



## Research Article

### KNOWLEDGE AND PRACTICE OF POSSIBLE AYURVEDIC, SIDDHA AND HOMEOPATHIC REGIMENS AGAINST NOVEL CORONA VIRUS PANDEMIC AMONG HEALTHCARE WORKERS: A CROSS-SECTIONAL STUDY

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#### ABSTRACT

**Background:** In the light of the pandemic COVID 19, world's attention has turned to the immune system and body's defense force. Identification of the level of epidemic preparedness and understanding of Ayurvedic, Homeopathic and Siddha regimens among health care workers is required to utilize their services in main stream health care effectively.

**Aim:** The aim of this study to access the knowledge and practices of possible Ayurvedic, Homeopathic and Siddha regimens during novel corona virus pandemic.

**Materials and methods:** A cross-sectional survey was undertaken among the health care workers with the help of 15 close ended questions. The one out of six-knowledge question were scored and analysed to identify differences with sociodemographic variables (age and occupation). Response to the three out of five questions on practices were analysed to Identify the differences, differing significantly in both knowledge and practice score.

**Result:** Out of 286 responses, knowledge score significantly differed with age (P-value 0.04) and occupation (P-value 0.01). Practice scores significantly differed with age (P-value 0.01) and occupation (P-value 0.00). Our study shows that 70% of study population is aware of the medicinal properties of *Neem*, *Tulsi* and *Ashwagandha* against COVID 19 and 65% strongly believes the immune boosting effect of Vitamin C and 77% include citrus fruits in their diet.

**Conclusion:** Adopting prophylactic and therapeutic strategies on the basis of Ayurveda, Homeopathy and Siddha are useful to the mankind in fighting against the COVID 19.

**KEYWORDS:** Ayurveda, Homeopathy, Siddha, COVID 19.

#### INTRODUCTION

The corona virus pandemic has turned the world's attention to the immune system and body's defence force against disease causing bacteria, virus and other organisms that we touch, ingest and inhale every-day. The immune system plays a critical role in our response against infectious disease.<sup>[1]</sup>

Countries like India and China, with a rich history of traditional medicine, are exploring the effectiveness of traditional medicine to treat COVID 19.<sup>[2]</sup> Ministry of AYUSH in India is guiding different trials of herbal medicine which have been used safely for other ailments, for prophylaxis or treatment of COVID 19.<sup>[2]</sup> Ayurveda, homeopathy and Siddha are the most commonly practised therapies and are

found to have a lot of impact in the field of medicine.<sup>[3]</sup> Ayurveda is a traditional system of medicine, originated in India more than 3000 years ago, which is derived from Sanskrit word *Ayur* (life) and *Vedha* (science or knowledge).<sup>[1]</sup> Ayurveda which is about the "thridosha theory of disease" is being used commonly in the prevention and treatment of many diseases.<sup>[3]</sup> The *Thridosha* are: - *Vata* (wind), *Pitta* (gall), *Kapha* (mucus) when all these *Doshas* are in perfect balance and harmony, a person is said to be healthy.<sup>[3]</sup> Ayurveda plays a vital role in boosting the immunity of our body against the pandemic outbreak COVID-19.<sup>[4]</sup>

Homeopathy is of German origin which has clear guideline for the control of infectious epidemic and it is well established long before the advent of the modern sanitation, vaccination and antibiotics.<sup>[5]</sup> This system is being practiced in India together with all the five indigenous form of medicine.<sup>[6]</sup> Homeopathy is combining the essence of Hippocrates "like cure like" and minimum number of medicines.<sup>[6]</sup> The Homeopathic medical system, whose foundation is based on symptomatic treatment, can play a vital role in tackling this global disaster.<sup>[5]</sup>

Siddha is an ancient south Indian traditional treatment system of medicine which evolved and practiced for the past 5000 years.<sup>[7]</sup> Siddhar's are spiritual scientist, who wrote many medicine preparations using herbs, metals and minerals and some animal product too. They have mentioned 32 types of internal and 32 types of external medicine not only for curative health, but also for preventive and promotive health.<sup>[6]</sup> With a global race onto find a cure for the deadly coronavirus, teams of Siddha doctors in Tamil Nadu who dug deep into the traditional system of medicine has found 'Kabasura Kudineer' a herbal concoction to be effective in managing COVID 19.<sup>[8]</sup>

In the absence of any known conventional treatment or vaccination so far, and lack of guidelines, many research papers and information available on the web build the knowledge pool, which is serving as the basis for managing or combating this novel illness and guiding policy decisions. However, there are hardly any research papers throwing light about the possible role of the AYUSH systems, in controlling the spread of this pandemic.<sup>[9]</sup> This study aims to assess the knowledge and practices of possible Ayurvedic, homeopathic and Siddha regimens during Novel Coronavirus pandemic.

