



# Persian Medicine Guidelines on Prevention and Treatment of Covid-19

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

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# Lifestyle Modifications in Prevention and treatment of Covid-19

The first step in prevention and treatment of diseases in Persian medicine is based on lifestyle modifications. Effective in not only the prevention, but also treatment of diseases, lifestyle interventions encompass six subsets that are known as the six essential principles, which include climate and air, food and drink, sleep and wakefulness, movement and stillness, retention and excretion of substances, and mental and emotional states. Due to the importance of these principles, some lifestyle recommendations helpful in prevention and treatment of Covid-19 according to lifestyle rules in Persian Medicine, are presented in six sub-categories at the beginning of this guide. These recommendations aim to strengthen the nature of the body, and with reference to recent evidence, act via mechanisms such as regulating the immune system to help prevent and treat Covid-19. Lifestyle recommendations that are specific to each of the groups in Covid-19 will be listed separately in the relevant section.

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*It should be noted that following the recommendations in the National Guide to Diagnosis and Treatment of Covid 19 is essential*

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## **Climate and air**

- In this principle, the issue of non-exposure to the pathogen in the environment is considered, so the following is recommended:
  - Keeping social distance, wearing a mask, washing hands, and avoiding crowded areas
  - Opening the windows 10-15 minutes a day for proper ventilation

## **Foods and drinks**

- Eating only when hungry and in a regular routine
- Consumption of sufficient fluids after digestion
- Consumption of vegetable soups (especially with carrots, saffron and olive oil) and steamed vegetables, fruits such as apples, quince (cooked and sweetened)<sup>1</sup>, sweet pomegranate juice or smoothie (prepared with seeds and especially white pulp)<sup>2</sup>, sweet citrus fruits

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<sup>1</sup> Caution in dyspnea

<sup>2</sup> Use with caution in renal failure

- Avoiding overeating, junk food, foods with artificial colors and flavors, as well as malnutrition
- Avoiding slow-digesting foods and fast-food

### **Sleep and wakefulness**

- Avoiding sleep deprivation and sleeping in inappropriate times (e.g., sleeping during the day and waking up at night)

### **Movement and stillness (physical activity)**

- Moderate physical activity or exercise appropriate to each person's condition

### **Balance in retention and excretion of substances**

- Attending to diet modification (consumption of vegetables, soup) in case of defecation less than once a day, defecation with difficulty or incomplete emptying of the bowels

### **Mental and emotional states**

- Avoiding stressful situations and keeping calm
- Repeated deep breathing exercises in the form of inhaling deeply, holding the breath, and then exhaling slowly
- Aromatherapy, by smelling fruits daily (after washing them thoroughly)<sup>3</sup> such as oranges, bitter oranges, lemons; and rose

## **Prevention**

**Definition:** Prevention consists of measures and interventions undertaken to prevent the spread of disease in the general population, especially in high-risk individuals such as hospital and medical centers staff, family members of patients, those with underlying disease (such as hypertension, diabetes, heart disease, etc.), employees, workers who are in frequent physical contact with various people in the society, and people who have been in direct

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<sup>3</sup> Citrus peels can be boiled in water or put on a gentle heat to emit smell.

contact with Covid-19 patients. The following recommendations are suggested to prevent COVID-19 in low- and high-risk individuals.

#### Recommendations<sup>4</sup>

- Adding ginger, cinnamon, coriander seeds, garlic, onions and black pepper to usual meals
- Drinking one to two glasses of one the following syrups: lemon, bitter orange, *Jollab*<sup>5</sup> or lemon-saffron syrup (caution in diabetes)
- Drinking one of the following herbal teas: chamomile, mint, borage, thyme, hyssop, damask rose (brew one tablespoon of coarsely ground powder of the above plants in a glass of boiling water for 10 minutes, drink up to three times per day)
- Once daily consumption of black seed (one teaspoon with honey or added to morning meal)
- Once daily consumption of licorice root decoction<sup>6</sup> or half a dessertspoon of licorice paste<sup>7</sup>

## Principles of treatment in Persian Medicine

Treatment of diseases in Persian Medicine is carried out in a specific order and in various stages, in such a manner that lifestyle modification is a priority. Accordingly, in addition to taking notice of common lifestyle principles (mentioned at the beginning of the guide), it is necessary to pay attention to lifestyle modifications needed in each stage of the disease for both outpatients and inpatients. It should be noted that nutrition is considered as one of the six essential principles for the treatment of disease in Persian Medicine; Thus, many of the recommendations are involve nutritional advice. Following lifestyle modification, prescribing herbs individually and, if necessary, in combination is recommended as the second and third stages of treatment. Use of adjuvant manual interventions helps as the final step in treatment. According to the principles of treatment in Persian medicine, step-by-step measures are provided for each of the groups in need of treatment.

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<sup>4</sup>- Some of these substances are considered medicines in Persian medicine; thus, in case of underlying disease or consumption of other medications, precautions and drug interactions should be taken into consideration. Consult a Persian medicine specialist, when necessary.

<sup>5</sup>- Jollab is a mixture of 3/4 glass of water, three tablespoons of rose water, one dessertspoon of honey or sugar and a little saffron.

