



ISSN (E): 2320-3862  
ISSN (P): 2394-0530  
NAAS Rating: 3.53  
[www.plantsjournal.com](http://www.plantsjournal.com)  
JMPS 2021; 9(1): 25-28  
© 2021 JMPS  
Received: 05-11-2020  
Accepted: 14-12-2020

**Eshita Anam**  
Department of Pharmacy,  
University of Development  
Alternative, Lalmatia, Dhaka,  
Bangladesh

**Rabeya Bashry Swachho**  
Department of Pharmacy,  
University of Development  
Alternative, Lalmatia, Dhaka,  
Bangladesh

**Khoshnur Jannat**  
Department of Biotechnology  
and Genetic Engineering,  
University of Development  
Alternative, Lalmatia, Dhaka,  
Bangladesh

**Mohammed Rahmatullah**  
Professor, Department of  
Biotechnology and Genetic  
Engineering, University of  
Development Alternative,  
Lalmatia, Dhaka, Bangladesh

**Corresponding Author:**  
**Mohammed Rahmatullah**  
Professor, Department of  
Biotechnology and Genetic  
Engineering, University of  
Development Alternative,  
Lalmatia, Dhaka, Bangladesh

## Home remedies for COVID-19 treatment in Gazipur district, Bangladesh

**Eshita Anam, Rabeya Bashry Swachho, Khoshnur Jannat and Mohammed Rahmatullah**

**DOI:** <https://doi.org/10.22271/plants.2021.v9.i1a.1244>

### Abstract

When a disease is difficult or costly to treat, the general practice is to treat with home remedies. This is true for COVID-19, a viral disease caused by the coronavirus SARS-CoV-2. In the absence of therapeutics and with vaccines still not reaching Bangladesh, doctors are repurposing medicines and patients are self-medicating with home remedies for treatment of COVID-19. Surprisingly, these home remedies from various regions of Bangladesh are fairly consistent in their use of spices like ginger, clove, and cinnamon with black tea. We describe home remedies used by three COVID-19 patients in Gazipur district, Bangladesh and discuss the scientific validation of such home remedies.

**Keywords:** COVID-19, SARS-CoV-2, home remedies, Bangladesh

### Introduction

There are occasions when a disease has reached a terminal stage, or is untreatable because of lack of appropriate medicines, or is not serious enough to seek a doctor's advice, or may be not affordable for seeing a doctor and buying requisite medications. On those occasions, a patient or the patient's family resort to home remedies, otherwise known in Bangladesh as 'grandmother's recipes', another name for which is 'totka chikitsa'. This is not a unique feature of Bangladesh, but quite common in all countries of the world. A cross-sectional survey report from a developed country like Germany indicated that about 80% of the respondents use home remedies, about 22 home remedies are used by a person on average for different ailments, and that the most common home remedies included steam-inhalation, hot lemon drink, honey, chamomile tea and chicken soup [1]. Chicken soup, steam or heat, and orange juice are common home remedies for children in USA suffering from common cold [2]. A total of 47 medicinal plants were reported to be used in home remedies in Eastern Cape Province, South Africa [3].

COVID-19, the viral disease caused by the corona virus SARS-CoV-2 and the cause of the current pandemic, has already as of January 24, 2021 infected 99,436,669 persons among whom 2,132,395 died from the disease [<https://www.worldometers.info/coronavirus/>]. The disease first emerged in Wuhan, China at the tail end of 2019 and has since affected virtually the entire population of this planet. Despite the best effort of scientists, any drugs are yet to be discovered. Several vaccines have obtained emergency approval; however the problem with vaccines lie in their costs, storage needs, and long-term efficacies. It is further to be remembered that these vaccines need two doses at short interval to obtain optimal effects, which is really an almost impossible task to manufacture 16 billion doses and administer them to the current nearly 8 billion people on earth.

Traditional medicines have been recommended by the World Health Organization for treatment of COVID-19, provided they have the necessary scientific data to back them [4]. Medicinal plants such as *Artemisia annua* are being considered as possible treatments for COVID-19 in Madagascar [5]. *Cimicifuga rhizoma*, *Melieae cortex*, *Coptidis rhizoma*, *Phellodendron cortex* and *Sephorasubstrata radix* (Traditional Chinese Medicine plants or plant parts) may prove useful in treatment of COVID-19 [6]. Various antiviral natural products against COVID-19 have been reviewed [7]. However, despite the various methodologies used by scientists including *in vitro*, *in vivo*, and *in silico* studies, thus far any effective therapeutic against COVID-19 has proved elusive.

