



## Identifying the most commonly occurred clinical symptoms of covid-19 patients at southern hospitals and community settings – a retrospective study

Ch. Sai Himabindu<sup>1</sup>, K. Sreevani<sup>1</sup>, SK. Nayab<sup>1</sup>, B. Tanish<sup>1</sup>, Chandaka Madhu<sup>2</sup>, B. Tejasree<sup>3</sup>

<sup>1</sup> Department of Pharmacy Practice, Avanthi Institute of Pharmaceutical Sciences, Cherukupally, Chittivalasa, Bhogapuram, Vizianagaram-531162

<sup>2</sup> Associate Professor, Department of Pharmacology, Avanthi Institute of Pharmaceutical Sciences, Cherukupally, Chittivalasa, Bhogapuram, Vizianagaram-531162

<sup>3</sup> Assistant Professor, Department of Pharmacy Practice, Avanthi Institute of Pharmaceutical Sciences, Cherukupally, Chittivalasa, Bhogapuram, Vizianagaram-531162

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### Abstract

**Background:** The First Case Of A Novel Coronavirus (COVID-19) Infection Was Detected In Wuhan, Fever And Respiratory Symptoms Have Been Frequently Reported In Patients Infected With This Virus.

**Aim:** It Was Aimed To Detect the Most Commonly Occurred Clinical Symptoms of COVID19 in Hospitals and Community Settings.

**Method:** Patients Presenting To Southern Hospitals And Community Settings For COVID-19 Infection Were Included In The Study. Assessment Of Demographics And Background Information Of Covid-19 Infection Is Done And Next The Patients Were Questioned For 22 Symptoms And The Results Were Compared. Listing Out The Symptoms And Symptoms Status And Functionality Status Prior to The Collection of All Data For Statistical Analysis To Represent The Results.

**Results:** A Total of 403 Patients With COVID-19 Positive Status Were Included In The Study. The Most Common Symptoms in the COVID-19 Positive Group Were: Cough (81.9%), Shortness of Breath (78.7%), Sneezing (77.4%), Fever (91.4%), Headache (89.6%), Loss of Taste (69.2%), and Muscle Pain (80.1%)

**Conclusion:** Our Study Showed That Taste And Cough Were Important Markers In COVID-19 Infection.

**Keywords:** Novel Coronavirus, Wuhan, 22 Symptoms, Cough.

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\*Corresponding Author

B. Tanish



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### Introduction

An outbreak of a respiratory illness caused by a completely unique coronavirus was reported in Wuhan, China in December, 2019. The International Committee on Taxonomy of Viruses (ICTV) and World Health Organization (WHO) later named this as coronavirus and therefore the disease caused by this virus as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and Coronavirus Disease-2019

(COVID-19). Patients who are stricken by SARS-CoV-2 infection usually shown with the symptoms like fever, dry cough, upper airway congestion, sputum production, and shortness of breath, but rarely headache, haemoptysis, and diarrhoea. Loss of smell (anosmia) and loss of taste (ageusia) have also been reported in most of individuals who got COVID-19. Consistent with the statistics from WHO, 33,842,281 confirmed cases and 1,010,634 confirmed deaths are reported as of October 1, 2020. Though there's urgent need of effective treatment strategies to minimise the morbidity rate, still, there's no specific antiviral treatment for COVID-19 currently and therefore the treatment guidelines for COVID-19 vary between countries [2].

Some people are infected but don't notice any symptoms (doctors call that being asymptomatic). Most of the

people will have mild symptoms and obtain better on their own. But some will have severe problems, like trouble breathing. The percentages of more serious symptoms are higher if you're older or have another health condition like diabetes or heart condition [2].

**Common Symptoms**

The most common things folks that become ill with

COVID-19 have include:

- Fever or chills
- A dry cough and shortness of breath
- Feeling very tired
- Muscle or body aches
- Headache
- A loss of taste or smell
- Sore throat
- Congestion or runny nose
- Nausea or vomiting
- Diarrhoea

These symptoms can start anywhere from 2 to 14 days after you're to bear with the virus.