<sup>6</sup>-Boil one teaspoon of licorice root powder in one and a half cups of water over medium heat until the volume reaches one cup; strain and drink.

<sup>7</sup>-Use with caution in high blood pressure, hormonal disorders and concomitant use of contraceptive pills. Also, due to the presence of licorice in different combinations in this guide, consider the maximum daily dose of three dessertspoons for root powder and two teaspoons for paste; these amounts should not be exceeded.

## Asymptomatic patients

**Definition:** This is stage zero based on the definition provided in the ninth edition of the National Protocol for Diagnosis and Treatment of Covid-19. Diagnosis at this stage is made by laboratory RT-PCR or rapid antigen detection tests. Patients in this group may become symptomatic after a while; Therefore, symptom monitoring is necessary.

### Recommendations<sup>8</sup>

- Follow the recommendations on pages 5 and 6
- Using the medicinal plants recommended in the prevention section, with caution in consumption of spices and spicy foods and sauces (according to available scientific evidence, use of garlic and ginger is helpful in COVID-19 patients)
- One of the following according to patient condition:
  - Half a teaspoon of ginger powder, mixed with one teaspoon honey or one teaspoon of sweet almond oil every 12 hours
  - Daily consumption of a raw garlic clove with *Sekanjabin* syrup (two tablespoons of *Sekanjabin* in half a glass of water)
  - Violet flower infusion every 8 hours (one tablespoon in a glass of boiling water)
  - Licorice root decoction<sup>9</sup> or half a dessertspoon of licorice paste every 12 hours<sup>10</sup>

## Symptomatic outpatients

**Definition:** Symptomatic outpatients refers to individuals who are suspected, probable, or definite cases of COVID-19 with mild symptoms (stage one) based on the ninth edition of the National Protocol for Diagnosis and Treatment of Covid-19. In addition to the symptoms associated with Covid 19, these patients have warning signs that necessitate hospitalization, or are classified as moderately or severely at risk according to national guidelines. At the physician's discretion, they may need to be referred to selected hospital centers for further evaluation. In those who are not at risk and do not need to be hospitalized, Persian Medicine

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<sup>8</sup>- In case of underlying disease or consumption of other medications, precautions and drug interactions should be taken into consideration. When necessary, consult a Persian medicine specialist

<sup>9</sup>- Boil one teaspoon of licorice root powder in one and a half cups of boiling water until the volume reaches one cup; strain and drink.

<sup>10</sup>- Use with caution in people with high blood pressure, hormonal disorders and those taking contraceptive pills. Also, due to the presence of licorice in different combinations in this guide, consider the maximum daily dose of three dessertspoons for the root powder and two teaspoons for the paste; do not exceed these amounts.

treatments are prescribed as a complement to conventional medicine treatments for 5-7 days. At the end of this period or in case symptoms aggravate, re-evaluation to make a decision according to patient conditions is necessary. In moderate and high-risk outpatients, the patient is evaluated daily. Moreover, herbal treatments in such patients should be prescribed taking into account the possibility of drug interactions and the individual's underlying conditions, under supervision of a physician specializing in Persian Medicine.

## Recommendations

- Follow the recommendations on pages 5 and 6
- Proper air ventilation, avoiding exposure to cold weather and maintaining the heat and humidity of the environment in moderation
- Taking adequate rest and avoiding heavy activity
- Consuming butter with honey and almond with a little bread for breakfast<sup>11</sup>
- Daily consumption of almond powder (one tablespoon in a glass of warm water with a small amount of sugar or honey)

## General treatment

Depending on the patient's condition, choose one of the following recommendations for 5-7 days<sup>12</sup>:

- *Ma-al-sha'eer*<sup>13</sup> with almond oil or almond
- *Ma-al-sha'eer* with jujube and sebesten (in the recipe mentioned in the footnote, add 10 jujubes and 5 coarsely ground sebestens to the barley from the beginning of preparation)
- Decoction of jujube and licorice half a glass every 12 hours (boil 5 coarsely ground jujube with a dessertspoon of licorice root powder in 1.5 glasses of water until the volume reaches one glass)
- Decoction of jujube, thyme, marshmallow and fig, half a glass every 12 hours (gently boil 5 medium-sized jujubes, one dessertspoon of thyme powder, one tablespoon of coarsely ground marshmallow and 3 dried figs with two glasses of water until the volume reaches one glass; strain and use)
- Infusion of licorice and borage<sup>14</sup> every 8 hours (brew one teaspoon of licorice root powder and one tablespoon borage in half a glass of boiling water for 10 minutes)

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<sup>11</sup> -Precautions and restrictions should be considered in patients with hyperlipidemia or diabetes.

<sup>12</sup>- In case of underlying diseases, taking other medications or not being familiar with the treatments, consult a Persian medicine specialist

<sup>13</sup>- Gently boil one cup of barely groats with 14 times water until tender. Allow to stand for some time and then gently separate the dilute liquid (this is called medical beer). Use alone or with other ingredients listed in the orders (one dessertspoon of almond oil or 5 ground sweet almonds). Drink a warm glass of the mixture every 12 hours or every 6 hours (before meals), based on patient tolerance.

