



## RESEARCH ARTICLE

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# Cross sectional survey to assess the efficacy of home remedies during Covid times from a Pharmacovigilance perspective

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### ABSTRACT



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**Introduction:** Many strategies have been suggested for the prevention of COVID-19. such as intake of certain home remedies.

**Objectives:** To assess the efficacy of home remedies like *Kadha* (Decoction) consumed during covid times and document the adverse events, if any due to indiscriminate use of home remedies. To document various home remedies used by the public to boost immunity.

**Method-** About 130 patients who attended the OPD at Central Ayurveda Research Institute (CARI), Bengaluru were included for the survey by using a questionnaire. The questionnaire was prepared to collect the information regarding the intake, type, duration and benefits of home remedies.

**Results-** It was observed that a majority of the participants in the study were not aware about the long-term consequences of consuming a particular home remedy. Due to the fear of covid and faith in the home remedies, many opted as a preventive measure. Ginger was the most frequently used drug as home remedy and hyperacidity with heart burn was the most common untoward effect observed due to the inappropriate use of the home remedies.

**Conclusion.** Ayurveda emphasizes on diet and regimen as a part of the treatment along with *AushadhaSevanaKaala* (the time of administration of medicine). When home remedies are consumed without medical supervision and without adhering to the basic principles as cautioned in the Ayurvedic medicine, it is bound to cause some untoward effects. This study is a humble attempt in this direction.

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### Introduction

COVID-19 has taught us a plethora of lessons and changed many aspects of our lives ranging from healthcare to social norms. It has brought about a great awareness about health and made the human race focus on lifestyle and diet. In spite of advances in medical science, none of the medicines could control infection which caught the world by storm. Hence, there was a paradigm

shift in the approach of infection control by focusing on preventive measures. The concept of boosting immunity emerged as a trump card to combat infectious conditions as per the advisory from the Ministry of Ayush (Ministry of Ayush, 2022). Indian granny's recipe *kadha* which was given least importance and vehemently avoided earlier suddenly found an upgraded status. As a result, *Kadha* or *Kashaya* was voted as the 'The Drink of 2020' replacing all



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the fancy cocktails and green teas. It has gained popularity among health-conscious consumers and it has penetrated into an emerging niche market along with other popular beverages, often with misleading promises. As the pandemic raged, the need for building immunity and drinking *kadha* also increased. With social media and internet allowing free flow of information, people are now reading up more about the home remedies and immune boosters.

Ayurveda has been advocating the same principle of focusing on body immunity rather than disease causing agent since ages and there are practices of consumption of certain *Kadhas* in South Indian regions during monsoons as a preventive measure (Ministry of Ayush, 2022). There are instances of particular communities administering decoction of *Saptaparna* (*Alstoniascholaris*) to prevent the disease like Malaria and other infectious diseases arising during rainy season. For instance, *Oushadha Kanji* is one of the unique medicinal porridge consumed in the South Indian states during the rainy season which is popular as traditional drink consumed in July and August. The unique combination of herbs, spices and rice in this dish is expected to keep monsoon fevers at bay and have a positive effect against some of the common diseases of rainy season by improving the immunity of the body and also acts as a detoxifying agent. It contains Caraway seed, Fenugreek seeds, Cardamom, Cumin seeds, Coriander seeds, Aniseed, Dry Ginger, Black Cumin, Cloves, Dried Turmeric, Common sida/ Common Wire weed. There are other beverages which are made up of coriander seeds, cumin seeds, pepper, fennel/ saunf, cardamom, clove, turmeric, ginger powder used along with milk and jaggery in some parts of south India (Shubhashree et al., 2020). Several herbs have been used for ages to prepare Ayurvedic medicine which can help to boost immunity and many of these herbs have been an integral part of our Indian diet mainly as spices. Ministry of Ayush has recommended many herbal formulations including turmeric milk, *Kadha* which can be taken as per the advice of a medical practitioner (Ministry of AYUSH, 2021). However, according to experts, excess of any of these remedies, moreover, without prescription or consultation can be harmful and counter-productive and it may also result in many adverse drug events (ADEs).

