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# Treatment of COVID-19 Using Home Remedies and Traditional Medicine: A Content Analysis Study

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**ABSTRACT**

*COVID-19 is a respiratory illness for which no specific medication or treatment has yet been identified. This study was conducted to explore people's experiences of using home remedies to treat COVID-19 symptoms during the pandemic. This qualitative study, which adopted a content analysis approach, was conducted on 29 people in Khorramabad (Iran) from January to December 2021. The participants were selected using the purposive sampling method and interviewed in depth. The interviews continued until data saturation. After transcribing the interviews, they were analyzed using the Graneheim and Lundman method. After analyzing the collected data, 459 initial codes were extracted and classified into two categories: "experience of COVID-19" and "resorting to home and traditional remedies". Each category had four subcategories. People use home remedies for COVID-19 prevention and treatment. Participants engaged in home remedies for various reasons, including beliefs in their efficacy, dissatisfaction with medical treatments, and prior personal and familial experiences with home remedies. Some treatments mentioned by participants in this study may not be referenced in other literature and require further investigation.*

**Keywords: COVID-19; Home Remedies; Traditional Medicine; Folk Medicine**

## Introduction

The newly recognized COVID-19 disease is caused by the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), which rapidly spread worldwide in late 2019 and escalated to pandemic levels [1]. The clinical manifestations of SARS-CoV-2 infection vary widely, ranging from asymptomatic cases and mild upper respiratory tract symptoms to mild extrapulmonary symptoms and severe viral pneumonia leading to respiratory failure and, in some cases, death [2, 3]. To date of this research, treatment for COVID-19 remains primarily symptomatic and supportive, involving oxygen therapy and mechanical ventilation for acute respiratory distress syndrome (ARDS) and hypoxemia, fluid therapy, vasopressors, broad-spectrum antiviral drugs (Remdesivir, ribavirin, and IFN-α), antimalarial drugs (chloroquine and hydroxychloroquine), and combination of retroviral drugs (Ritonavir/lopinavir) [5, 6, 7]. Given the ineffectiveness of drugs against COVID-19 since the early stages of the disease outbreak in our country, some individuals have been providing recommendations for treatment and immunity from the disease in virtual spaces and occasionally in national media. These recommendations often promote traditional medicine and home remedies, primarily based on the principles of traditional Iranian medicine.

Interestingly, the public has warmly welcomed and utilized such recommendations [8]. A study conducted in Iran shows that at least 50% of the population has utilized herbal and home remedies to treat COVID-19[9]. The extensive use of home remedies may stem from a belief in the efficacy of traditional

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medicines or fear and anxiety induced by the disease itself. Regardless of the specific reasons, whether fear, anxiety, or any other factors that could be subject to investigation and research, according to a study, over 90% of the population in the studied community in our country have believed in these recommendations [10]. Aside from the motivations of the recommenders and consumers, these recommendations are also subject to scientific and ethical scrutiny. On one hand, if the recommendations lack scientific basis, their promotion may be unethical and potentially harmful.

On the other hand, since COVID-19 currently lacks definitive treatment, if a solution is found that is supported by scientific evidence rather than media hype, deliberately and biasedly dismissing such a solution in critical situations would also be unethical. Especially considering that, according to studies, Iranian traditional medicine contains insights and guidelines for respiratory pandemics to reduce individuals' susceptibility to the disease and its spread to others [8]. Given that many people have utilized home remedies during the pandemic, and the variety of treatments used has been extensive, many of these treatments' effects still need to be thoroughly researched. Users' experiences regarding the effects of these treatments can be highly informative. Therefore, this study aimed to examine patients' experiences of using home remedies during the COVID-19 pandemic.

## Methods

A This qualitative study used conventional content analysis from May to December 2021 in Iran. Following the acquisition of ethical approvals from the Lorestan University of Medical Sciences and necessary coordination with the Shohadaye Ashayer Hospital, participants were interviewed with the aim of investigating their experiences of using home remedies for treating COVID-19 among recovered individuals who attended the infectious diseases clinic in Shohadaye Ashayer hospital. Sampling continued until data saturation, meaning no new codes were extracted from the transcripts. In the sampling process, the maximum diversity regarding age, gender, and education was considered to increase the data richness. The inclusion criteria for the study were individuals aged 16 years and above who were confirmed to have COVID-19 based on a positive PCR test or chest CT scan and who may have experienced symptomatic illness consistent with COVID-19.