**Emergency Symptoms**

Call a doctor or hospital instantly if you've got any of those issues

- Trouble breathing
- Constant pain or pressure in your chest
- Bluish lips or face
- Sudden confusion
- having a tough time staying awake [2]

**Methodology**

- A total sample size of 403 COVID 19 positive patients in southern hospitals and community settings were included in the study
- Assessment of Demographics and background information of Covid-19 Infection
- Listing out the Symptoms and Symptoms status and Functionality status
- Collection of all data for statistical analysis to represent the results
- Results will be depicted in form of percentages, pie charts and graphs

**Results**

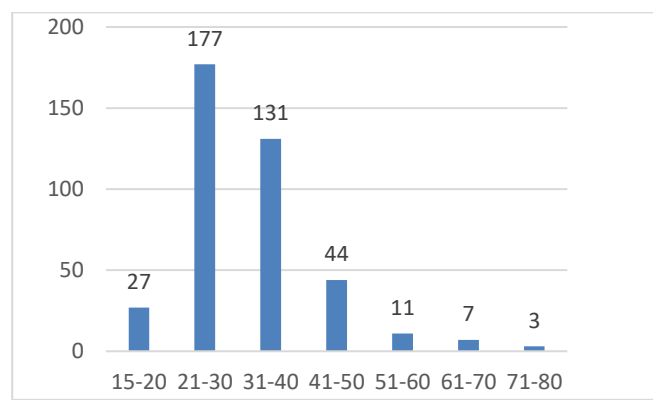
**1. Age**

In a population of 403 COVID patients, 27 patients were reported under the age of 20, 177 were reported under the age group of 21-30, 131 were reported under the age group of 31-40, 44 were reported under the age group of 41-50, 11 were

reported under the age group of 51-60, 7 were under the age group of 61-70, 3 were reported under the age group of 71-80

**Table 1: This Table Represent Frequencies Different Age Group of COVID19 Infected People**

Age	Frequency	Percentage
15-20	27	6%
21-30	177	44%
31-40	131	33%
41- 50	44	11%
51 – 60	11	3%
61 -70	7	1.75%
71-80	3	0.75%



**Graph 1: This Graph Represent Frequencies Different Age Group Of COVID19 Infected People.**

Analytical Variable: Means Procedure

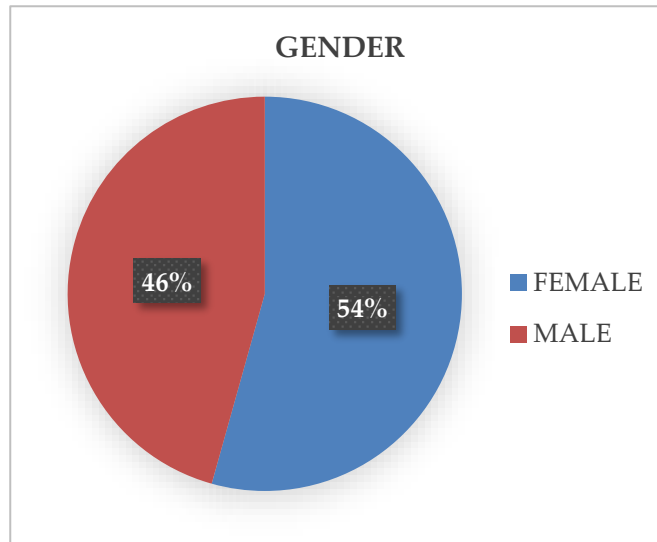
Mean	Minimum	Maximum	Standard Deviation	Variance	Median
35.2357320	11.0000000	89.0000000	15.2598232	232.8622026	32.0000000

**2 GENDER:**

In a population of 403 COVID patients, 184 patients were male (43.7%), whereas 219 patients were female (54.3%), where women have higher prevalence when compared to male.