## MATERIALS AND METHODS

The cross-sectional study was conducted among the health care workers of various dental colleges in Tamil Nadu. The study was conducted over a period of 4 months from November 2020 to March 2021.

The sample size of the study was calculated manually using the formula:

$$\frac{Z\alpha^2pq}{L^2}$$

The sample size was found to be 286 (Ayurvedic clinical profile of COVID-19 - A preliminary study, Puthiyedath R et al May 2020).<sup>[17]</sup> The study population was chosen through Simple Random Sampling. The subjects who were in the field of health care work in Tamil Nadu within the age group of 18-70 years were included in the study, while the subjects who were not falling under the category of health care work in Tamil Nadu are excluded from study.

The study was performed to assess the knowledge and practices of possible Ayurvedic, Siddha and Homeopathic regimens during Novel Coronavirus pandemic. With Tamil Nadu having deep roots in traditional Siddha and alternative forms of medicine, study initially attempted at evaluating the comprehension of Siddha doctors on treatment used for Novel Corona Virus. A structured questionnaire was developed for this purpose by taking guidance of AYUSH Guidelines and incorporating modifications as per our study objectives. The questionnaire consists of a set of 15 close ended questions out of which 4 are demographic details, 6 are knowledge-based questions and 5 are practice based questions. The questionnaire was constructed and circulated electronically through an online platform named "Google Form" along with a verbal survey was also conducted among the health care workers in Asan Memorial Dental College, Chengalpattu Tamil Nadu. Collected raw data was entered into Microsoft Excel 2010 for windows and descriptive statistics and Chi square test was applied to obtain the results using the software SPSS version 25.

## RESULT

Age, gender, occupation and education (Table 1) where the sociodemographic variables identified for the respondents. Age of the participants was between 18-70years, and 88% were in between 18-35 years of age. 69% of our study population were females. As our study was focused on health care workers 95% of them have the education level tertiary and above and 77% of the population was doctors.

**Table 1: Demographic characters of Respondents**

Demographic Characters	n	N
<b>1. AGE GROUP</b>		
18-35 years	252	88%
36-58 years	33	12%
59-70 years	1	0.3%
<b>2. GENDER</b>		

Male	90	31%
Female	196	69%
Prefer not to say	0	0
<b>3. OCCUPATION</b>		
Doctors	221	77%
Nurse	17	6%
Lab Technicians	5	2%
Others	43	15%
<b>4. EDUCATION</b>		
Secondary and Below	15	5%
Tertiary and Above	271	95%

Response to knowledge-based question was mandatory in the survey and had a fixed choice. Gender was not identified as a variable in our study to affect knowledge score significantly. Knowledge score significantly differs with age and occupation (Table 2, Table 4). Chi-square test identify a significant difference in association with age group (P-value 0.04) and occupation (P-value 0.01) on the question whether they are aware that herbal decoction of *Neem*, *Tulsi* and *Ashwagandha* can be taken as COVID precautionary.

**Table 2. Distribution of responses to knowledge-based question and age group comparison**

Knowledge-Based Question	Responses	Groups (AGE)			Chi-Square Test	P Value
		18 - 35 year	36 - 58 year	59 - 70 year		
Are you aware that herbal decoction of <i>Neem</i> , <i>Tulsi</i> and <i>Ashwagandha</i> can be taken as COVID precautionary due to its high medicinal properties?	Yes	171	29	1	6.02	0.04*
	No	81	4	0		

**Table 4: Distribution of responses to knowledge-based question and Health-care category comparison**

Knowledge-Based Question	Responses	GROUPS (HEALTH-CARE CATEGORY)				CHI-SQUARE TEST	P VALUE
		Doctor	Nurse	Lab Technician	Others		
Are you aware that herbal decoction of <i>Neem</i> , <i>Tulsi</i> and <i>Ashwagandha</i> can be taken as COVID precautionary due to its high medicinal properties?	Yes	146	16	3	36	10.47	0.01*
	No	75	1	2	7		