Data saturation was achieved after interviewing 29 patients. Data were collected using semi-structured, in-depth individual interviews lasting 30–50 min. The focus of the questions was on the positive and negative experiences of participants regarding the use of home remedies and interventions that led to either improvement or exacerbation of symptoms during their period of illness. The questions were generally open-ended, semi-structured, and exploratory in nature. The interview commenced with questions such as: "What was your experience contracting COVID-19?" "What treatments did you employ to alleviate the illness?" "Did you utilize any home remedies or traditional medicine? Please elaborate." "What do you believe significantly contributed to your recovery?" Additionally, exploratory questions like "Please provide further explanation on this matter" were asked. Non-verbal behaviors reflecting the emotional experiences during the illness were also noted. The analysis was conducted based on the conceptual framework proposed by Graneheim and Lundman [11]. The audio file of each interview was transcribed, and the transcription was studied line by line. The transcription was reread several times to grasp the overall sense and essence of the text. Words, sentences, or paragraphs were considered units of meaning. After compiling the initial codes, the participants' opinions were verified for the accuracy of the codes and interpretations. If the codes contradicted the participants' comments, the codes were corrected accordingly. The codes were controlled by two faculty members and experts in the field of qualitative research. After agreeing on the selected codes, similar initial

codes were grouped together to form subcategories. Subsequently, by comparing, similar subcategories were merged to extract categories and themes.

The study's initial findings, along with the codes and initial categories, were presented to a subsample of participants to solicit their opinions and feedback (member checking). Some of the data were peer-reviewed by colleagues who were not involved in the study (peer checking) [12]. The authors had been deeply involved with the subject and its dimensions for a long time. However, ample time was spent reviewing and analyzing the data during the research.

The views of an external observer were sought to determine the dependability of the findings. The external observer was a researcher with experience in COVID-19 care and qualitative research methodology but was not a research team member. This external review confirmed the consistency of the results. All activities were recorded to confirm the findings, and a report of the research process was prepared. In order to determine transferability, the results were shared with two non-researcher faculty members whose situations and experiences were comparable to those of the participants. The results were again confirmed, and detailed descriptions of the findings were provided [11].

Ethical approval: Permission to conduct the present study was obtained from the Ethics Committee of Lorestan University of Medical Sciences (IR.lums.REC.1400.165). When participants were provided with information about the research objectives and asked to give their permission to make audio recordings of the interviews, they were assured that the information gathered would remain confidential. They were also informed that they could leave the study whenever they wished. Informed consent forms were also obtained from all participants, who were assured that leaving the study would not have any negative consequences.

## Results

Participants included 29 recovered patients from COVID-19, including 15 females and 12 males, with a mean (SD) age of 38.60 (13.10) years (Table 1). Out of all the interviews, 459 initial codes, the two main categories of "Experience of COVID-19 illness," "Resorting to home remedies and traditional treatment," and 8 subcategories were extracted (Table 2)..

*Table 1. Demographic characteristics of the participants*

| | |
|---|---|
| Age | : 46.4 ± 7.81 years |
| Gender | Male (13 Participants), Female (16 Participants) |
| Education | Illiterate (1 Participant), Elementary (5 Participants), High school diploma (11 Participants), Bachelor's (7 Participants), Master's (2 Participants), Ph.D. (1 Participant) |
| Employment | Housewife (9 Participants), Employee (8 Participants) Retired (4 Participants), Self-employed (6 Participants) |

*Table 2. Summary of the categories and subcategories extracted from the transcripts*

| Categories | Subcategories |
|---|---|
| Experience of COVID-19 | • Experienced disease symptom<br>• Procrastination in seeking treatment<br>• In seeking medical care<br>• From non-adherence to adherence to medical care |
| Resorting to home and traditional remedies | • Belief in the efficacy of home remedies<br>• In seeking or in confirmation of home remedies<br>• Home remedies and their application<br>• Motivation for continuing home remedies |

