but its not statistically significant**,** similar finding were also reported by M Prabhu*et al*.[7] and S K Aremu*et al*.[8].

In current study it was found that non-ENT manifestations like fever and cough are more common in COVID patients than ENT manifestations, According to studies conducted previously [9, 10], However, it is not uncommon to see the ENT manifestations in these patients.

In our study 51-60 years age group was the most commonly involved, concordance to many other studies like: Shaik A *et al*. [11], Chaurasia*et al*.[12] and Hironya Borah *et al*.[13].

The most common ENT manifestations in current study were sore throat and headache, and the least common symptom was Dysphagia and Pharyngeal erythema, our findings are comparable to many other studies, El-Anwa*et al*.[14] and Anitya S *et al*.[15].

Hyposmia and dysgeusia are early symptoms found in COVID 19 patients observed in our study, similar to the Sakalli E *et al*.[16], vaira LA *et al*.[17] and Coelho DH *et al*. [18].

Present study found the most common non ENT/ general manifestations in Covid-19 patients were fever and cough, similar finding also reported by many other researchers,Stokes EK *et al*.[19],Villalba NL *et al*.[20], Sun P *et al*.[21], Mustafa M *et al*.[22] and Guan WJ *et al*.[23].

These symptoms are more commonly seen during the early stages of the disease [24].

**Conclusion**

Though, the most common presenting symptoms in COVID-19 patients are fever and cough, a significant proportion of patients does have ENT manifestations which may go unnoticed. Hence ENT manifestations should be kept in mind while making the diagnosis of COVID 19. Symptomatic treatment was found to be effective in most of the cases.

**Source of funding:** None
**Conflicts of interest:** None

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ISSN:0975-3583,0976-2833 VOL13, ISSUE08,2022

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