

COMPARATIVE STUDY ON PANDEMIC CRISIS - COVID19 AND SRI LANKAN
SIDDHA SYSTEM OF MEDICINE – A LITERATURE REVIEWDr. T. Soruban*¹ and Dr. S. R. Pholtan Rajeev²¹PG Scholar, National Institute of Siddha, Chennai.²PG Scholar, Govt. Siddha Medical College, Tirunelveli, India.

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ABSTRACT

Coronavirus disease (COVID-19) is an infectious disease caused by a new virus. The disease causes respiratory illness (like the flu) with symptoms such as a cough, fever, and in more severe cases, difficulty breathing. You can protect yourself by washing your hands frequently, avoiding touching your face, and avoiding close contact (1 meter or 3 feet) with people who are unwell. How it spreads: Coronavirus disease spreads primarily through contact with an infected person when they cough or sneeze. It also spreads when a person touches a surface or object that has the virus on it, then touches their eyes, nose, or mouth. Aim and objective of this research is to find out the mostly relevant *curam* (fever) scheduled in siddha system of medicine from the Sri Lankan tradition. Research Type: Systematic Review, Research Design: Collection of data from the available authenticated Tamil siddha texts which are printed three books such as; *vaittiyavilakam ennum amirtacākara patārta cūṭāmaṇiyum vaittiyattēlvum. cekarācācēkara vaittiyam* and *pararācācēkaram curarōka nitāṇam*. Compare the modern medical text then, systematic compare with the sign and symptoms of collected data. Then, analysis with simple descriptive statistical Relative Citation Score of compare data and finalize the results as conclusion of this research. As result of study were; *cilēṟpaṇacuram & vātacilēṟṭumacuram* is mostly related to COVID19 and finally concluded by; RCS value was 0.75 (75%) matched 09 out of 12 sign & symptoms with *cilēṟpaṇacuram* from *pararācācēkaram curarōka nitāṇam*.

KEYWORDS: COVID19, Siddha system of Medicine, Sri Lankan Siddha System, *cura noigal*.

INTRODUCTION

Coronavirus disease 2019 (COVID-19) is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).^[6] The disease was first identified in December 2019 in Wuhan, the capital of China's Hubei province, and has since spread globally, resulting in the ongoing 2019–20 coronavirus pandemic.^[7,8]

Common symptoms include fever, cough, and shortness of breath.^[9] Other symptoms may include muscle pain, diarrhoea, sore throat, loss of smell, and abdominal pain.^[3,10,11] While the majority of cases result in mild symptoms, some progress to viral pneumonia and multi-organ failure.^[7,12] As of 5 April 2020, more than 1.2 million^[5] cases of have been reported in more than two hundred countries and territories,^[13] resulting in over 64,700 deaths.^[5] More than 246,000 people have recovered.^[5]

The virus is mainly spread during close contact,^[a] and by small droplets produced when people cough, sneeze, or talk.^[4,15,14] These small droplets may be produced

during breathing but the virus is not generally airborne.^[4,15,16] People may also catch COVID-19 by touching a contaminated surface and then their face.^[4,14] The virus can survive on surfaces up to 72 hours.^[17] It is most contagious during the first three days after symptom onset, although spread may be possible before symptoms appear and in later stages of the disease.^[18] Time from exposure to onset of symptoms is generally between two and fourteen days, with an average of five days.^[9,19] The standard method of diagnosis is by reverse transcription polymerase chain reaction (rRT-PCR) from a nasopharyngeal swab.^[20] The infection can also be diagnosed from a combination of symptoms, risk factors and a chest CT scan showing features of pneumonia.^[21,22]

Recommended measures to prevent infection include frequent hand washing, social distancing (maintaining physical distance from others, especially from those with symptoms), covering coughs and sneezes with a tissue or inner elbow, and keeping unwashed hands away from the face.^[23,24] The use of masks is recommended for those who suspect they have the virus and their

caregivers.^[25] Recommendations for mask use by the general public vary, with some authorities recommending against their use, some recommending their use, and others requiring their use.^[26,27,28] Currently, there is no vaccine or specific antiviral treatment for COVID-19.^[4] Management involves treatment of symptoms, supportive care, isolation, and experimental measures.^[29]

