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**Madhuvarshini Sundararajan**  
Post Graduate in M.Sc.,  
Epidemiology, Department of  
Epidemiology the Tamil Nadu,  
Dr MGR Medical University,  
Chennai, Tamil Nadu, India

**Srinivas G**  
Professor and Head,  
Department of Epidemiology  
The Tamil Nadu Dr MGR  
Medical University, Chennai,  
Tamil Nadu, India

**Valarmathi S**  
Research officer, Statistics  
Department of Epidemiology  
The Tamil Nadu Dr MGR  
Medical University, Chennai,  
Tamil Nadu, India

**Corresponding Author:**  
**Madhuvarshini Sundararajan**  
Post Graduate in M.Sc.,  
Epidemiology, Department of  
Epidemiology the Tamil Nadu,  
Dr MGR Medical University,  
Chennai, Tamil Nadu, India

## Knowledge, attitude and practice (KAP) on usage of Arsenicum album for COVID-19 among people in Chennai: A cross sectional survey

**Madhuvarshini Sundararajan, Srinivas G and Valarmathi S**

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### Abstract

Coronavirus has been declared a public health emergency, highlighting the critical need for worldwide collaboration to explore and better understand the virus, as well as to prevent the risk of transmission. The Ministry of Ayush issued a probable preventive Homoeopathic medicine Arsenicum album-30 for coronavirus infection. Coronavirus prevention strategies help in limiting disease spread. A cross sectional study using semi structured questionnaire was undertaken among residents of Chennai for three months. 354 people completed the survey with 52.5% being female. 79.4% were aware of prophylactic potential of homoeopathy. They had adequate knowledge and practices regarding the Arsenicum album, due to public awareness campaigns through news and social media platforms. The public supported the government's homoeopathic preventive campaign. The survey reveals that a sizable portion of the public believes in homoeopathy's therapeutic potential for the disease, paving the way for more research into its role as an adjuvant.

**Keywords:** Arsenicum album, COVID-19, homoeopathy, prevention

### Introduction

The novel coronavirus officially known as the SARS-COV-2 or COVID-19 was unfolding rapidly, first case was emerged in December 2019, as a cluster of acute respiratory illness in Wuhan, China from where it spreads rapidly to all the other countries. Unlike previous Coronavirus, this is highly contagious<sup>[1]</sup>.

On 31<sup>st</sup> January World Health Organization declared the outbreak a global public health emergency as more than 9000 cases were reported from all over the world<sup>[2]</sup>. The World Health Organization declared novel coronavirus (COVID-19) the global pandemic and public health concern. By declaring COVID-19 as public health emergency, the urgent need to co-ordinate international efforts to investigate and better understand COVID-19 and to reduce the risk of further international spread. Astonishingly, during the first week of march, a devastation number of cases of covid-19 were reported globally. As of march 12, 2020, more than 1,25,000 cases across 120 countries and over 4600 deaths of covid-19 had been reported.

Homoeopathy, the therapeutic medicine evolved 200 years ago in the 17<sup>th</sup> century and early 18<sup>th</sup> century by Dr. Samuel Hahnemann. The homoeopathic system of medicine has a long history of use in health maintenance and in disease prevention and treatment, particularly for chronic disease<sup>[2]</sup>. Since the time of Hahnemann, Homoeopathy has been utilized to treat epidemic diseases using a variety of approaches, including individualization, combination medicines, and genus epidemics<sup>[3]</sup>. Homoeopathy was initially used to prevent scarlet fever in 1801 during a scarlet fever outbreak in Germany, and it was a complete success.<sup>[4]</sup> Homeopathy had been used with apparent success in influenza pandemic during 1918, (Spanish flu)<sup>[5]</sup>, 1951<sup>[6]</sup> and 1957 (Asian flu)<sup>[7]</sup>. The homoeopathic system of medicine is well known, and historically used the preventive medicines during the epidemics of diarrhea, typhus or hospital fever (1813)<sup>[8]</sup>, diphtheria (1862-1864)<sup>[9, 10]</sup> and Keratoconjunctivitis in Cuba (1995).

In recent years, supplementary homoeopathic treatment in dengue outbreaks has shown to be effective, with improved platelet counts and fewer hospital days than those who receive standard treatment alone<sup>[11, 12]</sup>. Hahnemann founded Homeopathy based on natures law which is intact either for acute or epidemic diseases<sup>[8]</sup>.

The concept of prevention and treatment of epidemic disease was first put forward by Dr. Samuel Hahnemann in the Organon of Medicine 5<sup>th</sup> edition (Aphorism 102). To achieve an ultimate success against the monstrous disease, people's commitment to this effective measures is necessary. Homoeopathy can be used as both preventatively and therapeutically for various epidemic diseases with success [13].