Practices were identified for all participants using mandatory questions with fixed responses. Practice based questions were identified in terms of the variables. Chi-square test identify a significant difference in association with age group (P-value 0.01) and occupation (P-value 0.00) on the question whether they practice the habit of saline gargle with pinch of turmeric to reduce the oral viral count. (Table 3, Table 5)

**Table 3: Distribution of responses to practice-based question and age group comparison**

Practice-Based Question	Responses	GROUPS (AGE)			CHI-SQUARE TEST	P VALUE
		18 - 35 year	36 - 58 year	59 - 70 year		
Do you follow any health care practices during COVID 19 other than SMS (Sanitizing – Mask –	Yes	194	27	1	0.68	0.71
	No	58	6	0		

Social Distancing)?						
Have you followed the complete course of homeopathic medicine ( <i>arsenicum album</i> ) for COVID prevention?	Yes	70	10	0	0.48	0.78
	No	182	23	1		
Do you practice the habit of saline gargle with a pinch of turmeric to reduce your oral viral count once you come back from outside?	Yes	96	21	1	9.28	0.01*
	No	156	12	0		

Table 5. Distribution of responses to practice-based question and gender comparison

Practice-Based Question	Responses	Groups (Health-Care Category)				CHI-SQUARE TEST	P Value
		Doctor	Nurse	Lab Technician	Others		
Do you follow any health care practices during COVID 19 other than SMS (Sanitizing – Mask – Social Distancing)?	Yes	171	15	5	31	3.30	0.34
	No		50	2	0	12	
Have you followed the complete course of homeopathic medicine ( <i>arsenicum album</i> ) for COVID prevention?	Yes	61	7	2	10	2.32	0.50
	No		160	10	3	33	
Do you practice the habit of saline gargle with a pinch of turmeric to reduce your oral viral count once you come back from outside?	Yes	76	16	3	23	27.28	0.00**
	No		145	1	2	20	

## DISCUSSION

In the wake of COVID19 an infectious disease caused by a newly discovered corona virus, the entire mankind across the globe is suffering. Till date, no medicines or therapy has demonstrated a promising result in improving its prognosis to prevent this infection. The best ways of preventing COVID19 infection are breaking the chain, enhancing an individual's body immunity, identifying the infection early and timely medical care. The Ministry of AYUSH is committed to help the nation with the large resources of time-tested traditional knowledge practiced in this continent for the benefit of mankind. Health care workers in this cross-sectional study presented a high response rate expressing their willingness to participate in this survey. They have been able to maintain a high level of currency of knowledge purely on their own accord. Questions related to knowledge, practice and attitude identify the preventive and treatment related aspect of

disease condition. In most of the questions practitioners exhibit a favourable attitude and practices as governed by current regulatory requirements in the light of evolving discernment of the novel viral disease.

Ayurveda being the world's oldest medical system that can manage many diseases without side effects. It is equipped with varieties of treatment modalities to handle any type of deadly diseases. [11] Among the innumerable medicinal plants in Ayurveda: Tulsi, Neem, and Ashwagandha has a major role in preventing many deadly diseases. In comparison with the previous works of literature it says that, the leaves of Tulsi are consumable and is being used to normalize *Kapha* and *Vata*. Tulsi is being used in the management of pain, diarrhoea, cough and fever which are the common symptoms of COVID19. [11] Some studies reported that Ashwagandha may be effective in improving host

