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Research Article

RATIONALE BEHIND THE COMPARISON OF KABA SURAM AND OTHER SURAMS WITH CORONAVIRUS DISEASE AND OTHER VIRAL FEVERS – A LITERATURE REVIEW

MANICKAVASAGAM RENGARAJU1*, KANAKAVALLI KADARKARAI2

¹Siddha Clinical Research Unit, Safdarjung Hospital Campus, New Delhi. (A unit under Central Council for Research in Siddha, Min. of AYUSH, Govt. of India), India, ²The Director General, Central Council for Research in Siddha, Min. of AYUSH, Govt. of India, Chennai, Tamil Nadu, India. Email: nismanick@gmail.com

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ABSTRACT

Objectives: This article intended to discuss about the rationale behind the comparison of coronavirus disease (COVID 19) and other viral fevers signs and symptoms with "Kaba Suram" and others Surams signs and symptoms with available source of Siddha literatures. **Materials and Methods: Research Type:** Systemic review. **Design:** Literature review will be done by collection of available text references from authenticated Siddha texts. **Reference Authenticated Siddha Texts:** 1. Yugimuni Vaithya Sinthamani, 2. Sura Vagadam, 3. Theran Karisal, 4. Theran Yamaga Venba, and 5. Sura Venba. **Conclusion:** Based on inference derived from Results and Discussion, we came to conclude that signs and symptoms of various viral fevers (COVID-19, dengue, chikungunya, and swine flu) are most commonly matched with the signs and symptoms of Kaba Suram, Pitha Suram, Vatha Suram, and Kaba Pitha Suram which are already mentioned in Siddhar authenticated texts.

Keywords: Chikungunya, Coronavirus disease, Dengue, Siddha, Suram, Swine Flu.

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INTRODUCTION

Siddha system is one of the traditional medical systems of India which is most popular in Southern Peninsula of India [1-3]. Coronavirus disease (COVID-19) is one of the viral infections which is a dangerous infection producing sudden respiratory arrest and leads maximum up to death. This infection is caused by a variety of RNA group of virus, that is, severe acute respiratory syndrome-CoV-2. Like COVID-19, chikungunya, dengue, and swine flu are the viral infections causing causalities as pandemic in the past years throughout the world [4]. These are the major threatening viral fevers to the world community not only in developing countries but also in developed countries. The similarity between all these viruses is all four belong to RNA group of viruses [5]. Health-care communities are trying to find out the apt treatment for these viral infections. Role of traditional medicines throughout the world is notable in the management of all these fevers. Specifically, Indian traditional systems (AYUSH) are contributing lot to community in treatment/prophylactic aspects of all these fevers. Siddha system of medicine also playing an essential role in treatment and management aspects of these viral fevers. In general, "fever" is mentioned in Siddha Text as "Suram," Kaichal," Veppu," Kanal," and "Vedhuppu." [6] There are 64 types of fever classified in Siddhar texts based on causative factors, signs and symptoms, and imbalance of Thirithodam (three humor Vatha-Pitha-Kapham) [7]. This article intended to discuss about the rationale behind the comparison of COVID 19 and other viral fevers signs and symptoms with "Kaba Suram" and others Surams signs and symptoms with available source of Siddha literatures.

Siddha system and pandemics/epidemics

In Siddha system, epidemics/pandemics are mentioned as "Uzhi Noi" or "Kothari Noi" [8]. In general, they are classified under "Kollai Noikal" which are most commonly occurred the time of "Ayana Santhi" [9] months (means end months of Uthara Ayanam and Thatchana Ayanam), fall on Adi and Margazhi month in Tamil Calendar [10]. It is believed that in those days, immunity of human being will be low based on Thirithoda Theory [11,12].

In this context, the signs and symptoms mentioned under "*Kaba Suram*" and some other *Surams* can be compared with the signs and symptoms of the COVID-19 and other viral fevers [6,12].

