

RESEARCH ARTICLE

Home Care Preventive Measures And Practices Using Traditional Siddha Medicine Towards COVID-19 Among Residents Of Containment Zones, Chennai, Tamil Nadu, India, 2020: Cross-Sectional Study

ANBARASI CHANDRASEKARAN*¹, NATARAJAN SHANMUGASUNDARAM², MEENA RAJARATHINAM³, SENDHIL KUMAR M⁴, VINOD NP⁵, MANICKAM PONNIAH⁶

¹Siddha Central Research Institute, Central Council for Research in Siddha, Ministry of AYUSH, Government of India, Email: dranbu1208@gmail.com

²Siddha Central Research Institute, Central Council for Research in Siddha, Ministry of AYUSH, Government of India, Email: drnatarajan78@gmail.com

³Siddha Central Research Institute, Central Council for Research in Siddha, Ministry of AYUSH, Government of India, Email: meenaprakashphd@gmail.com

⁴Scientist -C, ICMR - National Institute of Epidemiology, Government of India, Email: drsendhil1986@gmail.com

⁵Statistical Assistant, Siddha Central Research Institute, Central Council for Research in Siddha Ministry of AYUSH, Government of India, Email: siddhastat@gmail.com

⁶Scientist E, ICMR- National Institute of Epidemiology, Government of India, Email: manickam@nie.gov.in

*Corresponding Author

ABSTRACT

Many campaigns rolled out to enhance the awareness of people on COVID-19 prevention, control, and promotive measures. Siddha polyherbal formulations, namely Kabasura kudineer (KSK) and Nilavembu kudineer (NVK) were recommended by the Ministry of AYUSH, Govt of India as an advisory for AYUSH interventions for COVID-19. This study was conducted to estimate traditional siddha medicine practices and preventive measures against COVID 19 among the population accessing research clinic facility and the residents of containment zones of Chennai, the capital of Tamil Nadu State, India. We interviewed 569 participants, and most of the participants aware of adopting general preventive measures of COVID-19, 85% practiced hand wash and 95% wore mask. Siddha-specific measures such as drinking of KSK is reported in 77% (n=444, 77%) and NVK in 60% (n=360) in the containment zone areas for prevention and control of COVID-19. The population behavior documents belief in traditional medical system and to consider integrated medical approach for effective communication during public health emergencies.

KEYWORDS:

Siddha, , kabasura kudineer, nilavembu kudineer, COVID 19

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INTRODUCTION

Government of India announced a nation-wide lockdown on 24 March 2020 and implemented the testing, tracing, isolation and quarantine strategies for mitigating COVID-19. The National Government launched campaigns to enhance the awareness of people on prevention, control, and promotive measures. The public awareness and adherence to recommended practices are key steps in order to effectively combat the pandemic¹. Indian Ministry of Ayush (MoA) released advisory on interventions from Ayurveda, Siddha, Unani and Homeopathy systems for COVID-19 in India with the known immunomodulatory drugs and personal hygiene. One of the recommendations in the advisory was that of the traditional Siddha polyherbal formulations, namely Kabasura kudineer (KSK) and Nilavembu kudineer (NVK)²

The Tamil Nadu State in Southern India adopted a number of COVID-19 related preventive and control measures. Based on the past experience in managing Dengue and Chikungunya outbreaks³ with the distribution of NVK and KSK. Considering the anti-oxidant, anti-pyretic and potential immunomodulatory actions of the constituents of these concoctions⁴, a special programme called “Arokiyam” (means good health in Tamil) was launched in promoting preventive and control measures on COVID-19 through Siddha system of medicine by the State in April 2020⁵. Subsequently, Siddha polyherbal concoctions of KSK and NVK were distributed in all the identified containment zones throughout Tamil Nadu. Knowledge about the infection may influence attitudes and practices. Poor understanding of the infection, disease and transmission dynamics may contribute to attitudes and practices and thus may favour increased transmission⁶. Hence, it may be useful to measure the practices of the population and identify the factors that can be used to develop public health strategies against COVID-19. In this context, we estimated the use of traditional Siddha medicines and practices as COVID-19 preventive measures among the population accessing research clinic facility and residents of containment zones of Chennai, the capital of Tamil Nadu State, India.