<sup>14</sup>- Use with caution in liver and kidney disorders/insufficiency.



## Symptom-based treatments

For each symptom, select one of the following recommendations according to the patient's condition.

### Dry cough

- Quince seeds (soak one dessertspoon in a glass of boiling water; consume two tablespoons of the mucilage every half an hour)
- Violet, mallow or marshmallow (brew one tablespoon of one of these medicinal plants in half a glass of boiling water for 10 minutes, every 8 hours)
- Three coarsely ground jujubes, one dessertspoon marshmallow powder, 3 figs and half a teaspoon of thyme powder (boil with a glass of water until the volume reaches half a glass, every 8 hours)

### Productive cough<sup>15</sup>

- Jujube and cinnamon decoction three times a day (boil 5 coarsely ground medium-sized jujubes and 2-3cm of cinnamon bark, with 1.5 glasses of water until the volume reaches one glass)
- Jujube and licorice decoction, half a glass twice daily (boil 5 coarsely ground jujubes and one teaspoon licorice root powder with 1.5 glasses of water until the volume reaches one glass)
- Jujube and thyme decoction, half a glass every 8-12 hours (boil 5 coarsely ground jujubes and one tablespoon of thyme with 1.5 glasses of water until the volume reaches one glass)

### Shortness of breath<sup>16</sup>

- Daily consumption of one tablespoon of flixweed in half a glass of hot water
- Cow parsnip tea (one dessert spoon cow parsnip powder in half a glass of boiling water<sup>17</sup>)
- Inhalation<sup>18</sup> of mint or spearmint extract or massaging their essential oil to the back of the chest, above the lips or on the scapula

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<sup>15</sup>- In case of productive cough with fever, secondary infection should be ruled out. There is also the possibility of a slight increase in secretions within the first few days of using the medication.

<sup>16</sup>- In patients with a history of anaphylaxis, medications should be used with caution.

<sup>17</sup>- Use with 5 drops of vinegar in patients with hot temperament.

<sup>18</sup>- Here, inhalation consists of adding mint essential oil to boiling water (called "*enkebab*" in Persian medicine). In patients with a history of asthma or bronchitis, caution should be taken in inhalation or massage with mint or mint-based products.

- Massaging or warm cupping of the back<sup>19</sup>

### **Fever**

- Daily consumption of a glass of apple juice
- *Ma-al-sha'eer* one glass every eight hours (plain or with jujube and sebesten)
- One cup of willow water every 6 hours<sup>20</sup>
- Footbath with lukewarm water

### **Weakness**

- Sucking on a dessertspoon of honey or drinking a cup of honey and water mixture (with or without lemon) every 2 hours
- One dessertspoon of grape sap every 6 hours
- *Jollab-honey*<sup>21</sup> mixture every 8–12h
- Apples (cooked, as apple juice or apple jam) and carrots (cooked, carrot juice)
- Placing feet in warm water<sup>22</sup> for 15-20 minutes once daily before bedtime
- Anointment of the back, muscles and limbs with chamomile oil<sup>23</sup>

### **Lack of appetite, nausea and vomiting**

- Pomegranate and mint syrup (boil one and a half glasses of pomegranate juice with a dessertspoon of honey and a few fresh branches of mint until the volume reaches one glass) or half a glass of pomegranate juice, or one tablespoon of pomegranate paste; use one of the above recommendations before meals
- One dessertspoon of quince paste before each meal<sup>24</sup>
- Mixture of apple juice and barberry juice (one glass of each) with one dessertspoon of honey or sugar every 8 hours
- Barberry syrup (boil one and a half glass of barberry juice with two dessertspoons of honey until the volume reaches one glass)
- Half a teaspoon of ginger powder with one teaspoon of honey or sweet almond oil every 12 hours

### **Body pain**

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<sup>19</sup>- Based on Persian medicine, massaging and cupping are most useful in the final stage of the disease (about the second week of the disease onwards) and should be performed in accordance with health protocols to protect the care provider.

<sup>20</sup>Contraindicated in people with a history of Favism

<sup>21</sup>- With the order and amounts mentioned in page 1. Note: Contraindicated in fever, shortness of breath or sensitivity to rose water or saffron.

<sup>22</sup>-Studies have reported that 40 to 42 °C water is more effective in this case.

<sup>23</sup>-Caution in fever

<sup>24</sup>-Cautions in dyspnea

- Cinnamon bark tea with honey or sugar (brew 8-10 cm of cinnamon bark in two glasses of boiling water for 1-2 hours; consume one cup every 6-8 h)
- Anointment with chamomile oil or violet oil or mint essential oil every eight hours<sup>25</sup>
- Placing feet in lukewarm water<sup>26</sup> for 15-20 minutes, once before bedtime
- Half a teaspoon of ginger powder with one teaspoon honey or sweet almond oil every 12 hours (or use ginger tablets on the market).