## 1. Experience of COVID-19

This category comprises four subcategories:

### Experienced disease symptoms

In this study, participants experienced COVID-19 symptoms with patterns similar to conventional ones but with a notable difference. Some participants initially had asymptomatic periods, followed by a worsening of symptoms and eventually the onset of coughing and shortness of breath, prompting medical follow-ups by some of them. In others, symptoms began with worsening underlying conditions, followed by COVID-19 symptoms, including respiratory symptoms. One participant stated,

"*I've had joint pain and stomach problems for 5-6 years. Five days after worsening knee pain, I experienced shortness of breath and severe coughing with bloody mucus.*"(P 6)

### Procrastination in treatment

Procrastination in treatment was one of the topics highlighted by participants, manifested in behaviors such as failure to consult a physician, delayed medical visits, and lack of seeking medical advice. Not taking symptoms seriously by younger individuals, symptom overlap in older adults and individuals with underlying conditions, experiencing mild forms of the disease within family members, and seeking medical attention only in cases of serious respiratory symptoms such as shortness of breath were among the factors contributing to procrastination in the diagnosis and treatment of COVID-19. One participant expressed, "*I had a severe headache and eye pain because I had a history of sinusitis before. I thought my sinusitis had recurred*"(P8).

Another participant said, "*My father had recently lost appetite, but after contracting COVID-19, his appetite decreased significantly, and we attributed it to his old age*"(P7).

Another participant in this regard stated, "*I didn't have any severe symptoms that would be intolerable to me, and due to the fear of being hospitalized, I did not go to the hospital.*" (P8)

### In seeking medical care

Another sub-theme of this study was the pursuit of medical care, with respiratory symptoms such as cough and shortness of breath identified as primary factors in seeking medical care. Other factors mentioned by participants were the fear of severe COVID complications and the death of loved ones and acquaintances. One participant in this regard stated, "*My main problem was shortness of breath, which was unbearable for me; I went to the hospital emergency room.*" (P22)

### From non-adherence to adherence to medical care

Another sub-theme emerged in this study, ranging from non-adherence to adherence to medical treatment, depending on the participants' experiences. Participants believed that if they did not experience severe shortness of breath, hospitalization for COVID-19 was not only futile but also risky. One participant expressed, "*Despite being hospitalized for 9 days, I was extremely exhausted from the current condition because I was only hospitalized for intermittent oxygen intake, and I considered continuing to be hospitalized futile*" (P 22).

Partial recovery, mild symptoms, and the awareness of the patient and their family about the course of COVID-19 treatment were among the other factors mentioned in non-compliance with treatment. Participants believed that due to other family members being infected, they were familiar with the treatment process and did not see the need to visit a doctor unless it was for hospitalization. One participant said, "*I didn't go to the hospital because my family members had been infected with COVID at various times, and I was fully aware of the treatment process, and the symptoms were mild and manageable.*"(P25).

Another issue raised by participants was the fear of death, especially among older individuals who equated hospitalization with the likelihood of death because some of their acquaintances had passed away after being hospitalized. One participant in this regard said, "*One of my relatives, who was nearly 60 years old, was hospitalized due to COVID, I think*

*hospitalization increased his fear of COVID, and ultimately, he passed away*"(P27).

Some believed that herbal medicine and good nutrition could help them and that hospitalization was unnecessary. A participant said, "*One of our relatives visited the doctor with the same symptoms and was prescribed Allergard syrup, and after using it and getting results, recommended the same syrup to all family members*" (P29).

Some participants also attributed their improvement to compliance with medical treatment. One participant mentioned, "*At first, I insisted on taking only one dose of medicine and leaving the hospital as soon as possible, but after hearing the doctor's recommendations and being assured that this problem would not be completely resolved with just one dose of medicine, I listened to the doctor's advice and got hospitalized*"(P 21).

## 2. Resorting to home and traditional remedies

### Belief in the efficacy of Home Remedies

Statements from participants regarding the use of traditional treatments indicate extensive individual and familial experiences with home remedies over generations. Regarding the COVID-19 pandemic, participants referred to the impact of warmth in treating colds and common illnesses during the cold season. Warming the body was cited as a factor in alleviating colds, based on previous experiences with herbal remedies for various illnesses, including colds, family recommendations to use home remedies were among the codes relevant to this category. One participant mentioned, "*I used this remedy for other similar illnesses before contracting COVID, and it always worked for me*"(P23).