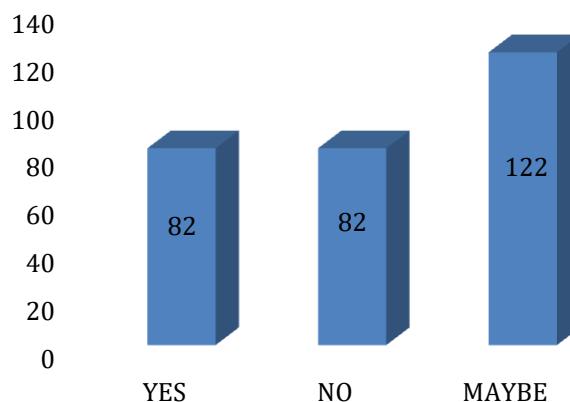
immunity through the modulation of key targets relevant to COVID 19.<sup>[12]</sup> Comparing with these facts it was found from our study that 70% of the population are aware of medicinal properties of *Neem*, *Tulsi*, *Ashwagandha* against COVID. The prime principle of Ayurvedic system of medicine is preventive aspect, which can be achieved by the change in diet and practices. There are many drugs mentioned in Ayurveda which are used in the kitchen as food for daily consumption like Turmeric, Garlic and Ginger etc., Which have many antimicrobial properties. Garlic is one of ancient herbal remedies used in the human history. Fresh garlic extract has antiviral activity in invitro and in vivo, which is similar to turmeric also.<sup>[12]</sup> Ginger, also known as *Mahaushadha* is widely used as a dietary spice and as a traditional oriented drug. Within the limitation of our study, only 29% of study population have the practice of drinking Golden Milk (turmeric, garlic) in COVID prevention, while 43% of our population were in doubt regarding this (Figure 1). And also 59% of the population doesn't practice the habit of Turmeric saline gargle in order to reduce the oral viral count.

Same like medicinal plants and herbs in Ayurveda honey and its compound are drawing attention as an effective natural therapy because of its ability to attenuate acute inflammation through enhancing the immune response.<sup>[13]</sup> The chemical constituent of black pepper and ginger are significantly active against COVID19 with remedial possibilities and are probably going to be helpful after further refinement.<sup>[14]</sup> Our study shows that 45% of the study population are having double opinion in believing intake of honey, ginger and black pepper decoction helps in preventing COVID19 (Figure 2).

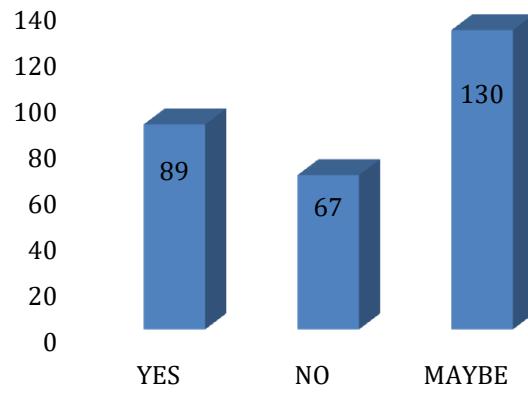
Vitamin -C is well known to confer a protective benefit in infectious disease. Indeed, supplementation is known to support respiratory defence mechanisms preventing viral infection and reducing the duration and severity as well as antihistamine properties that can improve flu like symptoms.<sup>[15]</sup> In accordance with these evidences our study also proves the immuno-boosting role vitamin -C against COVID19. 65% of our study population strongly believe in the immune boosting effect of vitamin -C (Figure 3) and 77% include citrus fruit in their diet (Figure 4).

Homeopathy being an effective, safe, evidence based and less invasive treatment is the need of our current scenario. An article in this narrates the role homeopathy played in controlling epidemics afflicting the humankind in the past, summarising the scope of this approach in current COVID19 pandemic.<sup>[16]</sup> In our study 68% of health care workers are aware of homeopathic supplements for COVID precaution. 28% of health care workers have taken the complete course of homeopathic medicine as a confirmed treatment (Figure 5), which is similar to a study conducted by Divya Taneja et al in 2021.<sup>[10]</sup> Which shows 44.37% were of the opinion that Homeopathy is a confirmed treatment.

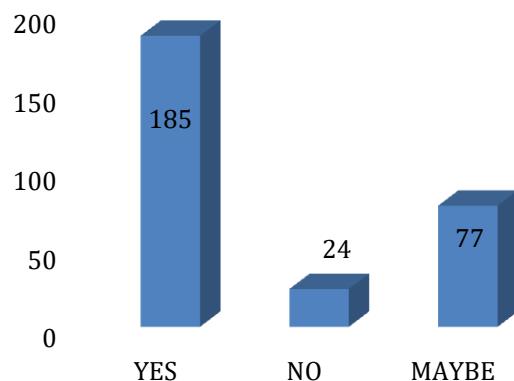
Siddha system of medicine is one of the primordial system of medicine, has its origin in southern part of India. Health and family welfare of Tamil Nadu government implemented "Aarokyam" special programme with AYUSH interventions for COVID19. This scheme insists the use of siddha medicines like, Kabasura kudineer, Nilavembu kudineer for mild COVID19 cases.<sup>[6]</sup> In our study only 45% of population have followed Kabasura kudineer, 13% used Nilavembu kudineer for COVID precaution shows the lack of knowledge among the siddha medicine system (Figure 6).