The World Health Organization (WHO) declared the 2019–20 coronavirus outbreak a Public Health Emergency of International Concern (PHEIC)^[30,31] on 30 January 2020, and a pandemic on 11 March 2020.^[8] Local transmission of the disease has been recorded in many countries across all six WHO regions.^[32]

Signs and symptoms

Symptom with percentage (%) of population base study,^[33] Fever-88%, Dry cough- 68%, Fatigue- 38%, Sputum production- 33%, Loss of smell- 15%,^[34] to 30%.^[11,35] Shortness of breath- 19%, Muscle or joint pain- 15%, Sore throat- 14%, Headache- 14%, Chills- 11%, Nausea or vomiting- 5%, Nasal congestion-5%, Diarrhoea- 4% to 31%,^[36] Haemoptysis- 0.9%, Conjunctival congestion- 0.8%.

Those infected with the virus may be asymptomatic or develop flu-like symptoms, including fever, cough, fatigue, and shortness of breath.^[3,37,38] Emergency symptoms include difficulty breathing, persistent chest pain or pressure, confusion, difficulty waking, and bluish face or lips; immediate medical attention is advised if these symptoms are present.^[39] Less commonly, upper respiratory symptoms, such as sneezing, runny nose, or sore throat may be seen. Symptoms such as nausea, vomiting, and diarrhoea have been observed in varying percentages.^[36,40,41] Some cases in China initially presented only with chest tightness and palpitations.^[42] In March 2020 there were reports indicating that loss of the sense of smell (anosmia) may be a common symptom among those who have mild disease,^[11,35] although not as common as initially reported.^[34] In some, the disease may progress to pneumonia, multi-organ failure, and death.^[7,12] In those who develop severe symptoms, time from symptom onset to needing mechanical ventilation is typically eight days.^[43]

As is common with infections, there is a delay between the moment when a person is infected with the virus and the time when they develop symptoms. This is called the incubation period. The incubation period for COVID-19 is typically five to six days but may range from two to 14 days.^[44,45] 97.5% of people who develop symptoms will do so within 11.5 days of infection.^[46]

Reports indicate that not all who are infected develop symptoms, but their role in transmission is unknown.^[40] Preliminary evidence suggests

asymptomatic cases may contribute to the spread of the disease.^[42,40] The proportion of infected people who do not display symptoms is currently unknown and being studied, with South Korea's CDC reporting that 20% of all confirmed cases remained asymptomatic during their hospital stay.^[40]

Prevention: here's currently no vaccine to prevent coronavirus disease (COVID-19).

You can protect yourself and help prevent spreading the virus to others if you:

Do:

- Wash your hands regularly for 20 seconds, with soap and water or alcohol-based hand rub
- Cover your nose and mouth with a disposable tissue or flexed elbow when you cough or sneeze
- Avoid close contact (1 meter or 3 feet) with people who are unwell
- Stay home and self-isolate from others in the household if you feel unwell

Don't:

Touch your eyes, nose, or mouth if your hands are not clean

Treatments: There is no specific medicine to prevent or treat coronavirus disease (COVID-19). People may need supportive care to help them breathe.

Self-Care: If you have mild symptoms, stay at home until you've recovered. You can relieve your symptoms if you:

Rest and sleep

Keep warm

Drink plenty of liquids

Use a room humidifier or take a hot shower to help ease a sore throat and cough.

In siddha system of Medicine described details of "curam" its means Fever and it mentioned 64 types of curam. Among these 64 types, compare signs and symptoms which mentioned in siddha medical text and modern medical system of COVID19.

Ancient siddhars defined 4448 diseases in earth therefore these all-time tested medical system with specific treatment and management with clear prognosis with standard treatment protocol of siddha medical system also therefore COVID-19's signs and symptoms were mostly correlated with 02 curam out of 64 types of fever in Sri Lankan siddha medical text respectively.

Therefore, this research deal with that particular fevers which mentioned in Sri Lankan siddha medical text and signs & symptoms of COVID19.