Another participant believed that warmth was effective in eliminating the virus, stating, "*Since viruses are more active and prevalent in cold seasons, warming the body by consuming plenty of warm fluids and wearing extra layers of clothing or using blankets and heating appliances to induce sweating can be very effective in eliminating the virus.*"

Another participant shared, "*Whenever I catch a cold, I sweat a lot by consuming warm fluids and being in a warm environment with several blankets to get better faster. Of course, tolerating this heat is a bit difficult, but it works*"(P27)

Participants also mentioned the experiences of family members and the influence of social networks on home remedies. One participant said, "*When COVID was new, and there was no treatment, there were people on Instagram and the internet claiming that COVID was treatable and should not be feared*"(P27).

### In seeking or in confirmation of home remedies

Another subcategory of this study was the search for or confirmation of home remedies. Individuals who had not achieved satisfactory results from medical treatments and had critically ill patients been seeking non-medical treatments and information about COVID-19 treatments from acquaintances or social media. According to participants, these individuals sought home remedies through friends, acquaintances, healthcare personnel, herbalists, and other patients. While continuing medical treatments, they also explored traditional medicine remedies. One participant stated, "*My colleague told me that thyme has the property of cleansing the respiratory tract. After searching the internet, I found out that they were right, and after using it, it worked just as they said*" (P22).

Another participant said, "*The herbalist suggested this remedy to me because, according to him, many people had benefited from it*" (P8).

### Home remedies and their application

Another subcategory of this study was home and traditional remedies and their application. Participants' statements revealed many home and traditional remedies for treating COVID-19 and its symptoms. These remedies included using herbs in infusions, decoctions, steam, topical applications, and the consumption of liquids and foods.

Participants' experiences with various home remedies and their applications are detailed below. One commonly mentioned remedy among participants was thyme, which was used

as a tea alone, mixed with natural honey (P27), or combined with rosewater (P22, P3), or in a blend of thyme and pennyroyal (P16). Participants reported increasing the frequency of consumption of these infusions as they felt the effects. Chamomile tea was another home remedy used by participants to alleviate headaches, runny nose, and nasal congestion (P1, P4, P8).

One participant mentioned, "*Initially, I drank one cup of chamomile tea daily. When I noticed it reducing my runny nose, congestion, and headache, I increased the frequency to three times a day*" (P4).

This participant used the tea based on her mother's personal experience. Another participant used a mixture of chamomile, pennyroyal, and cinnamon three times a day on the recommendation of an herbalist to alleviate throat dryness and swelling. This participant reported, "*After consuming the tea, I felt warmth and relief from the pain and dryness in my throat*" (P8). The same participant also noted, "*This tea has an effect on mild symptoms, and for a more significant impact, continuous use is necessary, and the effect of the remedy becomes apparent over time*" (P8).

Opium syrup was another remedy mentioned in participants' experiences, often used orally at home or in hospitals. One participant shared, "*Opium syrup helped alleviate body pain and allowed me to sleep better at night*"(P19).

Another participant noted, "*When my mother's heart rate and blood pressure increased, and she seemed to have difficulty breathing (patient on a ventilator), I would place a small amount of opium syrup under her tongue to mix gradually with her saliva. I observed that her heart rate and blood pressure decreased after consumption, and her breathing efforts under the machine reduced*" (P10).

Another participant's experience involved using sage due to it believed anti-inflammatory properties. "*I had previously used this herb to reduce joint inflammation and for its calming effects. When I was in the hospital and heard that my lungs were slightly inflamed, I decided to use it regularly and more frequently based on my previous study of the herb*"(P13).

Frankincense tea was used to reduce coughs associated with COVID-19, taken as one teaspoon in boiling water on an empty stomach. One participant reported, "*Frankincense tea helped reduce my coughs by acting on the respiratory passages, and with continued use, my coughs were completely resolved*"(P17).