SEX	Frequency	Percentage (%)
FEMALE	219	54.3
MALE	184	45.7

**This table represents the gender of 403 COVID19 patients**



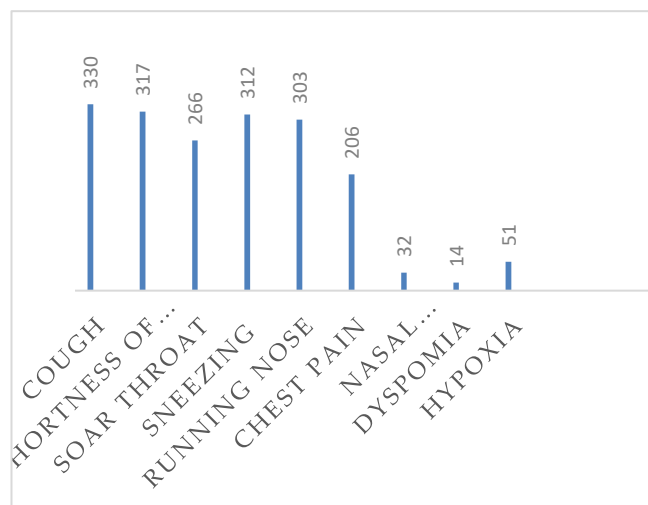
This graph represents the gender of 403 COVID19 patients

### 3. Organs wise COVID -19 symptoms

#### 1. Pulmonary Symptoms

In a population of 403 COVID -19 patients cough [330patients (81.9%)], shortness of breath [317(73.7%)] sneezing [312 patients (77.4%)] running nose & pneumonia [303 patients (75.2%)] were observed to be mostly occurred symptoms.

This tables represents Frequency and percentage of pulmonary symptoms related symptoms in COVID19 patients



This graph represents the Frequency of related pulmonary symptoms in COVID19 patients

## Statistical Analysis of Symptoms

Organwise Symptoms For Covid 19 Respiratory System	Frequency	Percentage	Cummulative Frequency	Percentage
chest pain	1	0.25	1	0.25
cough	4	0.99	5	1.24
cough;chest pain	2	0.50	7	1.74
cough;dysphonia	1	0.25	8	1.99
cough;hypoxia	1	0.25	9	2.23
cough;rhinorrhea;chest pain	1	0.25	10	2.48
cough;shortness of breathe	7	1.74	17	4.22
cough;shortness of breathe;chest pain	4	0.99	21	5.21
cough;shortness of breathe;chest pain;dysphonia	1	0.25	22	5.46
cough;shortness of breathe;hypoxia	1	0.25	23	5.71
cough;shortness of breathe;rhinorrhea	4	0.99	27	6.70
cough;shortness of breathe;rhinorrhea;chest pain;nasal congestion	2	0.50	29	7.20
cough;shortness of breathe;rhinorrhea;hypoxia	3	0.74	32	7.94
cough;shortness of breathe;rhinorrhea;nasal congestion	2	0.50	34	8.44
cough;shortness of breathe;sneezing	4	0.99	38	9.43
cough;shortness of breathe;sneezing;chest pain	2	0.50	40	9.93
cough;shortness of breathe;sneezing;nasal congestion	3	0.74	43	10.67
cough;shortness of breathe;sneezing;rhinorrhea	17	4.22	60	14.89
cough;shortness of breathe;sneezing;running nose;chest pain	4	0.99	64	15.88
cough;shortness of breathe;sneezing;running nose;chest pain;nasal congestion;hypoxia	1	0.25	65	16.13
cough;shortness of breathe;soar throat	7	1.74	72	17.87
cough;shortness of breathe;soar throat;chest pain	1	0.25	73	18.11
cough;shortness of breathe;soar throat;chest pain;dysphonia;hypoxia	1	0.25	74	18.36
cough;shortness of breathe;soar throat;rhinorrhea	6	1.49	80	19.85
cough;shortness of breathe;soar throat;running nose;chest pain;nasal congestion	1	0.25	81	20.10
cough;shortness of breathe;soar throat;running nose;nasal congestion	1	0.25	82	20.35
cough;shortness of breathe;soar throat;sneezing	10	2.48	92	22.83