MATERIALS AND METHODS**Research Type:** Systematic Review**Research Design:** Collection of data from the available authenticated Tamil siddha texts which are printed books such as;

- *vaiṭṭiyavilakam eṇṇum amirtacākara patārṭta cūṭāmaṇiyum vaiṭṭiyatteḷivum. pāṭal ila.-12* (வைத்திய விளக்கம் என்னும் அமிர்தசாகர பதார்த்த சூடாமணியும் வைத்தியத்தெளிவும். பாடல் இல. 12),

- *cekarācacēkara vaiṭṭiyam* (செகராசசேகர வைத்தியம்),
- *pararācacēkaram curarōka nitāṇam.* (பரராசசேகரம் சுரரோக நிதானம்)

Compare the modern medical text then, systematic compare with the sign and symptoms of collected data. Then, analysis with simple descriptive statistical Relative Citation Score of compare data and finalize the results as conclusion of this research.

RESULTS**Table 1: Collection of sign & Symptoms of Cura noigal which related COVID19 in siddha medical system.**

சுரம்	வைத்திய விளக்கம் என்னும் அமிர்தசாகர பதார்த்த சூடாமணியும் வைத்தியத்தெளிவும். பாடல் இல. 12	பரராசசேகரம் சுரரோக நிதானம். அசாத்தியம் 10	செகராசசேகர வைத்தியம்
<i>curam</i>	<i>vaiṭṭiyavelakam eṇṇum amirtacākara patārṭta cūṭāmaṇiyum vaiṭṭiyatteḷivum.pāṭal ila. 12</i>	<i>pararācacēkaram curarōka nitāṇam. acāṭṭiyam 10</i>	<i>cekarācacēkara vaiṭṭiyam</i>
சிலேற்பனசுரம்	1. சேடஞ் சேர் சுரம், தேகம் அழன்றிடும், வேர்வையும் நாவும் இனித்திடும், நெஞ்சுநோவு, கோழையும் மூச்சும், சோம்பு, மலசலம் வெண்மையாகும்.	2. சுரம், இருமல், விக்கல், மெய் குளிரும், உடல் வேர்க்கும், உளம் வெதும்பும், முகம், கை, கால் வெளுக்கும், மூச்சிளைத்தல், ஐயம் அடைக்கும், அதிசாரம்.	-
<i>cilēṟpaṇṇacuram</i>	<i>1.cēṭaṅ cēr curam, tēkam alaṇṇiṭum, vērvaiyūm nāvum iṇittiṭum, neṅcunōvu, kōḷaiyūm mūccum, cōmpu, malacalam veṇmaiṅkum.</i>	<i>2.curam, irumal, vikkal, mey kuḷirum, uṭal vērkkum, uḷam vetumpum, mukam, kai, kāl veḷukkum, mūcciḷaittal, aiyam āṭaikkum, aticāram.</i>	
வாதசிலேட்டும சுரம்	-	1. வாந்தி, மூச்சை உண்டாகும், சுரம், இருமல், இளைப்பு, உடைத்துக்காயும், நடுக்கமுண்டாகும்	2. இருமல், நாவலரல், சத்தி, உறக்கமுண்டாகும், உடலில் கூதல், மலம் நீர் வெளியேறும், மூக்கில் வாய் தனிச் நீருண்டாக நாட செல்லும் தீரா வெதுப்புண்டாகும்,

			கண் வெளிரும், தீயும், வெய்யிலும் வேண்டிடும். கோட்டாவி, மெய்யில் ரோமம் சிலிர்கும், மயக்கும் தெளிவுண்டாகும், தொடைக்கீழ் கை சொருகும். குடைச்சல் உண்டாகும். 1,2 பக்கம் 15
<i>vātacilēṭṭumacuram</i>		<i>1.vānti, mūccai unṭākum, curam, irumal, ilaippu, utaittukkūyūm, naṭukkamuṅṭākum</i>	<i>2.irumal, nāvularal, catti, urakkamuṅṭākum, uṭalil kūtal, malam nīr veliyērum, mūkkil vāy tanil nīruṅṭākanāṭcellum tīrā vetuppuṅṭākum, kaṇ veḷirum, tīyūm, veyyilum vēṅṭiṭum. kōṭṭāvi, meyyil rōmam cilirkum, mayakkum telivunṭākum, toṭaikkiḷ kai corukum. kuṭaiccaluṅṭākum. 1, 2 pakkam 15</i>

Table 2: Sign & Symptoms Translation.