Because of the contagious nature of COVID-19 and the lack of proper medications (vaccines are yet to reach Bangladesh), there is a sense of ostracism of COVID-19 patients by doctors and neighbors alike. As a result, patients are mainly left to their own devices being attended by only the closest family members and prescriptions given out over cell phones instead of visual inspection. Although this is not the case for all doctors and patients, yet it holds true for a huge number of COVID-19 infected cases. As a result, many types of 'quacks' can operate in the country peddling 'medications' of dubious origin and therapeutic values. However, this dilemma has also given rise to home remedies, which are beginning to take some coherent shape after home trials in the last 12 months of the ongoing COVID-19 pandemic.

We had been trying to collate home remedial information for COVID-19 from different regions of Bangladesh [8, 9]. The objective of this study was to collect information from available sources at Gazipur district, Bangladesh. It may be mentioned in this context that because of social ostracism, most patients deny that they have COVID-19 and refuse to

give information on the pretext that they have common cold or flu instead.

### Methods

Information about COVID-19 patients were collected from patients and close relatives of the patients through questioning over the phone. All patients and their relatives were guaranteed that apart from their gender and age, no other details as to their names, locations or other personal details will be divulged by us to any sources. Patients and relatives were informally interviewed through cell phone and particularly questioned as to (I) whether the patient have tested COVID-19 positive, (II) nature of medications they have taken during their sickness phase and till they have tested COVID-19 negative, and whether such medications included home remedies, allopathic medicines, or both, and finally (III) the outcome of their treatment. A map of Bangladesh is given in Figure 1 so that Gazipur district can be identified.



**Fig 1:** Map of Gazipur district; inset showing map of Bangladesh with Gazipur district in yellow.

### Results and Discussion

Gazipur district comprises an area of 1741.53 square kilometers and is located in between 23°53' and 24°21' north latitudes and in between 90°09' and 92°39' east longitudes. Of the three patients from whom data was collected, two were females and one male.

### Patient 1

**Age 24 years, female**

**Symptoms: Fever, sore throat, dry coughs**

**Medicines:** Paracetamol, Ceevit (Vitamin C supplement from Square Pharmaceuticals Ltd., Bangladesh). Each Ceevit tablet contains 250 mg ascorbic acid and is indicated for multiple

problems including cold exposure and fever. In Bangladesh, people may combine taking of citrus fruits (such fruits contain high concentrations of ascorbic acid) with Ceevit or other vitamin C supplements.

### Home remedies

Herbal tea. Tea where 250 ml water was boiled with two small pieces of ginger, *Zingiber officinale* Roscoe (Zingiberaceae) rhizome; 4-5 pieces of dried floral buds of clove, *Syzygium aromaticum* (L.) Merr. & L.M. Perry (Myrtaceae); 2 small-size sticks of cinnamon, *Cinnamomum verum* J. Presl. (Lauraceae); and half teaspoon of sugar. The boiling was done for 8-10 minutes, following which the water was strained. The water was drunk twice daily, once in the morning on an empty stomach and the second time in the evening.

### Citrus fruits

Warm water in plentiful amounts.

### Patient 2

#### Age 50 years, male

Symptoms: Fever, sore throat, dry coughs, tiredness, breathlessness, anosmia (loss of smell), mild diarrhea.

Medicines: Doxycycline (tetracycline antibiotic), fexofenadine (antihistamine), vitamin C and zinc supplements.

### Home remedies

Herbal tea. To 250 ml water was added two small pieces of ginger, *Zingiber officinale* Roscoe (Zingiberaceae) rhizome; 4-5 pieces of dried floral buds of clove, *Syzygium aromaticum* (L.) Merr. & L.M.Perry (Myrtaceae); 2 small-size sticks of cinnamon, *Cinnamomum verum* J. Presl. (Lauraceae); 4-5

leaves of basil, *Ocimum sanctum* L. (Lamiaceae); half teaspoon black tea, *Camellia sinensis* L. (Theaceae); and half teaspoon sugar. The mixture was boiled for 8-10 minutes, following which the water was strained. The decoction was taken orally once in the morning on an empty stomach.

Citrus fruits.

Warm water in plentiful amounts.

### Patient 3

#### Age 21 years, female

Symptoms: Low-grade fever, dry cough, weakness.