Viral fevers comparison with various types of Suram as per Siddha literatures

S. No.	Name of the viral fevers	Suitable type of <i>Suram</i> as per <i>Siddha</i> literatures
1	COVID-19	Kaba Suram
2	Dengue	Pitha Suram
3	Chikungunya	Vatha Suram
4	Swine Flu	Kaba Pitha Suram

MATERIALS AND METHODS

It is a systemic review done by collection of available text references from authenticated *Siddha* texts. The following authenticated texts were taken as source of references.

1. Yugimuni Vaithya Sinthamani [13], 2. Theran Karisal [14], and 3. Theran Yamaga Venba [15].

RESULTS AND DISCUSSION

The following Table 1 comparing with the signs and symptoms of COVID-19 declared by the WHO [16] with signs and Symptoms of *Kaba Suram* mentioned various Siddha authenticated literatures [6,7].

Based on above signs and symptoms of **COVID-19** classified by the WHO with *Kapha Suram* which are mentioned in Siddha literatures, it is found that 95% (excluding headache) of major and 90% (excluding loss of smell and red eyes) of minor signs and symptoms matched with the WHO classification. Overall, 14 out of 17 signs and symptoms classified by the WHO classification of **COVID-19** matched with *Kapha Suram* which are mentioned in Siddha authenticated literature.

The following Table 2 comparing with the signs and symptoms of dengue declared by the WHO [17] with signs and symptoms of *Pitha Suram* mentioned in various Siddha authenticated literatures [4,5].

Table 1: COVID-19 versus Kaba Suram

S. No.	WHO classified signs and symptoms	Siddha terminology	Siddha quotes mentioned in Siddha texts with reference
1	Fever	Suram, Kaichal, Veppu	"AAratha Suram" – ஆறாத சுரம்,"Veyasuram – வெய்ய சுரம்," "uramve thumbal" – சுரமவே் தெம்மல், "analelumbal" – அனல்ழெம்பல், "Mikakkkayum" – மிகக்காயும், "mudal veppagi" – டிடல் வபெ்பாகி, "Suranthaan Kaanil" – சுரந்தான் காணில், "Vadavai" – வடவை.
2	Cough	Irumal	"AAa yirumalu" – ஆயிர்ம்வு, "Irumba" – இரம்ப "nirumal" – நிரமல், "Maar nothalirumal lilaippu" – மார்ந ோதல் இரமல் இள பைபு
3	Fatigue/tiredness	Balaheenam, Asathi, Kalaippu	"Masathyum" – மசதியும்
4	Loss of taste/loss of smell	Arusi, Suvaiyinmai	"Naaku munnuna uvurusi yillai" – உரசியில்லரை, "Urusiyillai" – உரசியில்லன
5	Sore throat	Thondaikattu	"Maar Thondai Nokum" – மார் த ொண்ட ை ந ோ கும் , "Sinthaba mitaru nonthu" –
6	Aches and pain	Vali,Ulaivu	"Mulaivu" – உளவை, "Udambu konthazhatrum" – உடல் உளயைம்
7	Shortness of breathing/	Illaippu,Meel Moochu	"Ayasa mersu vaasam" – ஆயாச மேற் சுவாசம்
	difficulty in breathing		"Moochilaithal" – ழச்சிளதைதல்
			"Lilaipuntagum" – லிளபைபுண்டாகும்
			"Maar nothalirumal lilaippu" – மார் நோதல் இரமல் இளபைபு,, "Men moochathal" – மேல் டிச்சாதல்
8	Mental confusion	Manakulappam,Thayakam	<i>"Thiyakkamural"</i> – தியக்கபுறல் <i>"Manathuvalum" –</i> மனந்தவளும் <i>"Thiyankituthal" –</i> தியங்கதல்
9	Diarrhea	Kalichal, Athisaram	"Kurukutha lathisara" – குறக்குறத்த லதிசார, "mudalil malasalanthaan nuraikil" – உடலில் மலசல நரகை்கில், "Vayiru mudan kaliyu" – உடலில் மலசல நரகை்கில்
10	Discoloration of body parts (face, fingers, and	Veluupu, Paandu	<i>"Ayira Nayananmei Yanaiyi nirame"</i> – ஆயிரநாயனன்மை யானயைி நிறமே
	toes)		^{"Seiya} mukank karampaatham velluthuk kaatal" – டிகம் கரம் பாதம் வளெத்தக்காட்டல்
			"Mukamathu vellukum" – புகமத வளெக்கும்
			"Naaku Mukam Velluthu Kaanaal" – நாக்கு புகம் வளுத்தக்காணல்
11	Loss of speech	Pechinmai	"Vaayu laral" – வாய் உளறல்
12	Eye symptoms	Kan Noigal	"Peelai vazhiyu mirukannum" –
13	Skin rashes	Thol Arippu, Thinavu	"Udal Thinav" – உடல் தினவு
			, Thinaveduthal – தின்வடெத்தல்
14	Chest pain	Marbu vali, Nenjulaithal	"Maar Thondai Nokum" – மார்த்தொண்டநைோகும்
			"Maar nothalirumal lilaippu" – மார்நதோதல் இரமலிளபைபு