Another participant attributed improvements in her coughs and respiratory condition to the simultaneous use of frankincense tea and baking soda steam. "*I added one cup of baking soda to boiling water and inhaled the steam during a bath*" (P17).

This participant noted, "*My spouse's blood oxygen level, which was not exceeding 92%, quickly increased after this treatment, and he no longer had breathing problems*" (P17).

Eucalyptus Steam was another remedy used by participants. One participant mentioned, "*We were told since childhood that eucalyptus steam is beneficial for sinusitis and colds*" (P25).

Two participants employed the simultaneous use of eucalyptus steam, salt water gargle, Allergard herbal syrup, and abundant warm beverages (P25, P26).

Another common COVID-19 symptom was loss of smell. Participants used strong or pungent odors to stimulate their sense of smell. One participant used unpleasant smells (such as trash). In contrast, others used Persian lemon orally or applied lemon peel extract at the entrance of the nasal passages to stimulate the sense of smell. One participant said, "*I crushed the lemon peel under my nose so that its essence would enter my nose and stimulate my sense of smell, and it was very helpful for restoring my olfactory sense*" (P18).

Oral consumption of certain foods, such as abundant grilled meat to combat weakness and liquid-rich foods like local soups, as well as warm liquids like honey water and lemon honey water, were mentioned by some participants. One participant noted, "*My son's fever decreased with the consumption of abundant soup*" (P17).

The use of salty buttermilk for nausea and vomiting and wild oak powder for diarrhea caused by COVID-19 for one week were also among the remedies used by participants, who

believed they had a positive impact. Another aspect of home interventions involved topical remedies mentioned by participants. These included using hot water bags, hot baths, foot baths with olive oil to expel chest mucus, topical ointments, local heat application, and body massage.

The use of rosemary ointment to relieve joint pain worsened by COVID-19 and applying heat to the chest area to address respiratory symptoms were among these remedies. One participant shared, "*I had COVID-19 twice. The first time, I felt discomfort in my chest, especially the lower part. Based on my experience, I increased the radiator temperature and intermittently pressed my back against it for a few days, and it worked. During the second occurrence, I had the same symptoms, and the chest CT scan confirmed COVID-19, so I repeated the same treatment and achieved results*" (P27).

The participant continued, "*When my back was against the radiator, I felt a significant improvement in my chest discomfort, and it was very effective*" (P27). Another topical remedy mentioned by participants for cough relief was Mukodentol slow-release ointment, an oral and throat disinfectant used to alleviate throat pain, inflammation, and infections. This ointment contains carvacrol. One participant stated, "*The ointment had a strong taste. I placed some between my lip and gum, and it dissolved slowly over several hours. It significantly improved my coughs*" (P27).

**Motivation for continuing home remedies**

Another category of this study was the motivation for continuing home remedies. Individuals who were frustrated with COVID-19 treatments or did not achieve good results from other treatments turned to traditional medicine. They continued home remedies in the hope of seeing results and improvements from short-term use, and in some cases, even increased the treatment dosage. Participants also mentioned these remedies' simplicity and convenience, availability, and ability to alleviate multiple symptoms simultaneously. One participant noted, "*After the first use, my pain was somewhat relieved for a few hours. The longer I continued, the more the pain reduction lasted*" (P8).

## Discussion

This study aimed to explore the experiences of patients recovering from COVID-19 concerning home remedies. The findings revealed two main categories and eight subcategories. One of the main categories was the experience of COVID-19. Given the extensive evidence regarding COVID-19 symptoms and medical treatments, the study questions primarily focused on home and complementary remedies. The study identified two patterns in the manifestation of COVID-19 symptoms: asymptomatic progression, in which the disease initially presents without symptoms and later escalates to cough and shortness of breath, and exacerbation of pre-existing conditions, in which symptoms begin with the worsening of underlying conditions, such as joint pain, before the onset of respiratory symptoms. Consistent with our findings, the worsening of pre-existing conditions in the context of COVID-19 has been reported in other studies. Results from two systematic reviews have shown that COVID-19 exacerbates hypertension and is associated with a significant increase in mortality due to hypertension (13, 14).