## Headache

- Mixture of coriander seed powder and rock candy in equal amounts (one dessertspoon after each meal)
- Gentle massaging of the forehead and temporal area with violet oil or chamomile oil
- Inhalation of rose water or rose oil or rose essential oil<sup>27</sup>

## Loss of smell

- Reassurance that the situation is temporary
- Inhalation of saline solution
- Deep inhalation of mint extract or rubbing mint essential oil above the lips every 8 hours
- Inhaling and drinking peppermint or spearmint tea every 8 hours<sup>28</sup>
- Inhalation with a glass of water, one tablespoon of olive oil and a dessertspoon of vinegar
- Intermittent smelling of black seed or its essential oil

## Loss of taste

- Reassurance that the situation is temporary
- Washing the mouth and gargling with saline solution every 8 hours
- Tasting spices such as cinnamon for 20 minutes or tasting vinegar and salt or fresh mint or mint water every 8 hours

## Constipation

- Three to five figs (soaked in water) before each meal
- Two cups of vegetable soup with plums and olive oil every 8 hours
- Two tablespoon of flixweed seeds in one glass of boiling water half an hour before breakfast
- Purging cassia fruits and almond oil once to twice daily (soak 5-6 g of purging cassia fruits in a glass of hot water with a tablespoon of sweet almond oil)

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<sup>25</sup>-Caution in case of fever

<sup>26</sup>- Studies reported that footbath with water at the temperature of 40 to 42 °C is effective in reducing body pain.

<sup>27</sup>- Caution in case of dyspnea or sensitivity

<sup>28</sup>- Use with caution in patients with a history of respiratory diseases

- Damask rose (soak one to three dessertspoons of damask rose powder in a glass of rose water for 5 hours, sweeten and drink) or a dessertspoon of *Gol-e-ghand* after breakfast
- Abdominal massage (around the navel) clockwise for 15 minutes every 12 hours
- Olive oil (one tablespoon after each meal)

### Diarrhea

- Pomegranate and mint (mixture of one dessertspoon of dried mint powder with half a glass of pomegranate juice every 6 hours, before meal)
- Myrtle decoction once to twice a day before meals (boil one tablespoon of coarsely ground myrtle fruit or leaves with 1.5 glasses of water until the volume reaches one glass)
- Tea or sumac tea every 6 hours before meals (brew one tablespoon of sumac in half a glass of boiling water for 10 minutes)
- Potato puree with mint and garlic

### Sore throat

- Gargling with lukewarm saline solution
- Gargling and drinking marshmallow tea (brew one tablespoon marshmallow in a glass of boiling water for with 10 minutes; drink every 6-8 hours)
- Decoction of licorice root powder<sup>29</sup> or half a dessertspoon of licorice paste<sup>30</sup>
- Mallow tea (brew one tablespoon of mallow in a glass of boiling water for 15 minutes (every 12 hours after meals)
- Combination of Arabic gum, tragacanth and starch<sup>31</sup>
- Almond gruel

## Inpatients

**Definition:** Inpatient refers to patients who, in addition to clinical symptoms, have one of the criteria for hospitalization according to the ninth version of the National Protocol for Diagnosis and Treatment of Covid-19.

<sup>29</sup>- Boil a teaspoon of licorice root powder in one and a half cups of water until the volume reaches one cup; strain and drink.

<sup>30</sup>- Use with caution in high blood pressure, hormonal disorders and concomitant use of contraceptive pills. Also, due to the presence of licorice in different combinations in this guide, consider the maximum daily dose of three dessertspoons for the root powder and two teaspoons for the paste; these should not be exceeded.

<sup>31</sup>- Dissolve one teaspoon of tragacanth and one teaspoon of Arabic gum in half a cup of boiling water (solution one); Dissolve one teaspoon of starch in half a cup of cold water (solution two). Mix solution one and two and drink gradually within three days.

## Recommendations<sup>32</sup>

- Follow the recommendations on pages 5 and 6
- Considering the complex conditions of hospitalized patients, it is recommended that medicinal plants and herbal medicines in such patients be prescribed with consultation of a Persian medicine specialist and under supervision of the physician in charge.
- The following recommendations can help improve symptoms under supervision of the physician in charge and according to the patient's condition.

### Dry cough

- Warm cupping of the lungs

### Weakness or body pain

- Warm cupping of the back (paravertebral), arms and legs
- Body massage with chamomile oil or mint essential oil

### Shortness of breath

- Massaging of the back
- Warm cupping of the back

## Covid-19 complications

**Definition:** Complications of the Covid-19 pandemic occur in both patients and others. In addition to long-term weakness, anxiety and depression, and other complications of Covid-19, they also include problems in non-patients such as obsessive-compulsive disorder, skin dryness, and depression caused by death of a loved one. It should be noted that the following are provided as complementary treatment and should not cause delays in diagnostic and therapeutic evaluations.