Medicines: Paracetamol, fexofenadine, viodin mouthwash (Povidone-Iodine 1% Mouthwash Gargle: this is used for the treatment of acute mucosal infections of the mouth and pharynx) from Square Pharmaceuticals, Ltd., Bangladesh.

### Home remedies

Herbal tea. To 150 ml water was added two small pieces of ginger, *Zingiber officinale* Roscoe (Zingiberaceae) rhizome; half teaspoon black tea, *Camellia sinensis* L. (Theaceae); and half teaspoon sugar. The mixture was boiled for 8-10 minutes and taken orally twice daily, once in the morning after breakfast and the second time in the evening.

### Citrus fruits

#### Warm water in plentiful amounts

All three patients took allopathic medications, but apart from doxycycline (an antibiotic), the rest of the medications were over the counter (OTC) drugs, which can be obtained and taken without a doctor's prescription. None of the drugs taken are considered to be anti-viral drugs, and so possibly good enough for only symptomatic treatment. The various home remedies taken are summarized in Table 1.

**Table 1:** Home remedies taken by the three COVID-19 patients.

Item	Patient 1	Patient 2	Patient 3
<b>Herbal tea containing the following ingredients</b>			
Ginger	+	+	+
Clove	+	+	-
Cinnamon	+	+	-
Basil	-	+	-
Black tea	+	+	+
Sugar	+	+	+
Citrus fruits	+	+	+
Warm water	+	+	+

As can be seen from Table 1, herbal tea was taken by all the patients. Ginger and black tea were the common ingredients in all three herbal tea preparations. Additionally, patient 1 added clove and cinnamon (spices), patient 2 added clove and cinnamon (spices), and basil (medicinal plant, dried leaves were used), and patient 3 did not add any other ingredients apart from ginger and black tea. Citrus fruits, especially lemon juice were taken by all three patients; warm water was drunk in profuse amounts. Citrus fruits like lemon, oranges, and pomelos [*Citrus grandis* (L.) Osbeck] are considered ideal fruits to consume during cold and cold-associated symptoms, possibly due to their high content of vitamin C. They also contain antioxidants of the flavonoid types <sup>[10]</sup>, which are beneficial during cold-related stress. Clove and cinnamon are also common spices kept in the mouth to suppress coughs or added to tea to alleviate common cold symptoms. In our previous studies <sup>[8, 9]</sup>, we have also found such uses of clove and cinnamon along with a further use, namely inhalation of vapor following boiling of the spices in

water. Besides the essential oils present in the spices, thermal inhalation has been reported to be effective for inactivating the SARS-CoV-2 virus <sup>[11]</sup>.

Patient 2 added basil leaves to his herbal tea. The plant has long been considered in Ayurveda as an effective remedy for common colds; eugenol found in the leaves has been mentioned as the possible therapeutic <sup>[12]</sup>. Alcoholic extraction of leaves and other aerial parts reportedly yielded luteolin, orientin, urosolic acid, apigenin-7-*O*-glucuronide, luteolin-7-*O*-glucuronide, isorientin, aesculin, triacontanolferulate, gallic acid, circineol, aesculetin, vicenin-2, and  $\beta$ -Stigmaterol <sup>[12]</sup>. The anti-viral properties of flavonoids like luteolin and apigenin and their derivatives have been reviewed <sup>[13]</sup>; it is possible that they may also inhibit SARS-CoV-2.

Among the various items taken by COVID-19 patients, besides warm water and citrus fruits, ginger and black tea was taken by all three patients. Tea is basically of three types, black tea, green tea, and oolong tea based on the processing

after plucking and collection of leaves. For green tea preparation, following plucking, rapid enzyme inactivation is caused by steaming or pan firing, rolling and high temperature air drying. The process of black tea preparation includes plucking, withering, rolling, and drying [14]. Black tea contains catechins, theaflavins, and various polyphenolic compounds. The anti-viral activity of polyphenols in the prophylaxis and treatment of COVID-19 has been reviewed [15]. A phytocompound, 6-gingerol present in ginger, has been reported to be a promising compound for treatment of COVID-19 [16]. Thus, both ginger and black tea may be agents of choice for COVID-19 treatment and home remedies containing these two items as part of the treatment process are quite validated by the scientific evidence.