Delays in treatment, whether due to not taking symptoms seriously, failing to seek medical care or late consultations with physicians, were observed in younger individuals and older adults. This delay was often due to the overlap of COVID-19 symptoms with pre-existing conditions, leading to delays in diagnosing and treating COVID-19. In alignment with our study, some research has also reported that patients avoided seeking medical care due to fear of contracting COVID-19 in healthcare settings or due to misinformation. Such delays not only exacerbated symptoms and reduced opportunities for effective treatment of COVID-19 but also worsened pre-existing conditions (15, 16). Wiegand et al. also reported that 55% of participants delayed seeking medical care due to fear of hospitalization, which aligns with our findings. These results indicate that delays in consulting a physician during the pandemic are a common issue that may be attributed to factors such as

inadequate health literacy or mental health issues, warranting attention from health professionals and researchers (17). One of the themes identified in this study was seeking medical care. Participants' statements revealed that cough and shortness of breath were among the most significant symptoms prompting patients to seek medical care. In the study by Hayajneh and colleagues, the main predictors for seeking medical care were chest pain, palpitations, dizziness, and many chronic illnesses (18). Ali Mohammadi and colleagues also reported in a systematic review that respiratory symptoms and fever were among the most important symptoms of COVID-19, which consequently led to prolonged hospitalizations (19). Another theme derived from this study was the spectrum of adherence to medical treatment, which varied depending on participants' experiences.

Some participants viewed their knowledge of COVID-19 treatment, gained from repeated infections themselves or in their circles, as a reason for non-adherence to medical care. Others believed that hospitalization for COVID-19, in the absence of severe shortness of breath, was not only ineffective but also dangerous. Observing patient deaths in hospitals heightened their fear, worsening their condition. Thus, fear of death prevented patients with COVID-19 from pursuing medical care. Similar to our study, Alpert, in his article titled "Death from Fear," highlighted that during the COVID-19 pandemic, patients considered hospitals unsafe and avoided hospitalization. According to him, patients perceived their homes as safer than hospitals and viewed the high workload and insufficient time of nurses as factors leading to inadequate care, which in turn contributed to the reluctance to seek hospital care. Alpert likens the fear of hospitals during this period to the fear of flying and suggests that public education on the safety of hospitals and outpatient clinics during the pandemic and unforeseen conditions is essential (20).

Some participants believed that herbal remedies and good nutrition were highly beneficial and that medical interventions were unnecessary. These individuals often had personal or observed recovery experiences through proper nutrition or herbal medicine and applied these methods for their treatment. Consistent with our study, Nejat et al. reported a theme of self-treatment, where individuals used local herbal medicines to prevent and treat COVID-19 (21). Currently, the relationship between nutrition and COVID-19 is well-established. Although nutrition does not play a decisive role in disease transmission, deficiencies in certain nutrients are predictors of worsened disease outcomes (22). The European Society for Clinical Nutrition and Metabolism (ESPEN) emphasizes that malnutrition should be addressed in managing patients with COVID-19, as malnutrition directly impacts health outcomes and increases healthcare costs (23). Malnutrition weakens the immune system and antioxidant responses, leading to increased complications. Malnourished patients are more likely to be from lower-income groups, and addressing malnutrition is a crucial step in ensuring no one is left behind in the fight against the COVID-19 pandemic. Some symptoms experienced by patients with COVID-19, such as reduced appetite, loss of taste and smell, fever, or respiratory issues, affect their nutritional-metabolic patterns.

Additionally, quarantine and social distancing measures may restrict food supply support (24, 25). The European Society for Clinical Nutrition and Metabolism emphasizes that malnutrition should be addressed in managing patients with COVID-19, as malnutrition directly impacts health outcomes and increases healthcare costs (23). Malnutrition weakens the immune system and antioxidant responses, leading to increased complications. Malnourished patients are more likely to be from lower-income groups, and addressing malnutrition is a crucial step in ensuring no one is left behind in the fight against the COVID-19 pandemic. Some symptoms experienced by patients with COVID-19, such as reduced appetite, loss of taste and smell, fever, or respiratory issues, affect their nutritional-metabolic patterns. Additionally, quarantine and social distancing measures may restrict food supply support (24, 25).