### Weakness and lethargy

- Following instructions in “weakness” section for outpatients (Page 13 of this manuscript)

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<sup>32</sup>- In case of underlying disease or consumption of other medications, precautions and drug interactions should be taken into consideration. When necessary, consult a Persian medicine specialist

## Depression<sup>33</sup>

- Consumption of *Jollab* syrup<sup>34</sup> (every 8-12 hours, 3 tablespoons in half a glass of cold water)
- Lemon balm<sup>35</sup> or lavender tea or a combination of the two (prepared from available teabags or by brewing a tablespoon of each herb in a glass of boiling water for 10 minutes, twice a day)

## Anxiety and stress

- Lemon balm or lavender or a combination of the two (prepared from available teabags or by brewing a tablespoon of each herb in a glass of boiling water, for 10 minutes, twice a day)
- Aromatherapy with lemon essential oil every 4 hours

## Skin dryness, pruritus, and hives<sup>36</sup>

- Rub sweet almond oil on dry areas three times a day.
- Consume barley soup or medical beer (half a glass every 6 hours).

## Obsession

- A dessertspoon of coriander half an hour before bedtime<sup>37</sup>
- Avoiding stressful situations and keeping calm
- Borage and valerian tea (prepared from available teabags or by brewing a tablespoon of a mixture of borage and valerian root in a glass of boiling water for 10 minutes, two to three times a day)<sup>38</sup>

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<sup>33</sup> Due to illness, loss of loved ones, economic degradation and so on

<sup>34</sup> The recipe is mentioned on page 7. Note: contraindicated in case of fever, shortness of breath or allergy to rose or saffron.

<sup>35</sup> Use with caution in hypothyroidism.

<sup>36</sup> Caused by excessive hand washing

<sup>37</sup> Caution in patients with a history of hypoglycemia or hypotension

<sup>38</sup> Use with caution in liver and kidney disorders.

## References

- Aanouz, I., A. Belhassan, K. El-Khatibi, K. Lakhlifi, M. El-Ldrissi, and M. Bouachrine. 2020. 'Moroccan Medicinal plants as inhibitors against SARS-CoV-2 main protease: Computational investigations', *Journal of biomolecular structure & dynamics*: 1-9.
- Aghili M. Makhzan-al-Advieh. Tehran: Tehran University of Medical Sciences; 1393.
- Al-Hatamleh, M.A.I., M.M. Hatmal, K. Sattar, S. Ahmad, M.Z. Mustafa, M.C. Bittencourt, and R. Mohamud, R. 2020. 'Antiviral and Immunomodulatory Effects of Phytochemicals from Honey against COVID-19: Potential Mechanisms of Action and Future Directions', *Molecules*, 25.
- Alkhatib, A. 2020. 'Antiviral Functional Foods and Exercise Lifestyle Prevention of Coronavirus', *Nutrients*, 12.
- Antunes, R., F. Roberta, A. Nuno, S. Rogério, M. Rui, M. Pedro, and R. Rebelo-Gonçalves. 2020. 'Exploring Lifestyle Habits, Physical Activity, Anxiety and Basic Psychological Needs in a Sample of Portuguese Adults during COVID-19', *International journal of environmental research and public health*, 17: 4360.
- Ashby, N. J. S. 2020. 'Impact of the COVID-19 Pandemic on Unhealthy Eating in Populations with Obesity', *Obesity (Silver Spring)*, 28: 1802-05.
- Avicenna. *Qanun Fi al-Teb (Canon of Medicine)*. Beirut, Lebanon: Dare Ehya al-Toras Institute; 2005.
- Bahramsoltani, R., and R. Rahimi. 2020. 'An Evaluation of Traditional Persian Medicine for the Management of SARS-CoV-2', *Frontiers in Pharmacology*:11.
- Bailly, C., and G. Vergoten. 2020. 'Glycyrrhizin: An alternative drug for the treatment of COVID-19 infection and the associated respiratory syndrome?', *Pharmacology & therapeutics*, 214: 107618.
- Boozari, M., and H. Hosseinzadeh. 2020. 'Natural products for COVID-19 prevention and treatment regarding to previous coronavirus infections and novel studies', *Phytotherapy research*: 1-13.
- Byass, Peter. 2020. 'Eco-epidemiological assessment of the COVID-19 epidemic in China, January-February 2020', *Global health action*, 13: 1760490-90.
- Cheng, F., Y. Mao, S. Jin, R. Cai, and K. Yuan. 2020. 'Content determination and anti-fatigue effect of the purified anthocyanin from purple *Daucus carota*', *Pharmacognosy Magazine*, 16: 670.
- Ciavarella, C., I. Motta, S. Valente, and G. Pasquinelli. 2020. 'Pharmacological (or Synthetic) and Nutritional Agonists of PPAR- $\gamma$  as Candidates for Cytokine Storm Modulation in COVID-19 Disease', *Molecules*, 25.
- Cinatl, J., B. Morgenstern, G. Bauer, P. Chandra, H. Rabenau, and H.W. Doerr. 2003. 'Glycyrrhizin, an active component of liquorice roots, and replication of SARS-associated coronavirus', *Lancet*, 361: 2045-6.

Dahab, M.A., M.M. Hegazy, and H.S. Abbass. 2020. 'Hordatines as a Potential Inhibitor of COVID-19 Main Protease and RNA Polymerase: An In-Silico Approach', *Natural products and bioprospecting*, 10: 453-62.

