



RESEARCH ARTICLE

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A cross-sectional survey to assess the efficacy of home remedies during Covid times from a Pharmacovigilance perspective

Shubhashree MN ^{a,*}, Raghavendra Naik ^b, Chandini Chandrasekharan ^c, Sulochana Bhat ^d

^a Research Officer (S-3) Ayu, Central Ayurveda Research Institute, #12, Uttarahalli, Manavarthe Kaval, Kanakapura Road, Bengaluru-560109

^b Research Officer (Ay), Department of Ayush, Bureau of Indian Standards (BIS) headquarters, Bahadurshah Zafar Marg, New Delhi-110002

^c Consultant, Central Ayurveda Research Institute, #12, Uttarahalli, Manavarthe Kaval, Kanakapura Road, Bengaluru-560109

^d Assistant Director Incharge, Central Ayurveda Research Institute, #12, Uttarahalli, Manavarthe Kaval, Kanakapura Road, Bengaluru-560109

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ABSTRACT



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Introduction: Many strategies have been suggested for the prevention of COVID-19 such as the 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 in the survey by using a questionnaire. The questionnaire was prepared to collect 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 of the long-term consequences of consuming a particular home remedy. Due to the fear of covid and faith in home remedies, many opted for a preventive measure. Ginger was the most frequently used drug as a home remedy and hyperacidity with heartburn was the most common untoward effect observed due to the inappropriate use of the home remedies.

Conclusion: Ayurveda emphasizes diet and regimen as a part of the treatment along with *Aushadha Sevana Kaala* (the time of administration of medicine). When home remedies are consumed without medical supervision and without adhering to the basic principles as cautioned in 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. Despite 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 to 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



* Corresponding Author

Shubhashree MN

E-mail: shubhathejas@gmail.com

Contact: 9448016968

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

Ayurveda has been advocating the same principle of focusing on body immunity rather than a disease-causing agent for 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* (*Alstonia scholaris*) to prevent diseases like Malaria and other infectious diseases arising during the 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 a 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 the rainy season by improving the immunity of the body and also acting as a detoxifying agent. It contains Caraway seeds, Fenugreek seeds, Cardamom, Cumin seeds, Coriander seeds, Aniseed, Dry Ginger, Black Cumin, Cloves, Dried Turmeric, and Common sida/ Common Wire weed. Other beverages are made up of coriander seeds, cumin seeds, pepper, fennel/ saunf, cardamom, clove, turmeric, and 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, 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 homemade recipes with different ingredients to prevent Covid-19. The ingredients of *Kadha* are 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 who attended the OPD from July 2020 to January 2021 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. As the number of patients who were physically present in the OPD was less, no sample size has adhered to include the 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 up to 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 the 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 the personal identity of participants. Among participants who engaged in such practices, further inquiries were made to understand the kind of home remedy they have opted for, 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 home remedies and any untoward effects noted if any due to continuous intake. The questionnaire was handed out in the waiting area of the OPD. Data were 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 on the outskirts of the city during Covid times, there were limitations in data collection. However, the available data were analyzed based on percentage.

Results

In the present study information on self-medication/home remedies was 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. The 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 prevent/ cure Covid19, whereas 58 (44.6 %) of the people were not sure of the results and 19 (14.6 %) opined in negation. However, the majority of the patients 113 (89.3 %) had no idea about whether long-term intake of home remedies/ medicines can cause any adverse effects. 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 *Nilavempu kashayam*,

Ayushkwatha churnam, 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*. The 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.) *Kadha* was prepared either by 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 *Nilavembu kashayam*, two were using *Ayushkwatha churna*, one patient was consuming *Kabasura kudineer* 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>Zingiber officinale</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>Cinnamom tamala</i>	52
7	Coriander (leaf/seed powder)	<i>Coriandrum sativum</i>	52
8	Mint leaves	<i>Mentha piperita L</i>	50
9	Lavanga	<i>Syzygium aromaticum L.</i>	48
10	Jeera(Cumin seeds)	<i>Cuminum cyminum</i>	48
11	Ajwain/Borage leaves	<i>Trachyspermum ammi L</i>	46
12	Nilavembu	<i>Andrographis paniculata</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 % of 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 was 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 types of medications other than home remedies. Among the health issues, hyperacidity with heartburn was noticed in most numbers as listed in Table 3.

Table 3: Adverse events reported by study participants

S. No.	Reported adverse events	No of patients
1	Hyperacidity with heartburn	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	Headache 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 in 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 on 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 visible from the observation that patients who took home remedies on empty stomach and two times a day were more prone to develop adverse reactions compared to those who were taking them 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 on 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 daily (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 the benefits of consuming Ayurvedic medication as a single case study or as an add-on drug. Not many works have focused on the 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 the 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 the immune system. However, if its, continued for a longer duration without medical supervision it may result in many untoward effects. As seen in the present study, unmonitored consumption of home remedies has led to adverse effects among 80.6 % of consumers. Ayurveda advocates the principle of Prakruti, satmya (congenial diet) before administering any medicine.

Acharya Charaka states that medication errors 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 despite their medicinal value ([Agnivesha, 2011](#)). For instance, Pippali is to be administered with caution ([Agnivesha, 2002](#)). Ayurveda also emphasizes the administration of the drugs in different Oushadha kala and also about dose, Pramana, Anupana, Desha, Kala and other factors ([Agnivesha, 2017^a](#); [Agnivesha, 2017^b](#)).

Several strategies were thought of as preventive measures for Covid-19 among which were the intake of certain home remedies, and 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 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 several diversified biological effects, such as antioxidant, antibacterial, antiviral, anti-inflammatory, anti-allergic, and 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 of the long-term consequences of consuming a particular home remedy. However, to boost immunity and prevent infection, people have consumed home remedies for 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 regimens are far superior to the sequel faced by covid infections. Desperateness to avoid 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

The authors declare that there is no conflict of interest.

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