 $(Headache, loss\ of\ smell, and\ red\ eyes\ are\ the\ symptoms\ which\ are\ not\ matching\ with\ Siddha\ literature)$

Table 2: Dengue versus Pitha Suram

S. No.	WHO classified signs and symptoms	Equivalent Siddha terminology	Siddha quotes mentioned in Siddha texts with reference
1	High fever	Suram, Kaichal, Veppu	"Itaivitatha Suram" – இடைவிடாத சுரம்
2	Severe headache	Thalai Sutral, Thalai Kanathal	"Thalai Sutral" – தலைச்சுற்றல்
3	Rapid breathing	Ilaippu	"Ilaippu" – இளைப்பு, "Mel Moochu Iraithal" – மேல் ழச்சு இரதைல்
4	Headache	Thalai Vali, Thalai Kanathal,	"Thalai noi" – தலரைாய், "Thalai Kanathal" – தலை கனத்தல்,
		Thalai Noi	"Thalai kutainthu kutainthu Nothal" – தலை கடநைத் கடநைத்
			ோதல்
5	Retro-orbital pain and conjunctivitis	Kan Vali and Kan Sivathal	"Kan Sivanthu Valithal" – கண் சிவந்த வலித்தல்
6	Nausea	Velokalam	"Okkalam" – ஓக்காளம்
7	Vomiting	Vanthi, Sathi	"Vanthi" – வாந்தி
8	Diarrhea	Kalichal, Athisaram	Vayiru Kalithal – வயிற கழிதல்
9	Chills	Kulir	"Udal Nadunkum" – உடல் நடங்கும், "Udal Kulirchi" – உடல் குளிர்ச்சி
10	Skin rashes	Thinavu, Thimir	"Udal Neruppu Pol Erithal" – உடல் நெரப்பு ோல் எரிதல், "Udal
			Punnathal" – உடல் புண்ணாதல்
11	Severe abdominal pain	Vayiru Vali	"Vayiroothi Ulaithal" – வயிறதி உளதைல்
12	Insomnia	Thookaminmai	Thookaminmai – தக்கமின்மை
13	Fatigue	Kalaippu	"Kalaipu" – களைப்பு, "Udal Vanmai Kuraithal" – உடல் வன்மை
	G	••	குறதைல்
14	Anorexia	Anna veruppu, Pasiyinmai	Anna veruppu – அன்ன வெறப்பு
15	Restlessness and other	* * * *	"Mirantu Parthal" – மிரண்ட பார்த்தல், "Mananilai maruthal" –
	psychological problems		மனநிலை மாறதல், "Mana kalakkam" – மனக்கலக்கம், Ullam
	F-7		Kothithal – உள்ளம் ொதித்தல், Vai Pithatral – வாய் பிதற்றல்,
			"Puthi Mayankal" – புத்தி மயங்கல், "Thavithal" – தவித்தல்
			1 dan mayankar - புற்றா பயாய்க்கூ, Thavianar - தங்குற்ற

(Joint pain or muscle pain and blood vomiting are the symptoms which are not matching with Siddha literature)

Based on above signs and symptoms of **dengue fever** classified by the WHO with signs and symptoms of *Pitha Suram* which are mentioned in Siddha literatures, It is found that 95% (joint or muscle pain) of major signs and symptoms and 95% (excluding blood vomiting) of minor signs and symptoms matched with the WHO classification. Overall, 15 out of 17 signs and symptoms classified by the WHO classification of **dengue fever** matched with signs and symptoms of *Pitha Suram* which are mentioned in Siddha authenticated literature.