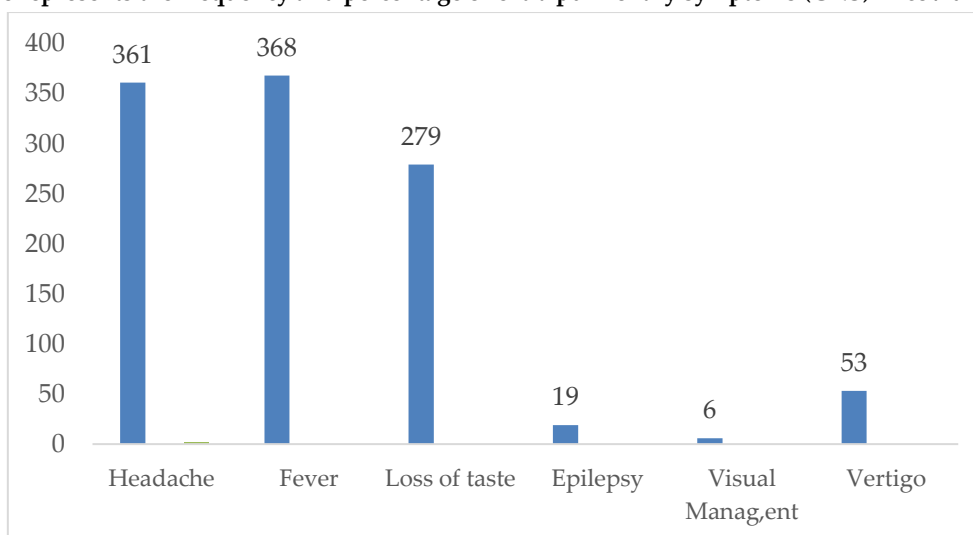
cough;shortness of breathe;soar throat;sneezing;chest pain	3	0.74	95	23.57
cough;shortness of breathe;soar throat;sneezing;nasal congestion	1	0.25	96	23.82
cough;shortness of breathe;soar throat;sneezing;rhinorrhea	41	10.17	137	34.00
cough;shortness of breathe;soar throat;sneezing;rhinorrhea;chest pain	97	24.07	234	58.06
cough;shortness of breathe;soar throat;sneezing;rhinorrhea;chest pain;dysphonia	1	0.25	235	58.31
cough;shortness of breathe;soar chest pain	37	9.18	272	67.49
	1	0.25	1	0.25

**2. Extra Pulmonary Symptoms (CNS)**

Out of 403 covid 19 population 368 patients shown fever as a highly observed frequency (89.6%)

Extra Pulmonary Symptoms (Cns)	Frequency	Percentage (%)
Headache	361	89.6
Fever	368	91.4
Loss of taste	279	69.2
Epilepsy	19	4.7
Visual management	6	1.5
Vertigo	53	13.2

this table represents the frequency and percentage of extra pulmonary symptoms (CNS) in covid19 patients



: This graph represents the frequency of extra pulmonary symptoms (CNS) in COVID-19 patients

Extra Pulmonary Symptoms (CNS)	Cumulative Frequency	Cumulative Percent
epilepsy	1	0.25
fever	10	2.49
fever;loss of appetite	11	2.74
fever;loss of appetite;epilepsy;visual management;vertigo	12	2.99
fever;vertigo	13	3.24
headache	17	4.24

headache;fever	316	78.80
headache;fever;epilepsy;vertigo	317	79.05
headache;fever;epilepsy;visual management;vertigo	318	79.30
headache;fever;loss of appetite	377	94.01
headache;fever;loss of appetite;epilepsy	381	95.01
headache;fever;loss of appetite;epilepsy;visual management;vertigo	382	95.26
headache;fever;loss of appetite;vertigo	394	98.25
headache;fever;loss of taste	396	98.75
headache;fever;loss of taste;vertigo	397	99.00
headache;fever;vertigo	398	99.25
headache;visual management	399	99.50