Another major theme in this study was the resort to home and traditional remedies. Many participants or their families used at least one type of home remedy. The belief in the efficacy of home remedies was often based on the participants' experiences with treating common illnesses such as colds and influenza, as they considered heat a factor in suppressing viral growth. Participants were referred to using local heat, fluids, and warm foods to the extent that they induced sweating. Consistent with our study, Najat and colleagues also mentioned using warm foods, limiting cold foods, inhaling smoke from donkey dung, smoking, and burning cotton (or cotton fabric) in the household. The similarity of these findings is due to the shared cultural context of the participants in both studies, as both were conducted in Iran (21).

In this study, participants sought and received home remedy recommendations from friends, acquaintances, healthcare providers, herbalists, and other patients. Consistent with our study, participants in Najat's study also received traditional and non-pharmacological treatments from individuals skilled in traditional medicine but who were not physicians. These remedies were also recommended by those with some familiarity with traditional medicine or promoted through media and social networks (21). Oner and Cengiz demonstrated in their study that thyme oil significantly reduced body temperature, pulse rate, and respiratory rate while increasing SpO2 levels. They also showed that thyme oil had a notable impact on regulating pH, reducing CO2, and significantly increasing O2 levels (26). Serpil and colleagues, in their study aimed at evaluating the blocking activities of thyme against the coronavirus, found that thymol, a primary component of wild thyme, exhibited the highest biological activity against both the LU7 and KDL proteins of the virus (27). In Najat and colleagues' study, participants used frankincense to prevent throat dryness and for its antimicrobial properties (21).

Alotaibi and colleagues showed that frankincense alcoholic extract could protect the lungs against cancer and infections and has antibacterial and biofilm-inhibiting effects against Pseudomonas aeruginosa in the lungs of patients (28). This study used chamomile tea to alleviate headaches, runny nose, and nasal congestion. One study indicated that chamomile extract could inhibit virus replication due to its various biological compounds and flavonoids. Different types of these flavonoids, particularly apigenin and luteolin, have antiviral and antibacterial properties, which may be effective against the new coronavirus (29). Another remedy discussed in this study was using baking soda inhalations to improve respiratory conditions. It is noteworthy that sodium bicarbonate has a long history of treating viruses—it was widely used for treating influenza in the 1920s. Although influenza is not a coronavirus, it is important to note that it also enters cells through endocytosis—a mechanism similar to that used by the COVID-19 virus. However, there are challenges regarding the timing and method of using baking soda. Since viral replication mostly occurs during the first week after infection, using sodium bicarbonate to reduce viral replication would only be beneficial during this period. In this study, participants used baking soda when they had respiratory symptoms, likely indicating disease progression. Therefore, its effect at this stage may have additional effects beyond inhibiting viral replication, which requires further research (30). Another experience participants reported was using eucalyptus inhalations to alleviate clinical symptoms. Samir Abbas reported that using 12 drops of eucalyptus oil in an inhalation may be beneficial for relieving mild to moderate COVID-19 symptoms, including pain, cough, airway inflammation, cytokine storm, and shortness of breath (31). One of the findings of this study was the consumption of nutritious and warm foods, including soups. Other studies have also highlighted the role of nutrition, particularly warm and liquid foods. Masoom Bagloo and colleagues, in their article on the role of nutrition in COVID-19 inspired by Iranian traditional medicine and nutritional sciences, emphasized the importance of using high-protein and warm liquid foods (32). Another category of this study was the motivation for

continuing home remedies, with symptom relief being a primary factor for continuation. Agrawal and colleagues identified positive familial memory as a factor in the continued use of home remedies (33).

## Conclusion

The results of this study indicated that the diagnosis and follow-up of COVID-19 were delayed for reasons such as exacerbation of underlying conditions. Participants engaged in home remedies for various reasons, including beliefs in their efficacy, dissatisfaction with medical treatments, and prior personal and familial experiences with home remedies. They used various home treatments, including oral, drinkable, and topical remedies, and their positive experiences with these treatments motivated their continued use. Some treatments mentioned by participants in this study may not be referenced in other literature and require further investigation.

### Conflict of Interests

Authors declare that they do not have any conflict interests.

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