The following Table 3 comparing with the signs and symptoms of **chikungunya** declared by the WHO [18] with signs and symptoms of **Vatha Suram** mentioned various Siddha authenticated literatures [4,5].

Based on above signs and symptoms of **chikungunya** classified by the WHO with signs and symptoms of **Vatha Suram** which are mentioned in Siddha literatures, it is found that 95% (excluding oral ulcers) of major signs and symptoms and 95% (excluding swelling) of minor

signs and symptoms matched with the WHO classification. Overall, 12 out of 14 signs and symptoms classified by the WHO classification of **chikungunya** matched with signs and symptoms of *Vatha Suram* which are mentioned in Siddha authenticated literature.

The following Table 4 comparing with the signs and symptoms of **swine flu** declared by WHO [19] with signs and symptoms of **Kaba Pitha Suram** mentioned various Siddha authenticated literatures [4,5].

Based on above signs and symptoms of **swine flu** classified by the WHO with signs and symptoms of **Kapha Pitha Suram** which are mentioned in Siddha literatures, it is found that 100% of major signs and symptoms matched with the WHO classification and 100% of minor signs and symptoms matched with the WHO classification. Overall, 13 out of 13 signs and symptoms classified by the WHO classification of **swine flu** matched with signs and symptoms of **Kapha Pitha Suram** which are mentioned in Siddha authenticated literature.

Table 3: Chikungunya versus Vatha Suram

S. No.	WHO classified signs and symptoms	Equivalent Siddha terminology	Siddha quotes mentioned in Siddha texts with reference
1	Fever	Suram, Kaichal, Veppu	"Suramathu Mikunthu Kayum" – சுரமத மிகுந்த காயும்
2	Arthralgia	Mootu Vali,Santhu Vali ,Keel Vayu	"Kai kal Kaduppu" – கைகால் கடிப்பு, "Poruthu thorum mulaivakum"
			– ொரத்த ோறும் புளவைாகும், "Kai kaalkal valithaal" –
			கைகால்கள் வலித்தல், "Puranthal veluthu veenki pothal" – புறந்தாள்
			வளெத்த வீங்கிப்ோதல், "Santhukal valaal aruppathu Pol Valithal"
			– சந்தங்கள் வாளால் அறப்பத ோல் வலித்தல், "Pootukalil Vali" –
			யூட்டுகளில் வலி
3	Backache	Iduppulaivu	"Iduppu kutainthu Nothal" – இடிப்பு கடைந்த ோதல்
4	Headache	Thalai Vali, Thalai Kanathal,	"Thalai noi" – தலைோய், "Thalai Kanathal" – தலை கனத்தல், "Thalai
		Thalai Noi	kutainthu kutainthu Nothal" – தலை குடைந்த கடைந்த ோதல்
5	Retro - Orbital Pain	Kan Vali	"Kan Vali" – കഞ് ഖരി
6	Vomiting	Vanthi, Vellokalam, Sathi	"Vanthi" – வாந்தி
7	Diarrhea	Kalichal, Athisaram	"Kalithal" – கழிதல்
8	Chills	Kulir	"Udal Kulir" – உடல் குளிர்
9	Skin problems	Thol kurigunankal	1. "Thol surunkum" – ோல் சுருங்கும், 2. "Udal Muluvathm
	1. Exfoliative dermatitis,	1.Thol Vedippu,2. Thol Karu	Karuniramadaithale" – உடல் புபூவதும் கருநிறமடைதல், "Udal
	2. Hyperpigmentation,	niramadaithal 3. Thinavu, Thimir	muluvathum karuthu vali" – உடல் புழுவதம் கரத்த வலி, 3. "Thimir" –
	3. Skin rashes		தியிர்