NO.	SIDDHA SYSTEM	IN MODERN SYSTEM	SIDDHA SYSTEM	IN MODERN SYSTEM
1.	சேடஞ் சேர் சுரம்	Fever with cold	இருமல்	Cough
2.	தேகம் அழன்றிடும்	Body heat increased	நாவுலரல்	Dry mouth
3.	வேர்வையும் நாவும் இனித்திடும்	Sweetness of Sweat and Mouth (Confusion of sensation)	சத்தி	Vomiting
4.	நெஞ்சநோவு	Chest pain	உறக்கமுண்டாகும்	Sleepiness
5.	கோழையும் மூச்சும்	Dyspnoea with Rhinorrhoea and productile sputum	உடலில் கூதல்	Chills of body
6.	மலசலம் வெண்மையாகும்	Pallor of Stool and Urine	மலம் நீர் வெளியேறும்	Diarrhoea and polyuria
7.	சோம்பு	Drowsiness	மூக்கில் வாய் தனில் நீருண்டாகநாட்செல்லும்	Dryness of Nose & Mouth for long time
8.	இருமல்	Cough	தீரா வெதுப்புண்டாகும்	Uncontrollable fever
9.	விக்கல்	Hiccough	கண் வெளிரும்	Pallor of conjunctiva
10.	மெய் குளிரும்	Chills	தீயும், வெய்யிலும் வேண்டிடும்	Desire to heat and sun light
11.	உடல் வேர்க்கும்	Sweating (fever symptom)	கோட்டாவி	Yawning
12.	உளம் வெதும்பும்	Psychological stress	மெய்யில் ரோமம் சிலிர்கும்	Pilo erection (due to chill)
13.	முகம், கை, கால் வெளுக்கும்	Pallor of face, upper & lower limbs	மயக்கும் தெளிவுண்டாகும்	Consciousness

14.	மூச்சிளைத்தல்	Shortness of breathing	தொடைக்கீழ் கை சொருகும்	Paralysis of upper limb
15.	ஐயம் அடைக்கும்	Dyspnoea with sputum	குடைச்சல் உண்டாகும்	Muscular ache pain
16.	அதிசாரம்	Diarrhoea	வாந்தி	Vomiting
17.			மூச்சை உண்டாகும்	Coma or unconsciousness
18.			சுரம்	Fever
19.			இருமல்	Cough
20.			இளைப்பு	Bronchial Asthma
21.			உடைத்துக்காயும்	Fever with body ache
22.			நடுக்கமுண்டாகும்	Chills

Table 3: Compare of sign & Symptoms of COVID19.

No.	COVID19	1	2	3	4
1.	Fever	✓	✓	✓	✓
2.	Cough	✓	✓	✓	✓
3.	Shortness of breath	✓	✓	✓	✓
4.	Muscle ache		✓		✓
5.	Confusion	✓	✓		
6.	Headache				
7.	Sore throat	✓			✓
8.	Rhinorrhoea (runny nose)	✓			✓
9.	Chest pain	✓	✓		
10.	Diarrhoea		✓		
11.	Chills		✓	✓	✓
12.	Nausea and vomiting		✓	✓	✓
Matching Score		7/12	9/12	5/12	8/12
RCS		0.58	0.75	0.41	0.66
Percentage		58.33%	75.02%	41.66%	66.67%

<RCS- Relative Citation Score>

Table 4: References of the particular fever type.