With the goal of finding a cure for humanity's ills, a group of remedies was created based on the signs and symptoms referred to in the Lancet publication titled, '*Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China.*' After repertorization using the Synthesis repertory, Arsenicum album was found to be the most suitable preventative medicine [14]. Literature records, the remedy's field of action, its ability to match the stages and phases of the disease, and the remedy's past identification as a broad prescription with considerable impact were all taken into account when making a selection [15]. Based on the above, The Health advisory given by Ministry of Ayush against corona virus infection included Homoeopathic medicine Arsenicum album – 30 as a possible preventive for coronavirus infection along with general measures recommended by WHO.

One of the well-known homoeopathic remedy 'Arsenicum album' is a profoundly acting polychrest remedy that is known to act on every organ and tissue. Arsenicum album is predominantly derived from the element arsenic and rarely few traces of arsenic are reported to be found in vegetables and animals. Arsenicum album is a polychrest remedy that is frequently used to treat acute clinical conditions like bronchitis, food poisoning, asthma and hay fever. Historically there is much substantial evidence in the helpfulness of homoeopathic remedies during epidemics in the name of 'genus epidemics', a remedy selected through observation of several cases of epidemic disease and analyzing the symptomatology of those cases for the most indicated medicine. Arsenicum album was previously had been used for influenza pandemic in India during 2009, after advice from CCRH'S based on genus epidemics [7].

In Homoeo-prophylaxis, one of the methods used to decide on an appropriate remedy is based on the known generic symptomatology of the disease [16]. The medicine which covers most of the symptoms is chosen as a prophylaxis to prevent the disease [17]. KAP surveys are now the most extensively utilized studies in public health research for illustrating societal context [18-21].

The main aim of the study is to assess the knowledge, attitude and practices on usage of Arsenicum album for COVID-19 among people in Chennai.

## Methods

A cross sectional study was carried out among the people of Chennai from March – June 2021. Broad age group was chosen (i.e., above 18 years of age) to get a clear picture. The sampling frame consisted of residents of metropolitan city of Chennai. Two areas from each direction were chosen randomly for the study. By using stratified random sampling technique, from the selected areas four streets were selected,

from each street 10 consecutive houses will be selected. A sample size of 384 subjects was calculated at a margin of error of 5% with the confidence interval of 95%. All eligible and consenting people among Chennai were recruited until the sample size was attained. Data were collected using semi-structured questionnaire which was prepared after an extensive literature search. Face-to-face interview were conducted only after getting an informed consent from the study participants after explaining about the survey. The study was conducted in local language and Confidentiality was assured to each and every participant. Descriptive statistics was used for analyzing using SPSS ver-25.

## Results

Out of 354, maximum respondents being in the age group of 26-35 years with 28.8%. Majority of the respondents were male with 52.5% and remaining 47.5% were female. Respondents of the study were found to be spread across various parts of Chennai. Almost 33.9% of the respondents were graduate and 26% were professionals. Regarding marital status, 49.4% were married. The demographic profile of the participants including frequencies is given in Table 1.

**Table 1:** Demographic profile of the participants

Variables	Frequency	Percentage
<b>Gender</b>		
Female	168	47.5
Male	186	52.5
<b>Age group (in years)</b>		
≤20	15	4.2
21-25	62	17.5
26-35	102	28.8
36-45	50	14.1
46-55	62	17.5
56-65	49	13.8
66-75	10	2.8
≥76	4	1.1
<b>Occupation</b>		
Student	37	10.5
Housewife	29	8.2
Government/Private services	73	20.6
Professionals	92	26
Self-employed	86	24.3
Health care services	4	1.1
Retired/unemployed	33	9.3
<b>Education</b>		
Illiterate	34	9.6
Less than or equal to 12 <sup>th</sup>	101	28.5
Diploma/certificate	38	10.7
Graduate	120	33.9
Post graduate	61	17.2
<b>Region of Chennai</b>		
North	61	17.2
South	177	50
Central	116	32.8
<b>Marital status</b>		
Married	175	49.4
Unmarried	153	43.2
Widowed/separated	26	7.3