METHODS

During the pandemic, the City of Chennai was divided into containment and non-containment zones by the civic body based on the number of COVID-19 cases. We conducted a cross sectional study among the outpatients of the research clinic facility of Siddha Central Research Institute (SCRI). We considered those living in the designated containment zones between July and August 2020 as our study participants. Based on our clinical database, we created a sampling frame of 12,357 individuals who were currently residing in designated containment zones in Chennai City. We selected study participants using simple random sampling. We needed 550 study participants, for the assumptions of 50% adopting to any of the Siddha specific protection measures, 5% absolute precision, 95% confidence interval (CI) and 20% non-

response.

We trained a team of 10 members to collect data over the phone using Open Data Kit (ODK). We obtained oral informed consent prior to the interview. We collected basic socio demographic variables and awareness, general COVID-19 appropriate practices and Siddha-specific preventive measures such as consuming nilavembu/kabasura kudineer, neem bark decoction, turmeric neem hand wash and turmeric infused mask. We used SPSS (Version 20.0. Armonk, NY: IBM Corp) to analyse the data as frequencies and proportions. We got approval from the Institutional Human Ethics Committee of Siddha Central Research Institute, Chennai (IHEC/SCRI (CCRS)-1/2020-21/01) and the study was registered in Clinical Trial registry India (CTRI number: CTRI/2020/05/025091)

RESULTS

We interviewed 569 participants and most of them were male (n=347; 61%) and aged 41-60 years (n=284, 50%). Almost 60% (n=344) and studied up to higher school. 82% used (n=469) handkerchief or tissue paper while coughing and 85% (n=491) used soaps or liquid soaps for washing hands after sneezing and 95% (n=547) wore mask (Table 1). More than 60% of participants reported using the NVK (n=360) and three fourth reported using KSK (n=444, 77%) in the containment zone areas for prevention and control of COVID-19. Neem hand wash was reported by one-third of the study participants (n=167). (Table 2) Regarding the awareness on health authorities' promotion measures, around 90% participants agreed that the information was accurate, clear, sufficient, timely and trustworthy (Table 3).

DISCUSSION

Traditional systems of medicine share an important role in the healthcare systems of India and other developing countries. We surveyed outpatients of a research clinic to document preventive measures adopted by them during the COVID-19 pandemic specific to Siddha medical system. Most of the survey participants used general COVID-19 appropriate precautionary measures and almost three fourth of the participants used Siddha-specific measures such as drinking of KSK and NVK.

World Health Organization (WHO) and Centers for Disease Control and Prevention (CDC) advised to take precautionary steps like wearing mask, regular hand washing and social distancing⁷. Awareness on COVID-19 and preventive practices were higher similar to studies reported globally⁸. In this study, most of the study participants adopted general preventive measures of COVID-19 such as wearing mask, regular hand washing and social distancing. This awareness may be due to the fact they are our clients who adopted such practices during regular visits to the facility. The awareness about the transmission routes was high and preventive measures were well understood among people in the containment zone.

With regard to resorting to Siddha specific measures, majority of the participants consumed NVK and KSK. Govt of Tamil Nadu have used NVK as preventive medicine during the epidemic of dengue and chikungunya in Tamil Nadu. These decoctions were widely used during chikungunya and dengue outbreaks in Tamil Nadu during 2015. Many NVK distribution camps were conducted throughout Tamil Nadu. Hence, NVK is popular among the people of Tamil Nadu as preventive measure during any fever outbreak. During this COVID-19 pandemic, the State sponsored "Arokiyam" scheme reiterated the distribution of KSK and NVK in all the hospitals for the management of COVID-19. The Information, Education and Communication (IEC) materials around Siddha specific preventive measures on COVID-19 did reach a wider population. Two thirds of the participants reported using Siddha medicines as preventive measures along with wearing masks and hand washing in the day-to-day practices. This documents the level of awareness among the participants in containment zone and reiterates the fact that such beliefs on traditional medicine preventive measures among public do not necessarily depend upon the evidence base.

Limitation

We collected the data from the previously clinic visited patients only. This may lead to selection and information bias as they may closely watch the health-related information specific to Siddha related measures and to a larger extent to that of healthy behaviours.

CONCLUSION

Most of the participants aware of adopting general preventive measures of COVID-19 and majority of the participants adopted Siddha specific preventive measures while practicing COVID-19 preventive measures.

RECOMMENDATIONS

The population behavior documents belief in traditional medical system and thus reinforces the need to generate evidence on the medications from these systems and the need to consider integrated medicine for effective communication during public health emergencies.

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DECLARATION OF CONFLICTING INTEREST

The authors declare no conflict of interest.