No.	Type of fever	Reference text
1.	சிலேற்பனசுரம் 1 cilēpanācuram 1	வைத்திய விளக்கம் என்னும் அமிர்தசாகர பதார்த்த சூடாமணியும் வைத்தியத்தெளிவும் (vaittiyavelakam eṇṇum amirtacākara patārta cūṭāmaṇiyum vaittiyattēḷivum)
2.	சிலேற்பனசுரம் 2 cilēpanācuram 2	பரராசசேகரம் சுரரோக நிதானம் (pararācācēkaram curarōka nitānam)
3.	வாதசிலேட்டுமசுரம் 1 vātacilēṭṭumacuram 1	பரராசசேகரம் சுரரோக நிதானம் (pararācācēkaram curarōka nitānam)
4.	வாதசிலேட்டுமசுரம் 2 vātacilēṭṭumacuram 2	செகராசசேகர வைத்தியம் cekarācācēkara vaittiyam

Table 5: Extra Sign and symptoms in Siddha system of Medicine.

cilēṛpaṇacuram 1	cilēṛpaṇacuram 2	vātacilēṭṭumacuram 1	vātacilēṭṭumacuram 2
வேர்வையும் நாவும் இனித்திடும், மலசலம் வெண்மையாகும்	விக்கல், முகம், கை, கால் வெளுக்கும், மெய் குளிரும்	மூச்சை உண்டாகும், இளைப்பு, நடுக்கமுண்டாகும்	மலம் நீர் வெளியேறும், உடலில் கூதல், கண் வெளிரும், தீயும், வெய்யிலும் வேண்டிடும். கோட்டாவி, மெய்யில் ரோமம் சிலிர்கும், மயக்கும் தெளிவுண்டாகும், தொடைக்கீழ் கை சொருகும். குடைச்சல் உண்டாகும்.
<i>vērvaiyum nāvum iṇittitum, malacalamveṇmaiṅkum</i>	<i>vikkal, mukam, kai, kāḷ veḷukkum, mey kuḷirum</i>	<i>mūccai uṇṭākum, iḷaiṇṇu, naṭukkamuṇṭākum</i>	<i>malam nīr veḷiyērum, uṭalil kūtal, kaṇ veḷirum, tīyum, veyyilum vēṇṭitum. kōṭṭāvi, meyyil rōmam cilirkum, mayakkum teḷivuṇṭākum, toṭaikkīḷ kai corukum. kuṭaiccal uṇṭākum.</i>

Transliteration of Tamil: Transliteration of Tamil according to international standard ISO 15919:2001.

DISCUSSION

According to the results of this research, modern medical view of COVID19's Sign & Symptoms were compared with siddha medical system which selected authenticated sri Lankan Siddha medical ancients printed texts.

Among the Sri Lankan Siddha text books only 03 siddha books selected in this research because it is commonly used as text books in Sri Lanka. Among that 03 siddha authenticated books, only 2 explained cilēṛpaṇacuram and same as only 2 siddha books explained vātacilēṭṭumacuram.

COVID19 signs & Symptoms were matching in curam diseases therefore compare all curam in siddha books (Table: 1,5). Then found above curam and compare in this research result (Table: 2).

In result were exhibited as; total 12 signs and symptoms not matched perfectly with siddha references but 75% only matched with cilēṛpaṇacuram 2 by the Relative Citation Score (RCS) 0.75, vātacilēṭṭumacuram 2 was 0.66 (66.67%), cilēṛpaṇacuram 1 was 0.58 (58.33%) and vātacilēṭṭumacuram 1 RCS was 0.41 (41.66%) (Table: 3).

And so many additional symptoms also listed in the siddha medical books in curam diseases than the COVID19 symptoms. Therefore 100% matching in

impossible to correlate. However, most of the signs & symptoms were matching with cilēṛpaṇacuram in parasaseharam cura roga nithanam book therefore its management will helpful to COVID19 patients.

CONCLUSION

Finally concluded according to the result and discussion; RCS value was 0.75 (75%) matched 09 out of 12 sign & symptoms of COVID19 with cilēṛpaṇacuram from *pararācacēkaram curarōka nitāṇam*. However, Siddhars' time tested medicines recorded for cilēṛpaṇacuram already therefore, try to do clinical trial to COVID19 patients to cure the disease and help to manage the crisis of pandemic Corona Viral Infection respectively in time.

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CONFLICT OF INTEREST

Authors declared that no conflict of interest in this research.

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