Donelli, D., M. Antonelli, C. Bellinazzi, G. F. Gensini, and F. Firenzuoli. 2019. 'Effects of lavender on anxiety: A systematic review and meta-analysis', *Phytomedicine: international journal of phytotherapy and phytopharmacology*, 65: 153099.

Doustfatemeh, S., M.H. Imanieh, A. Mohagheghzade, M.M. Zarshenas, Z. Torkamani, G. Yousefi, S. Farahangiz, and A. Salehi. 2017. 'The Effect of Black Tea (*Camellia sinensis* (L) Kuntze) on Pediatrics with Acute Nonbacterial Diarrhea: A Randomized Controlled Trial', *Journal of Evidence-Based Complementary and Alternative Medicine*, 22: 114-19.

Dubey, S., P. Biswas, R. Ghosh, S. Chatterjee, M.J. Dubey, S. Chatterjee, D. Lahiri, and Carl J. Lavie. 2020. 'Psychosocial impact of COVID-19', *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*, 14: 779-88.

Farrell, N.F., C. Klatt-Cromwell, and J.S. Schneider. 2020. 'Benefits and Safety of Nasal Saline Irrigations in a Pandemic—Washing COVID-19 Away', *JAMA Otolaryngology–Head & Neck Surgery*, 146: 787-88.

Fatima, S., N. Haider, M.A. Alam, M.A. Gani, and R. Ahmad. 2020. 'Herbal approach for the management of COVID-19: an overview', *Drug metabolism and personalized therapy*. [Epub ahead of print]. <https://doi.org/10.1515/dmdi-2020-0150>

Fu, S., B. Wang, J. Zhou, X. Xu, J. Liu, Y. Ma, L. Li, X. He, S. Li, J. Niu, B. Luo, and K. Zhang. 2020. 'Meteorological Factors, Governmental Responses and COVID-19: Evidence from Four European countries', *Environ Res*: 110596.

Gilani, Mohammad Kazem. Hefz-al-sehheh Naseri. Edited by Rasool Choopani. *Iranian Traditional Medicine Publications*. 1392.

Haybar, H., A.Z. Javid, M.H. Haghizadeh, E. Valizadeh, S.M. Mohaghegh, and A. Mohammadzadeh. 2018. 'The effects of *Melissa officinalis* supplementation on depression, anxiety, stress, and sleep disorder in patients with chronic stable angina', *Clinical Nutrition ESPEN*, 26: 47-52.

Hong, E. H., J. H. Song, K. B. Kang, S. H. Sung, H. J. Ko, and H. Yang. 2015. 'Anti-Influenza Activity of Betulinic Acid from *Zizyphus jujuba* on Influenza A/PR/8 Virus', *Biomolecules & therapeutics* (Seoul), 23: 345-9.

Hoyles L., Vulevic J. (2008) Diet, Immunity and Functional Foods. In: Huffnagle G.B., Noverr M.C. (eds) *GI Microbiota and Regulation of the Immune System*. *Advances in Experimental Medicine and Biology*, vol 635. Springer, New York, NY.

Hussain, A., K. Mahawar, Z. Xia, W. Yang, and S. El-Hasani. 2020. 'Obesity and mortality of COVID-19. Meta-analysis', *Obesity research & clinical practice*, 14: 295-300.

IbnNafis Gharshi A. *Al-Shamil fi Al-Sana'a Al-Tebbia*. Tehran: Iran University of Medical Sciences; 2008.



Iran Ministry of Health, and Medical Education, Guidelines on controlling the epidemic of Covid-19; No. 1: Guide for diagnosis and treatment of Covid disease, at the level of outpatient and inpatient services, ninth edition, December 2016.

Ishimaru, N., T. Maeno, M. Suzuki, and T. Maeno. 2013. 'Rapid effects of Kikyo-to on sore throat pain associated with acute upper respiratory tract infection', *Journal of complementary & integrative medicine*, 11: 51-4.

Jalali, A., F. Dabaghian, H. Akbrialiabad, F. Foroughinia, and M. M. Zarshenas. 2020. 'A pharmacology-based comprehensive review on medicinal plants and phytoactive constituents possibly effective in the management of COVID-19', *Phytotherapy Research*. [Epub ahead of print].

Jiménez-Pavón, D., A. Carbonell-Baeza, and C. J. Lavie. 2020. 'Physical exercise as therapy to fight against the mental and physical consequences of COVID-19 quarantine: Special focus in older people', *Progress in cardiovascular diseases*, 63: 386-88.

Kamyar M.H., and Tsifansky Michael. 2008. 'Olfactory influences on mood and autonomic, endocrine, and immune function ', *Psychoneuroendocrinology*, 33: 1302-03.

Kawahara, Takeshi, and T. Iizuka. 2011. 'Inhibitory effect of hot-water extract of quince (*Cydonia oblonga*) on immunoglobulin E-dependent late-phase immune reactions of mast cells', *Cytotechnology*, 63: 143-52.

Khazdair, M. R., V. Ghorani, A. Alavinezhad, and M. H. Boskabady. 2018. 'Pharmacological effects of *Zataria multiflora* Boiss L. and its constituents focus on their anti-inflammatory, antioxidant, and immunomodulatory effects', *Fundamental & clinical pharmacology*, 32: 26-50.