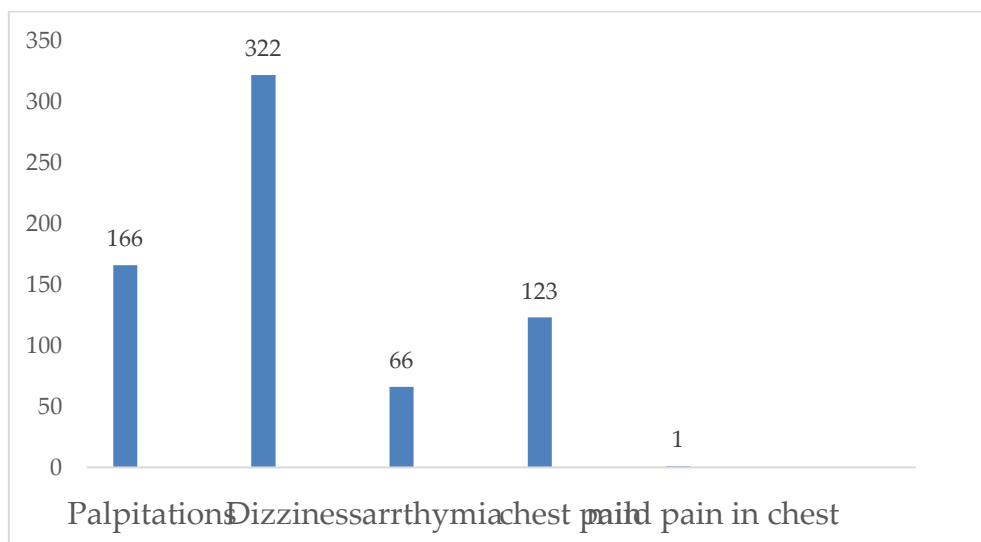
Statistical Analysis of Symptoms

### 3. Extra Pulmonary Symptoms (CVS)

In a population of 403 COVID-19 patients 322 patients shown the symptoms of Dizziness (79.9%) 166 palpitation symptoms ( 41.2%) chest pain 123 patients(30.5%) were observed to be mostly occurred symptoms

Extra Pulmonary Symptoms (CVS)	Frequency	Percentage (%)
PALPITATIONS	166	41.2%
DIZZINESS	322	79.9%
ARRHYTHMIA	66	16.4%
CHEST PAIN	123	30.5 %
MILD CHEST PAIN	1	0.2%

This table represents the frequency and percentage of extra pulmonary symptoms (CVS) in covid19 patients.



This graph represents the frequency of extra pulmonary symptoms (CVS) in COVID19 patients.

**Statistical Analysis for Symptoms**

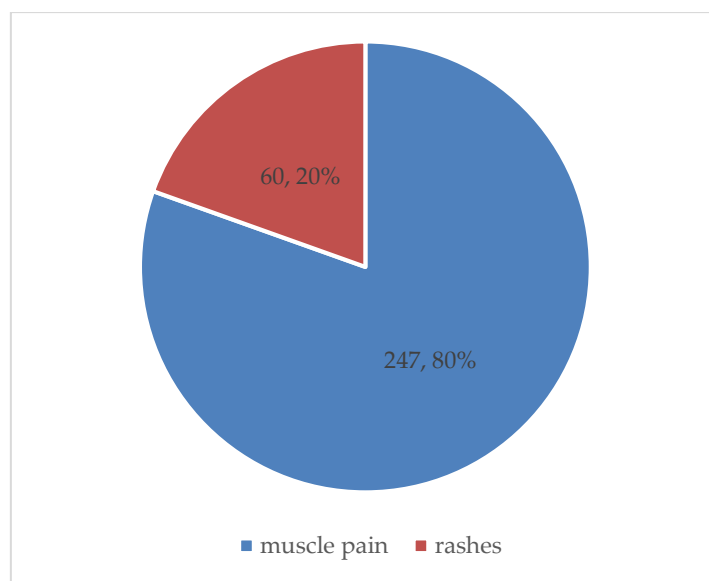
Organ-wise symptoms for COVID 19	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
Arrythmia	14	3.47	14	3.47
Arrythmia;Chest pain	2	0.50	16	3.97
Chest pain	14	3.47	30	7.44
Mild chest pain	1	0.25	31	7.69
Mild pain in rib	1	0.25	32	7.94
Palpitations	34	8.44	66	16.38
Palpitations;Arrythmia	11	2.73	77	19.11
Palpitations;Arrythmia;Chest pain	2	0.50	79	19.60
Palpitations;Chest pain	2	0.50	81	20.10
Palpitations;dizziness	60	14.89	141	34.99
Palpitations;dizziness;Arrythmia	17	4.22	158	39.21
Palpitations;dizziness;Arrythmia;Chestpain	10	2.48	168	41.69
Palpitations;dizziness;Chest pain	30	7.44	198	49.13
dizziness	133	33.00	331	82.13
dizziness;Arrythmia	9	2.23	340	84.37
dizziness;Arrythmia;Chest pain	1	0.25	341	84.62
dizziness;Chest pain	62	15.38	403	100.00