**Table 2:** Knowledge on COVID-19

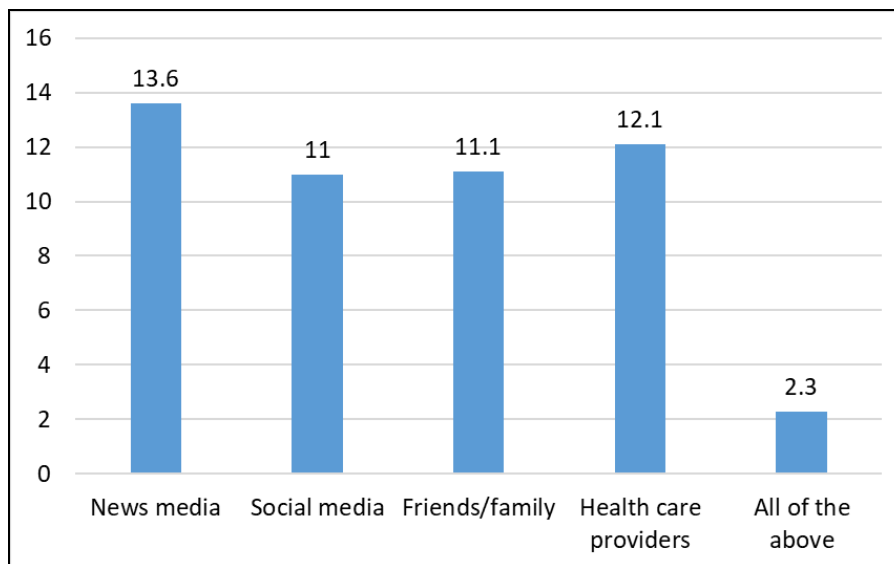
variables	Frequency	Percentage
<b>When did you first hear about COVID-19?</b>		
December 2019	112	31.6
March 2020	57	16.1
April - May 2020	37	10.5
January – February 2020	148	41.8
<b>Source of information</b>		
News media	144	40.7
Social media	46	13
Friends/family	24	6.8
Government agency: Ministry of health	15	4.2
All of the above	17	4.8
<b>Approved treatment for COVID-19?</b>		
No	161	45.5
Yes	150	42.4
Don't know	43	12.1
<b>What are the preventive measures you follow?</b>		
Kabatura kudineer	76	21.5
Arsenicum album	48	13.6
Vitamin C and zinc	1	0.3
Kabatura kudineer, Arsenicum album	106	29.9
Arsenicum album, Zinc and vitamin C	19	5.4
All of the above	16	4.5
Not taken any measures	34	9.6
Self – quarantine	3	0.8

COVID-19 was known by majority of respondents (41.8%) in January-February 2020, primarily through the news media (40.7%). Majority of the participants were aware that there is no recognized treatment, and 29.9% used Kabatura kudineer in combination with Arsenicum album as a COVID-19 preventive, 21.1% took Kabatura kudineer alone, only 9.6% did not use any preventive measures whereas only 1% of people use vitamin C and Zinc as COVID-19 preventatives.

Majority of the participants 79.4% were aware of the government’s recommendation about Arsenicum album for COVID-19. They learned the information mostly from news media 13.6%. (Figure 1) Of 354 respondents, 34.2% knowing that Arsenicum album was advertised as a preventative for COVID-19 and 29.8% not knowing how Arsenicum album was used for COVID-19. (Table 2.1)

**Table 2.1:** Knowledge on Arsenicum album

Variables	Frequency	Percentage
<b>Do you the government recommends homoeopathy medicine Arsenicum album for COVID-19?</b>		
No	73	20.6
Yes	281	79.4
<b>Source of information *multiple responses</b>		
News media	48	13.6
Social media	39	11
Friends/family	42	11.1
Health care providers	43	12.1
All of the above	8	2.3
<b>How Arsenicum album is used for COVID-19?</b>		
Preventive	121	34.2
Curative	40	11.3
Both	91	25.7
Don't know	102	28.8



**Fig 1:** Frequency and distribution of people obtained information about Arsenicum album

79.1% believed in the Homoeopathy system of medicine and 67.2% opined that Arsenicum album can prevent COVID-19 and almost 64.7% believing that Arsenicum

album had no adverse effects and can boost immunity. (Table 3)

**Table 3:** Attitude towards Arsenicum album

Variables		Frequency	percentage
Do you believe in Homoeopathy system of medicine?	No	74	20.9
	Yes	280	79.1
Do you think that Arsenicum album can prevent COVID-19?	No	116	32.8
	Yes	238	67.2
Do you think that Arsenicum album can cause side effects?	No	229	64.7
	Yes	125	35.3
Do you believe that immunity can be enhanced by using Arsenicum album?	No	115	32.5
	Yes	239	67.5