Home remedies are simple measures of symptom management for minor health complaints. Information is often passed along from one generation to another (Parisius et al., 2014). Many people have consumed various home-made recipes with different ingredients to prevent Covid-19. The ingredients of *Kadha* is not uniform. However, when medical intervention is not sought and *Kadhas* are used indiscriminately, it may result in some unwanted effects or adverse events. For instance, people suffering from hyperacidity should never have spicy *kadha* as it may worsen their condition. Hence, a study was conducted to document the adverse events due

to indiscriminate use of *Kadhas* self-medication/ home remedy during covid times.

## Methodology

A cross sectional survey was conducted among 130 patients from July 2020 to January 2021 among those who attended the OPD at Central Ayurveda Research Institute (CARI), Bengaluru. As the study was initiated during Covid times and during the lockdown period when hospital entry was restricted, few patients visited the hospital. The survey was conducted from July 2020 to January 2021 which included data of 130 patients. As the number of patients who were physically present in the OPD were less, no sample size was adhered in order to include maximum available data.

Patients who visited CARI OPD who were engaged in any home-based therapy or remedy aimed at preventing COVID-19 and those who were above 18 years of age upto 80 years from either sex were included in the survey. Patients below 18 years and above 80 years were excluded from the study. Patients consuming allopathic medications for the conditions like Diabetes mellitus, Hypertension, Cardiac problems etc on regular basis were also excluded from the study.

As the covid situation posed new challenges when the first wave of covid gripped the world, a questionnaire was developed based on available literature to collect maximum possible data (Parisius et al., 2014). Permission from IEC was not obtained since the study was having less than minimal risk and there was no disclosure of personal identity of participants. Among participants who engaged in such practices, further enquiries were made to understand the kind of home remedy they have opted, their active ingredients, method of preparation and administration. Open-ended questions were asked to collect all the information regarding the intake of home remedies as immune boosters, duration of intake pattern of administration of the various ingredients and any untoward effects noted if any due to continuous intake. The questionnaire was handed out in the waiting area of the OPD. Data was collected by a trained Program assistant and the data collected was analyzed descriptively.

## Analysis of data

As it was a simple cross-sectional survey limited to only one place in the outskirts of the city during Covid times, there were limitations in data collection. However, the available data was analysed based on percentage.

## Results

In the present study information on self-medication/home remedies were collected from 130 study participants

(n=130). Female patients were 72 (54.4 %) as compared to males 58 (44.6 %). There were 35 (26.9 %) in the age group of 20-40 years 70 (53.9 %) in the age group of 41-60 years and 25 (19.2 %) in the age group of 60 -80 years. Majority of the participants were from the age group 41-60 years and female patients were more than males.

Among 130 participants, 117 (90 %) patients were taking either home remedies or other medicines. 53 (40.8 %) study participants believed that home remedies prevents/cure Covid19, whereas 58 (44.6 %) of the people were not sure of the results and 19 (14.6 %) opined in negation. However, majority of the patients 113 (89.3 %) had no idea about whether long term intake of home remedies /medicines can cause any adverse effect. On the contrary, only 2 (1.5 %) felt that long term intake can cause adverse effects.

### Type of self-medications used

Among 130 patients surveyed, it was found that home remedies (90.6 %) were the most used self-medication by the patients. Among them only 6.8 % were taking

Ayurvedic/ herbal preparations like *Nilavempukashayam*, *Ayushkwathachurnam* etc and only 2.6 % were taking Vitamin C tablets.

### Ingredients of Home remedies

As per the information collected spices like ginger, turmeric, pepper, and garlic were the common ingredients used in their recipes and it was mainly prepared in the form of *kadha*. Rest of the drugs listed in the table were also added as per the availability (in a combination of five /six /seven drugs, ex: ginger, garlic, turmeric, pepper +jeera / Tulasi / coriander/lavanga etc.) *Kadhawas* prepared either adding milk or lemon juice later either jaggery or honey was added to *kadha* just before the intake. Most of the patients did not follow only any particular formulation. They used the spices and herbs available at their home. However, 6 patients used some specific formulations. Two of them were taking *Nilavembukashayam*, two were using *Ayushkwathachurna*, one patient was consuming *Kabasurakudineer* and one patient was consuming *Amrit Tulasi* drops. This has been presented in Table 1.