**4. Other symptoms**

Out of 403 responses COVID-19 patients, muscle pain (80.5%) were mostly observed symptoms

SYMTPOMS	FREQUENCY	PERCENTAGE (%)
Muscle pain	247	80.5%
Rashes	60	19.5%

This table represents the frequency and percentage of other symptoms in COVID19 patients.



This graph represents the frequency other symptoms in COVID19 patients.

## Discussion

Out of 403 COVID 19 population 97 people shown symptoms such as cough , shortness of breath , sore throat , rhinorrhoea, chest pain as a highly referred prevalence among the covid population (24.07%) followed by 41 people who shown cough shortness of breath, soar throat , sneezing , rhinorrhoea (10.17%).

37 people shown symptoms of cough , shortness of breath , soar throat, sneezing, rhinorrhoea, chest pain and hypoxia (9.18%) , 10 patients shown the symptoms of cough , shortness of breath, soar throat , sneezing (2.48%) these are found to be highly referred prevalence among the study population . And group of symptoms such as cough, hypoxia in one patient (0.25%) , cough , chest pain in 2 patients (0.50%) are the least referred symptoms among the covid population .

In a population of 403 covid 19 patients 133 people shown symptom of dizziness as a highly referred prevalence among the covid population followed by 60 people shown palpitations and dizziness as symptoms (14.89%), 62 people shown dizziness and chest pain as a symptom (15.38%), 34 people show palpitation as symptom (8.44%) these are found to be highly referred prevalence among the study population. And symptoms such as 14 patients of arrhythmia (3.47%), 1 patient of dizziness, arrhythmia, chest pain (0.25%) are the least referred symptoms among the covid population.

In a population of 403 covid 19 patients 299 people shown the symptom of headache and fever (74.56%) as a highly referred prevalence among the covid population followed by 54 patients who shown the symptoms of headache fever and loss of taste (14.71%) are found to be highly referred prevalence among the study population. And group of symptoms such as headache, fever and vertigo found in 1 patient (0.25%) epilepsy in 1 patient (0.25%) are the least referred symptoms among the covid population.

In a population of 403 covid 19 patients 348 people shown the symptoms of loss of appetite (86.4%) as a highly referred prevalence among the covid population followed by 245 patients shown the symptom of diarrhoea (60.5%) are found to be highly referred prevalence among the study population. And symptoms such as bloating in 143 patients (35.5%) and nausea and vomiting in 143 patients (35.5%) are the least referred symptoms among the covid population. In a population of 403 covid 19 patients 348 patients has shown the symptoms of muscle pain (86.4%) as a highly referred prevalence among the covid population and 60 patients has shown the symptoms of rash (19.54%) are the least referred symptoms among the covid population. Which is similar to the study done by Yousef Alimohamadi on determine the most common clinical symptoms in covid-19 patients a systematic review and meta-analysis and concluded that main symptoms of covid-19 such as fever, cough, fatigue, and dyspnea can have a key role in early detection of this disease and prevent the transmission of the disease to other people.

## Conclusion

There is no specific clinical symptom that allows COVID-19 to be reliably differentiated from other viral respiratory infections. The severity of symptomatic infection ranges from mild to critical, but most infections are not severe. However, some patients with mild symptoms at the beginning may progress to more severe symptoms after a week

This study demonstrate the prevalent symptoms in the COVID 19 patients was cough , shortness of breath, sneezing ,fever, headache , loss of taste, dizziness , loss of appetite and muscle pain . The data observed can provide valuable in site into the management of COVID 19 symptoms and can also lead to understanding of disease progression.

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## Author Contribution

All authors contributed equally.

## Conflict of Interest

The authors declared no conflict of interest.

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