Khubber, S., R. Hashemifesharaki, M. Mohammadi, and S.M.T. Gharibzahedi. 2020. 'Garlic (*Allium sativum* L.): a potential unique therapeutic food rich in organosulfur and flavonoid compounds to fight with COVID-19', *Nutrition Journal*, 19: 124.

Kulyar, M.F.A., R. Li, K. Mehmood, M. Waqas, K. Li, and J. Li. 2020. 'Potential influence of *Nigella sativa* (Black cumin) in reinforcing immune system: A hope to decelerate the COVID-19 pandemic', *Phytomedicine : international journal of phytotherapy and phytopharmacology*: 153277-77.

Li, T., Y. Zhang, C. Gong, J. Wang, B. Liu, L. Shi, and J. Duan. 2020. 'Prevalence of malnutrition and analysis of related factors in elderly patients with COVID-19 in Wuhan, China', *European journal of clinical nutrition*, 74: 871-75.

Luo, P., D. Liu, and J. Li. 2020. 'Pharmacological perspective: glycyrrhizin may be an efficacious therapeutic agent for COVID-19', *International journal of antimicrobial agents*, 55: 105995.

Moslemi Fard, Masoud, Narjess Goeji, Reza Ghadimi, Mohammad Kamalinejad, Hoda Shirafkan, and Seyyed Ali Mozaffarpur. 2020. 'Hospital diet for COVID-19, an acute respiratory infectious disease: An evidence-based Protocol of a Clinical Trial', *Caspian Journal of Internal Medicine*, 11: 466-78.

Mustafa, M. Z., S. H. Shamsuddin, S. A. Sulaiman, and J. M. Abdullah. 2020. 'Anti-inflammatory Properties of Stingless Bee Honey May Reduce the Severity of Pulmonary Manifestations in COVID-19 Infections', *The Malaysian journal of medical sciences : MJMS*, 27: 165-69.

Narkhede, R.R., A.V. Pise, R.S. Cheke, and S.D. Shinde. 2020. 'Recognition of Natural Products as Potential Inhibitors of COVID-19 Main Protease (Mpro): In-Silico Evidences', *Natural products and bioprospecting*, 10: 297-306.

Nazem Jahan M. Exir-e A'zam (The Great Panacea). Tehran: Iran University of Medical Sciences, Institute of Medicine History, Islamic and Alternative Medicine 2008.

Nosál'ova, G., A. Strapková, A. Kardosová, P. Capek, L. Zathurecký, and E. Bukovská. 1992. 'Antitussive Wirkung des Extraktes und der Polysaccharide aus Eibisch (*Althaea officinalis* L., var. *robusta*)', *Die Pharmazie*, 47: 224-6.

Pasalar, M., R. Choopani, M. Mosaddegh, M. Kamalinejad, A. Mohagheghzadeh, M. R. Fattahi, M.M. Zarshenas, P. Jafari, and K.B. Lankarani. 2015. 'Efficacy of jollab in the treatment of depression in dyspeptic patients: a randomized double-blind controlled trial', *Journal of Evidence-Based Complementary and Alternative Medicine*, 20: 104-8.

Peterfalvi, A., E. Miko, T. Nagy, B. Reger, D. Simon, A. Miseta, B. Czéh, and L. Szereday. 2019. 'Much More Than a Pleasant Scent: A Review on Essential Oils Supporting the Immune System', *Molecules*, 24.

Prasanth, D., M. Murahari, V. Chandramohan, S. P. Panda, L. R. Atmakuri, and C. Guntupalli. 2020. 'In silico identification of potential inhibitors from Cinnamon against main protease and spike glycoprotein of SARS CoV-2', *Journal of biomolecular structure & dynamics*: 1-15.

Rajagopal, K., G. Byran, S. Jupudi, and R Vadivelan. 2020. 'Activity of phytochemical constituents of black pepper, ginger, and garlic against coronavirus (COVID-19): An "in silico" approach', *International Journal of Health and Allied Sciences*. 9: 43-50.

Ramalingam, S., C. Graham, J. Dove, L. Morrice, and A. Sheikh. 2020. 'Hypertonic saline nasal irrigation and gargling should be considered as a treatment option for COVID-19', *Journal of global health*, 10: 010332.

Rhazi MZ. *Al-Mansuri fi Al-Teb*. Kuwait: Al-Monazama Al-Arabia al-Tarbia va Al-Thaqafa va Al-Olum; 1988. p. 112-3.

Rouhi, H., and F. Ganji. 2007. 'Effect of *Althaea Officinalis* on Cough Associated with ACE Inhibitors ', *Pakistan Journal of Nutrition*, 6: 256-58.

Sarris, J., E. McIntyre, and D. A. Camfield. 2013. 'Plant-based medicines for anxiety disorders, Part 1: a review of preclinical studies', *CNS Drugs*, 27: 207-19.

Seo, H., and K. Sohng. 2011. 'The Effect of Footbaths on Sleep and Fatigue in Older Korean Adults', *Journal of Korean Academy of Fundamentals of Nursing*, 18.