**Table 1: Ingredients of the home remedies**

S. No.	Medicinal plant	Botanical name	Number
1	Ginger	<i>Zingiberofficinale</i>	110
2	Turmeric	<i>Curcuma longa L.</i>	99
3	Pepper	<i>Piper nigrum L.</i>	95
4	Garlic	<i>Allium sativum L.</i>	95
5	Tulasi	<i>Ocimum sanctum Linn.</i>	72
6	Cinnamon	<i>Cinnamomtamala</i>	52
7	Coriander (leaf/seed powder)	<i>Coriandrumsativum</i>	52
8	Mint leaves	<i>Menthapiperita L</i>	50
9	Lavanga	<i>Syzygiumaromaticum L.</i>	48
10	Jeera(Cumin seeds)	<i>Cuminumcuminum</i>	48
11	Ajwain/Borage leaves	<i>Trachyspermumammi L</i>	46
12	Nilavembu	<i>Andrographispaniculata</i> (Burm. f.) Wall. ex Nees	42
13	Cardamom	<i>Elettaria cardamom (L.) Maton</i>	36
14	Amrithavalli	<i>Tinospora cordifolia (Willd.)Miers</i>	36

### Source of Information

Out of 117 people, a great number of patients (59 %) obtained information regarding home remedies/medicines

from friends and relatives. 5.1 % people took advice from the doctors initially but later continued without further consultation (Table 2).

**Table 2: Source of information regarding home remedies/medicine (n=117)**

S No	Source	Number
1.	Friends and relatives	69 (59%)
2.	Social media videos	29 (24.8)
3.	Social media messages	10(8.5%)
4.	Doctor's advice (initially)	6 (5.1%)
5.	Self medication/ Self formulation	3 (2.6%)

**Duration of intake of home remedies/ self-medication**

Among 117 people, 84 (71.8 %) i.e. majority of them were taking home remedies/medicines for a long period (1 to 6 months), 30 (25.6 %) even more than 6 months and 3 (2.6 %) had taken medicines for few days upto 1 month. It is also found that all of them continued medication without consulting any medical practitioner.

**Development of Adverse events**

Out of 117 people, 39.4 % of them developed health issues after the intake of home remedies. All 46 people were not taking any vitamin tablets or other type of medications other than home remedies. Among the health issues, hyperacidity with heart burn was noticed in most number as listed in the Table 3.

**Table 3: Adverse events reported by study participants**

S. No.	Reported adverse events	No of patients
1	Hyperacidity with heart burn	14
2	Constipation	6
3	Bleeding per rectum	3
4	Mouth ulcers	3
5	Skin rashes	2
6	Excessive sweating	2
7	Watering from the mouth	2
8	Head ache and giddiness	3
9	Nausea	1
10	Nasal bleeding	1
11	Heavy flow during menstruation/Menorrhagia	2
12	Both hyperacidity and Constipation	3
13.	Burning sensation of eyes	3
14.	Burning sensation during micturition	1

Among 46 people who developed health issues, 43.5% had received information regarding home remedies from their relatives and friends while the influence of social

media was also visible in the observation. 2.2% took advice from doctors initially but later continued without further consultation (Table 4).

**Table 4: Source of information of the patients with health issues**

S No	Source	Number
1.	Friends & relatives	20(43.5%)
2.	Social media videos	18(39.1%)
3.	Social media messages	7(15.2%)
4.	Doctor's advice initially	1(2.2%)

**Time and frequency of intake**

It is clearly visible from the observation that patients who took home remedies in empty stomach and two time in a day were more prone to develop adverse reaction compared to those who were taking less frequently. 29

people were not taking home remedies on daily basis and none of them noticed any health issues. Similarly, 6 people were frequently drinking home remedy preparations (boiled with water) after the intake of food and those people also did not notice any health issues (Table 5).