(Stomatitis and swelling are the symptoms which are not matching with Siddha literature)

Table 4: Swine flu versus Kaba Pitha Suram

S. No.	WHO classified signs and symptoms	Equivalent Siddha terminology	Siddha quotes mentioned in Siddha texts with reference
1	Fever	Suram, Kaichal, Veppu	"Vida suramum Kayum" – விடாச்சுரடிம் காயும்
2	Vomiting	Vanthi, Vellokalam, Sathi	"Thoivi Muppuk kabanj sathi" – ோய்வி டிப்புக் கபஞ்சத்தி, Kolai kolaiyaka Vanthi – ோ ோழயைாக வாந்தி
3	Rhinorrhea	Mooku neer paithal	"Mooku Neer" – ழக்கு நீர்
4	Cough	Irumal	"Nenjerikkunth Thikirumal uruthiuntakum"– நெஞ்செரிக்குந் தீக்கிரமல் உறதியுண்டாம்
5	Dyspnea	Illaippu, Moocherithal	"Mudukidunj svasa mundam" – புடிக்கிடுஞ் சுவாச புண்டாம் – "Mel Moocherithal" – மலே மசசெறிதல்
6	Myalgia and arthralgia	Thasai Vali and santhu Vali	"Valikkunkaikal Vitu varum"– வலிக்குங்கைகால் விட்டு வரம்
7	Diarrhea	Kalichal, Athisaram	"Thonthithe Malam Velukkum" – ொந்தித்ே மலம் வளெக்கும் "Veluppaka Adikadi Kalithal" – வெளுப்பாக அடிக்கடி கழிதல்
8	Nausea	Velokalam	"Velokkalam" – வெள்ோக்காளம்
9	Conjunctivitis	Kan sivathal	<i>"Parkunkan Paruthi Niram"</i> –பார்க்குங்கண் பரத்தி நிறம் <i>," Kan</i> Sivathal" – கண் சிவக்கல்
10	Fatigue and tiredness	Asathi and soorvu	"Vadikidakum miku vandri" – வாடிக்கிடக்கு மிகு வன்றி, "Udal Vadiyum manam Thalarnthum iruthal" – உடல் வாடியும் மனம் தளர்ந்தம் இரத்தல்
11	Psychological disturbances	Mana Ulaichal	"Odi palakalam aluthrukum" –ஓடிப்பலகாலபூந்திரக்கும் "Murathu Pesa Mokikum" – ழரத்தப் பேச ோகிக்கும்
12	Sleeplessness and restlessness	Urakkaminmai and amaithiyinmai	"Patukkai Porunthathu" – படிக்கபை ொரந்தாத
13	Sore throat	Thondaikattu	"Thondaikattum"

CONCLUSION

Based on inference derived from results and discussion, we came to conclude that signs and symptoms of various viral fevers (COVID-19, dengue, chikungunya, and swine flu) are most commonly matched with the signs and symptoms of Kaba Suram, Pitha Suram, Vatha Suram, and Kaba Pitha Suram which are already mentioned in Siddhar authenticated texts.

Like classification of 64 fevers, separate treatment of regimen for individual fevers also mentioned in Siddhar texts. Hence, based on this comparison, the medicines which are mentioned for the *Kaba suram*, *Pitha suram*, *Vatha Suram*, and *Kaba Pitha Suram* will useful in the management of COVID-19, dengue, chikungunya, and swine flu.

Note: Various RCT with Kaba Sura Kudineer – initiated and carried out by CCRS for the management of COVID 19 under the guidance of Min. of AYUSH, Govt. of India. (Multicentric Prophylactic Population Study, Stanley Medical College Siddha Study [20], Theni Medical College Siddha Study, SRM Siddha Study, Vyasarbadi Study, and GIMS Noida Siddha Study [21]).

AUTHORS' CONTRIBUTIONS

MR conceived and developed the concept of this paper. MR also wrote and drafted the whole manuscript. KK helped in the finalization of the manuscript.

CONFLICTS OF INTEREST

Authors declared that there are no conflicts of interest in this stage.

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