Signer, J., H. Jonsdottir, W. Albrich, M. Strasser, R. Zust, Sarah R., R. Ackermann-Gäumann, N. Lenz, D. Siegrist, A. Suter, R. Schoop, and O. Engler. 2020. In vitro virucidal activity of Echinaforce®, an Echinacea purpurea preparation, against coronaviruses, including common cold coronavirus 229E and SARS-CoV-2.

Silveira, D., J. M. Prieto-Garcia, F. Boylan, O. Estrada, Y. M. Fonseca-Bazzo, C. M. Jamal, P. O. Magalhães, E. O. Pereira, M. Tomczyk, and M. Heinrich. 2020. 'COVID-19: Is There Evidence for the Use of Herbal Medicines as Adjuvant Symptomatic Therapy?', *Front Pharmacol*, 11: 581840.

Singh, S., N. Sharma, U. Singh, T. Singh, D. K. Mangal, and V. Singh. 2020. 'Nasopharyngeal wash in preventing and treating upper respiratory tract infections: Could it prevent COVID-19?', *Lung India*, 37: 246-51.

Sinha, Saurabh K., Satyendra K. Prasad, Md Ataul Islam, Shailendra S. Gurav, Rajesh B. Patil, Nora Abdullah AlFaris, Tahany Saleh Aldayel, Nora M. AlKehayez, Saikh Mohammad Wabaidur, and Anshul Shakya. 2020. 'Identification of bioactive compounds from Glycyrrhiza glabra as possible inhibitor of SARS-CoV-2 spike glycoprotein and non-structural protein-15: a pharmacoinformatics study', *Journal of Biomolecular Structure and Dynamics*: 1-15.

Sultan, M. T., M. S. Butt, M. M. Qayyum, and H. A. Suleria. 2014. 'Immunity: plants as effective mediators', *Crit Rev Food Sci Nutr*, 54: 1298-308.

Suručić, R., B. Tubić, M. P. Stojiljković, D. M. Djuric, M. Travar, M. Grabež, K. Šavikin, and R. Škrbić. 2020. 'Computational study of pomegranate peel extract polyphenols as potential inhibitors of SARS-CoV-2 virus internalization', *Mol Cell Biochem*: 1-15.

Talaei, A., F. Forouzanfar, and S. Akhondzadeh. 2019. 'Medicinal plants in the treatment of obsessive-compulsive disorder: A review', *Curr Drug Discov Technol*.

Thota, S. M., V. Balan, and V. Sivaramakrishnan. 2020. 'Natural products as home-based prophylactic and symptom management agents in the setting of COVID-19', *Phytother Res*, 34: 3148-67.

Usman A, Ashfaq, Masoud Muhammad S, Nawaz Zafar, and Riazuddin Sheikh. 2011. 'Glycyrrhizin as antiviral agent against Hepatitis C Virus', *Journal of Translational Medicine*, 9: 112  
Hordatines as a Potential Inhibitor of COVID-19 Main Protease and RNA Polymerase: An In-Silico Approach. *Nat Prod Bioprospect*  
Hypoglycemic, Antitussive and Analgesic Effects of Nanoparticles of Cordia myxa Fruits Extract.

Wani, A. R., K. Yadav, A. Khursheed, and M. A. Rather. 2020. 'An updated and comprehensive review of the antiviral potential of essential oils and their chemical constituents with special focus on their mechanism of action against various influenza and coronaviruses', *Microbial pathogenesis*: 104620.

Whitcroft, K.L., and T. Hummel. 2020. 'Olfactory Dysfunction in COVID-19: Diagnosis and Management', *Jama*, 323: 2512-14.

Xu, W., R. H. Zhou, L. Li, and M. W. Jiang. 2012. '[Observation on therapeutic effect of chronic fatigue syndrome treated with coiling dragon needling and moving cupping on back]', *Zhongguo Zhen Jiu*, 32: 205-8.

Yang, H., Y. Sun, R. Cai, Y. Chen, and B. Gu. 2020. 'The impact of dietary fiber and probiotics in infectious diseases', *Microbial pathogenesis*, 140: 103931.

Yeung, K. S., M. Hernandez, J. J. Mao, I. Haviland, and J. Gubili. 2018. 'Herbal medicine for depression and anxiety: A systematic review with assessment of potential psycho-oncologic relevance', *Phytotherapy Research*, 32: 865-91.

Yi-Ying, Lu. 2004. 'Treatment of cough and asthma with blood-letting puncturing and cupping: A report of 3 cases ', *Journal of Chinese Integrative Medicine*, 2: 244-51.

Zabetakis, I., R. Lordan, C. Norton, and A. Tsoupras. 2020. 'COVID-19: The Inflammation Link and the Role of Nutrition in Potential Mitigation', *Nutrients*, 12.

Zeinali, M., M.R. Zirak, S.A. Rezaee, G. Karimi, and H. Hosseinzadeh. 2019. 'Immunoregulatory and anti-inflammatory properties of *Crocus sativus* (Saffron) and its main active constituents: A review', *Iranian journal of basic medical sciences*, 22: 334-44.