**Table 4:** Practices towards usage of Arsenicum album

Variables	Frequency	Percentage
<b>Ever taken Arsenicum album after announced by Government?</b>		
Yes	203	57.3
No	151	42.7
<b>Who recommended to use Arsenicum album? * *multiple responses</b>		
Family/friends	20	5.6
Homoeopathic doctor	63	17.8
Government announcement	16	4.5
Work place	2	0.6
<b>From where did you get Arsenicum album? * *multiple responses</b>		
Homoeopathic pharmacy/general pharmacy	115	32.5
Primary health centers / government hospitals	14	4.0
Home delivery by government field workers	57	16.1
<b>Is there any government / private Homoeopathic hospital or dispensary near your residence?</b>		
Don't know	92	26
No	88	24.9
Yes	174	49.2
<b>Difficulty in getting in Arsenicum album?</b>		
No	146	41.2
Yes	57	16.1
<b>Dose and frequency of Arsenicum album?</b>		
Daily once in empty stomach	134	37.9
Twice daily in empty stomach for 1 week	15	4.2
Whenever thought of	44	12.4
Don't know	10	2.8
<b>Have your family members taken the medicine Arsenicum album?</b>		
Don't know	42	11.9
No	93	26.3
Yes	219	61.9
<b>Feel any changes after taking Arsenicum album?</b>		
Feel changes	23	6.5
No changes	180	50.8
<b>If yes, what are the changes?</b>		
allergic changes	8	2.3
cough	5	1.4
diarrhea	4	1.1
fever	6	1.7
sneezing	3	0.8
<b>Have you suggested Arsenicum album to others?</b>		
No	164	46.3
Yes	190	53.7
<b>Will you suggest Arsenicum album to others?</b>		
No	114	32.2
Yes	240	67.8

Out of 354 respondents, 42.7% did not take Arsenicum album after announced by government, while 57.3% took Arsenicum album after receiving advice from Homoeopathic doctors (17.8%). Majority of the respondents got Arsenicum album from homoeopathic pharmacy 32.5%.

Most of the respondents 41.2% did not have any difficulty in getting Arsenicum album and 37.9% were aware of the dosage of Arsenicum album, 12.4% took Arsenicum album whenever they felt like it, and only 6.5% experienced allergic changes after taking Arsenicum album. (Table 4)

**Table 5:** Overall proportion with 95% Confidence Interval

Arsenicum album	Proportions (%)	95% Confidence interval for proportions	
		LL	UL
Knowledge on Government recommendation	79.4	74.9	83.3
Belief in prevention of COVID-19	67.2	62.2	72
Perception on side effects	35.3	30.5	40.4
Ever taken after Government announcement	57.3	52.1	62.4

(Table 5) Following the government announcement, 79.4 percent were aware of Homoeopathic prophylactic potential and believed that Arsenicum album could prevent coronavirus infection, this positive result throws light on the fact that the receiving end also supported the government's initiative for prevention strategies paving the way for more research into its role as an adjuvant.

### Discussion

To the best of our knowledge, this is the first survey assessing the KAP towards Arsenicum album among the residents of Chennai. Majority of the respondents had enough knowledge of the disease in general, the lack of specialized treatment and reflected a responsible behavior toward society by appreciating the importance of notifying the health authorities about the disease. It is critical to recognize that disease prevention knowledge can be a predictor of good practice and that its lack of adequacy can lead to uncertainty and less stringent control measures.

These results were surprising, owing to the sample characteristics, 33.9% held a bachelor's degree. Furthermore, the pandemic and its spread has monopolized prime news time and social media platforms which the demographic devours. Certain doubts concerning dosage of Arsenicum album appear to still linger among the public, only few being able to correctly understand the dosage. Even though the government distributed Arsenicum album home to home, there remains a significant gap that can be filled by implementing more awareness Programmes and campaigns throughout Chennai. These responses also highlight the potential need for more effective and focused awareness programme for people with lower education level or who do not have access to electronic means of communication.

In the absence of an available vaccine, 79.4% were aware of prophylactic potential of homoeopathy. Almost 3/4<sup>th</sup> of the respondents reported they used a preventive medication, with homoeopathy medicine being the popular. Arsenicum album, a recommended prophylactic in the advisory of Ministry of AYUSH guideline, was taken alone by 59.3% or in combination with some other remedy (39.4%). The ministry has also recently launched an Ayush Sanjivani app to track the number of people who have followed the recommendations. The recent governmental initiative to release clinical guidelines for COVID-19 individuals with adjuvant Homoeopathy appear to back up the public need expressed in the survey.

The strength of this study is that it depicts the public's perception of Homoeopathy, but it has also some limitations. The information acquired from the vulnerable elderly group can't be generalized because they only made up 17.7% of the dataset. More surveys targeting specific demographic groups such as under-privileged, inadequately educated and elderly would be required to address the increased numbers following the unlock and analyze their KAP.

### Conclusion

Our finding shows that majority of the educated residents of Chennai in various zones had adequate knowledge and practices regarding the Arsenicum album, potentially as a result of public awareness campaigns and the dissemination of news and information on various news media and social media platforms. The survey reveals that a sizable portion of the public believes in homoeopathy's therapeutic potential for the disease, paving the way for more research into its role as an adjuvant. Furthermore, a considerable number of respondents agreed that the government's initiative to promote a possible homoeopathic prophylactic was a good idea.

### Conflict of interest

There is no conflict of interest

### Ethical consideration

IRB clearance obtained from The Tamil Nadu Dr MGR Medical University.

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