The interesting thing about home remedies for COVID-19 treatment in Bangladesh is how quickly the population is adapting towards making their own recipes for treatment of a viral disease against which drugs are yet to be discovered. Moreover, in the last twelve months, the treatment recipe is taking a coherent shape with emphasis on black tea, spices, and citrus fruit juices. This unplanned home remedies may over time crystallize into a positive treatment for COVID-19.

## References

1. Parisius LM, Stock-Schröer B, Berger S, Hermann K, Joos S. Use of home remedies: A cross-sectional survey of patients in Germany. *BMC Fam Pract* 2014;15:116. <http://www.biomedcentral.com/1471-2296/15/116>
2. Pachter LM, Sumner T, Fontan A, Sneed M, Bernstein BA. Home-based therapies for the common cold among European American and ethnic minority families. *Arch Pediatr Adolesc Med* 1998;152(11):1083-1088. doi: 10.1001/archpedi.152.11.1083
3. Sewani-Rusike CR, Mammen M. Medicinal plants used as home remedies: A family survey by first year medical students. *Afr J Tradit Complement Altern Med* 2014;11(5):67-72. <http://dx.doi.org/10.4314/ajtcam.v11i5.11>
4. WHO Africa. WHO supports scientifically-proven traditional medicine. 04 May, 2020. [[https://www.afro.who.int/news/who-supports-scientifically-proven-traditional-medicine?gclid=EAIaIQobChMI9NnKueCb6gIVRyUrCh1GvQc4EAAYASAAEgIF2\\_D\\_BwE](https://www.afro.who.int/news/who-supports-scientifically-proven-traditional-medicine?gclid=EAIaIQobChMI9NnKueCb6gIVRyUrCh1GvQc4EAAYASAAEgIF2_D_BwE)]
5. COVID-19: Tests for 'miracle cure' herb *Artemisia* begin. <https://www.dw.com/en/covid-19-tests-for-miracle-cure-herb-artemisia-begin/a-53442366>
6. Dudani T, Saraogi A. Use of herbal medicines on coronavirus. *Acta Sci Pharm Sci* 2020;4(4):61-63.
7. Lin L.-T, Hsu W.-C, Lin C.-C. Antiviral natural products and herbal medicines. *J Tradit Complement Med*. 2014;4(1):24-35.
8. Hossain S, Jahan R, Hasan A, Jannat K, Bondhon TA, Rahmatullah M. Spices and plants as home remedies for COVID-19: a survey in Rajbari district, Bangladesh. *J Nat Ayur Med* 2020;4(3):000268. doi: 10.23880/jonam-16000268
9. Azam MNK, Mahamud RA, Hasan A, Jahan R, Rahmatullah M. Some home remedies used for treatment of COVID-19 in Bangladesh. *J Med Plants Stud* 2020;8(4 Part A):27-32.
10. Martí N, Mena P, Cánovas JA, Micol V, Saura D. Vitamin C and the role of citrus juices as functional food. *Nat Prod Commun* 2009;4(5):677-700. doi: 10.1177/1934578X0900400506
11. la Marca G, Barp J, Frenos S, Mugelli A, Galli L, Calistri E *et al*. Thermal inactivation of SARS COVID-2 virus: are steam inhalations a potential treatment? *Life Sci*. 2020. (in press). doi: 10.1016/j.lfs.2020.118801
12. Bano N, Ahmed A, Tanveer M, Khan GM, Ansari MT. Pharmacological evaluation of *Ocimum sanctum*. *J Bioequiv Availab* 2017;9:3. doi: 10.4172/jbb.1000330
13. Ninfali P, Antonelli A, Magnani M, Scarpa ES. Antiviral properties of flavonoids and delivery strategies. *Nutrients* 2020;12:2534. doi:10.3390/nu12092534
14. Kodagoda KHGK, Wickramasinghe I. Health benefits of green and black tea: A review. *Int J Adv Eng Res Sci*. 2017;4(7):107-112. <https://dx.doi.org/10.22161/ijaers.4.7.16>
15. Mhatre S, Srivastava T, Naik S, Patravale V. Antiviral activity of green tea and black tea polyphenols in prophylaxis and treatment of COVID-19: A review. *Phytomed* 2020, 153286. doi: 10.1016/j.phymed.2020.153286
16. Rathinavel T, Palanisamy M, Palanisamy S, Subramanian A, Thangaswamy S. Phytochemical 6-gingerol-A promising drug of choice for COVID-19. *Int J Adv Sci Eng* 2020;6(4):1482-1489. doi: 10.29294/IJASE.6.4.2020.1482-1489