**Table 5: Time and frequency of intake of home recipe/medicines**

S No	Time and frequency of intake	No. of people without adverse effects after intake of home remedies	People who developed adverse effects after intake
1	Once daily in empty stomach in the morning (n=31)	6 (19.4 %)	25 (80.60 %)

2	Twice daily before food (n=20)	1 (5 %)	19 (95 %)
3	Once in the evening (n=32)	30 (93.8%)	2 (6.2 %)
4	Not taking on daily basis (once in 2-3 days/once in a week) (n=29)	29 (100 %)	0
5	Frequent drinking after food (as paneeya like shunti,tulasi,jeera or all boiled together as per the availability) (n=6)	6 (100 %)	0

## Discussion

Covid -19 was a new situation experienced worldwide in 2019. Available research papers have focused on benefits of consuming Ayurvedic medication as single case study or as add-on drug. Not many works have focused on side effects of home remedies apart from stray reports in newspapers ([Dhawan, P. 2020](#)).

With the onset of the coronavirus, there has been a rise in consumption of Ayurvedic remedies and herbal immunity boosters all over the world. Daily consumption of Ayurvedic herbal decoction was recommended by the Indian Ministry of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy (AYUSH) as one of the key methods for prevention and boosting immune system. However, if it is, continued for longer duration without medical supervision it may result in many untoward effects. As seen in the present study, unmonitored consumption of home remedies have led to adverse effects among 80.6 % consumers. Ayurveda advocates the principle of Prakruti, satmya (congenial diet ) before administering any medicine.

Acharya Charaka states that the errors in medication may happen due to indiscriminate use just as poison, weapon, or fire can prove fatal depending on the use. In addition, some of the drugs are contraindicated for long term use even in classical texts in spite of their medicinal value ([Agnivesha, 2011](#)). For instance, Pippali is to be administered with caution ([Agnivesha, 2002](#)). Ayurveda also emphasizes on the administration of the drugs in different Oushadha kala and also about dose, anupana, Desha, Kala and other factors ([Agnivesha, 2017<sup>a</sup>](#); [Agnivesha, 2017<sup>b</sup>](#)).

Several strategies were thought of as preventive measure for Covid-19 among which were intake of certain home remedies, medicinal plants. Indian spices have been reported to exhibit a wide range of physiological and pharmacological properties that produce beneficial health promoting/protective effects for various chronic diseases. Indian spices as a biotherapy have become important in the developed and developing world with specific spices such as cinnamon and curcumin involved in the control of the immune system and the antimicrobial therapy ([Chandrasekara et al., 2018](#)).

Herbal beverages, consumed as part of a balanced diet, may improve the antioxidant status and enhance the

overall health status. Herbal teas/beverages are rich sources of natural bioactive compounds such as carotenoids, phenolic acids, flavonoids, coumarins, alkaloids, polyacetylenes, saponins and terpenoids, among others. A wealth of available scientific evidence demonstrates that natural bioactive compounds render a number of diversified biological effects, such as antioxidant, antibacterial, antiviral, anti-inflammatory, antiallergic, antithrombotic and have passed down this recipe to us as part of their traditional knowledge of natural remedies ([Krishnaswamy K., 2008](#)).

The survey revealed that a majority of the participants in the study (89.3 %) were not aware about the long term consequences of consuming a particular home remedy. However, with an intention of boosting immunity and preventing infection, people have consumed home remedies from 1- 6 months without much knowledge about the probable side effects.

## Conclusion

The Covid-19 pandemic has proved that preventive healthcare modules and immunity-boosting components, healthy regimen are far superior than the sequel faced by covid infections. Desperateness to avoid the infection and uncertainty leads to disbelief among people. This paper aims to raise the public's awareness about the inappropriate uses of home remedies and encourage people to double check information, therefore limiting the damage and spread of false information.

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## Conflict of Interest

Authors declare that there are no conflict of interest.

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