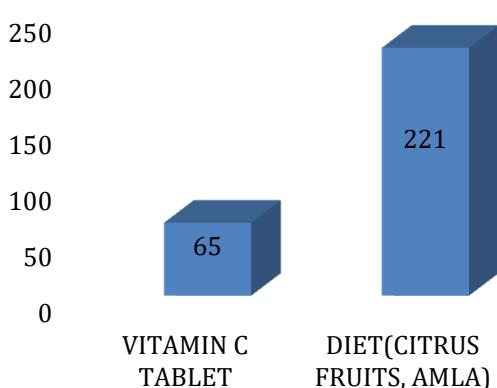
**Figure 1: - shows response of participants to intake of golden milk to prevent covid**



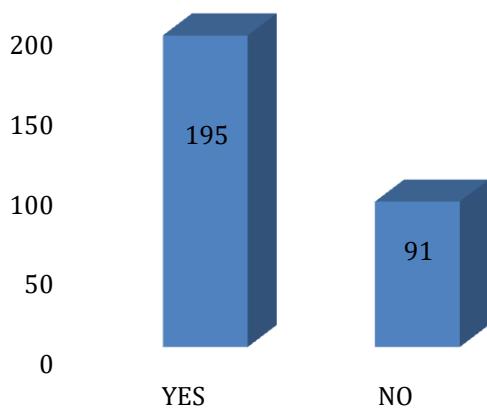
**Figure 2: - shows the response of the participants whether they believe intake of honey, ginger and pepper decoction prevent covid 19**



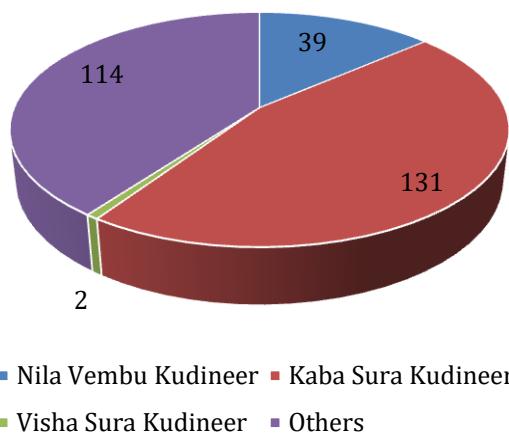
**Figure 3:** shows response of the participants whether they strongly believe that vitamin C can boost immunity



**Figure 4:** shows response to their form of vitamin C intake



**Figure 5:** shows the response to the question whether the participants are aware of homeopathic supplements for covid



**Figure 6:** shows response to the siddha precaution they follow

## Limitation

The major limitation of our study was sample size being too small and we have chosen limited population through simple random sampling. Health care workers who were active on social media are, therefore more likely to be responders rather than those who had limited activity on social media.

## CONCLUSION

While different treatments modalities are being tried to manage COVID 19 like antiviral drug, plasma therapy so on, Isolation and containment remains the best method of prevention. Lack of effective therapeutics for most of the viral diseases, emergence of antiviral drug resistance, and high cost of certain therapies necessitate the urge of finding new effective antiviral compounds. Hence, taking clue from the above instances it might be wise to adopt prophylactic and therapeutic strategies on the basis if Ayurveda, Homeopathy, Siddha.

'Sarve Jana Sukhino Bhavantu' let the people of the entire world be happy, which is very relevant in this context.

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**Cite this article as:**

Premnath Parvathy, V S. Aiswariya, P. Abinaya, Thomas Aiswarya, B. Hariharasudan, Abdullah Zoha. Knowledge and Practice of Possible Ayurvedic, Siddha and Homeopathic Regimens Against Novel Corona Virus Pandemic Among Healthcare Workers: A Cross-Sectional Study. International Journal of Ayurveda and Pharma Research. 2021;9(3):48-54.

**Source of support: Nil, Conflict of interest: None Declared**

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