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REFERENCES

1. Covid-19 AYUSH Volunteers | Ministry of AYUSH | GOI. Accessed April 7, 2020. <http://ayush.gov.in/covid-19-ayush-volunteers-0>
2. Ministry of AYUSH |. Accessed August 9, 2020. <https://health.ncog.gov.in/ayush-covid-dashbaord/home>
3. Tamil Nadu Government Distributes Herbal Concoction to "Cure" Dengue. The Wire. Accessed February 13, 2021. <https://thewire.in/health/tamil-nadu-dengue-siddha-nilavembu-kudineer>
4. Nilavembu Kudineer: What is it? How is it used to treat dengue, chikungunya? | Health Tips and News. Accessed February 13, 2021. <https://www.timesnownews.com/health/article/nilavembu-kudineer-what-is-it-how-is-it-used-to-treat-dengue-chikungunya/109137>
5. Government of Tamil Nadu : Government Orders | Tamil Nadu Government Portal. Accessed September 7, 2020. https://www.tn.gov.in/go_view/dept/11?page=2
6. McEachan R, Taylor N, Harrison R, Lawton R, Gardner P, Conner M. Meta-Analysis of the Reasoned Action Approach (RAA) to Understanding Health Behaviors. *Ann Behav Med Publ Soc Behav Med.* 2016;50(4):592-612. doi:10.1007/s12160-016-9798-4
7. Report of the WHO-China Joint Mission on Coronavirus Disease 2019 (COVID-19). Accessed November 2, 2020. [https://www.who.int/publications-detail-redirect/report-of-the-who-china-joint-mission-on-coronavirus-disease-2019-\(covid-19\)](https://www.who.int/publications-detail-redirect/report-of-the-who-china-joint-mission-on-coronavirus-disease-2019-(covid-19))
8. Zhong B-L, Luo W, Li H-M, et al. Knowledge, attitudes, and practices towards COVID-19 among Chinese residents during the rapid rise period of the COVID-19 outbreak: a quick online cross-sectional survey. *Int J Biol Sci.* 2020;16(10):1745-1752. doi:10.7150/ijbs.45221

Table 1: Descriptive characteristics of the study participants on COVID-19 containment zone in Chennai, Tamil Nadu

Characteristics		Frequency	Percentage
Age (years)	<40	151	26.5
	41-60	284	49.9
	>60	134	23.6
Gender	Male	347	61.0
Education	Illiterate	11	1.9
	up to higher secondary	344	60.5
	Degree & above	214	37.3
Monthly income (INR)	<6000	257	45.2
	>6000	312	54.8
Occupation	Professionals/Managers/Officials/legislator	87	15.3
	Service and sales workers	190	33.4
	Home maker	147	25.8
	others	145	25.4
Having comorbidities		199	35
Preventive Measures (Always and most of the times)	Used paper tissue or handkerchief coughing	469	81.6
	Used bare hand while coughing?	371	64.5
	washed hands after sneezing, coughing	461	80.2
	Used soap for washing hands	491	85.4
	Wear a mask over your mouth	547	95.1
	Used utensils for sharing food	173	30.1
	Preventive measures during touching objects	323	56.2
	Washed hand wash after touching objects	405	70.4

Table 2: Frequency of practice of traditional Siddha medicine for prevention of COVID-19 in Chennai containment zones, Tamil Nadu

Traditional practices (Always and most of the times)	N	%
Taken Nilavembu Kudineer as a preventive measure	360	62.6
Taken Kabasura Kudineer as a preventive measure	444	77.2
Taken Neem bark decoction as a preventive measure	13	2.3
Used Turmeric and Neem hand-wash when washing hands	167	29.0
Prepare a mask with turmeric and used	4	0.7

Table 3: Frequency of Awareness on promotion measures among the study participants on COVID-19 containment zone in Chennai, Tamil Nadu

Awareness on promotion measures	Strongly disagree	Disagree	Not sure, but probably disagree	Not sure, but probably agree	Agree	Strongly agree
Accurate	15(2.6)	54(9.5)	57(10)	235(41.3)	170(29.9)	38(6.7)
clear	14(2.5)	28(4.9)	49(8.6)	182(32)	257(45.2)	39(6.9)
Sufficient	10(1.8)	24(4.2)	39(6.9)	214(37.6)	242(42.5)	40(7)
Timely	11(1.9)	33(5.8)	44(7.7)	231(40.6)	209(36.7)	41(7.2)
Trustworthy	17(3)	59(10.4)	40(7)	224(39.4)	186(32.7)	43(7.6)