



Government of India
Ministry of Ayush



Ayush
recommendations for the public
on holistic health and well-being

**Preventive measures and care
during**

**COVID-19 &
LONG COVID-19**



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Ministry of Ayush
Ayush Bhawan, B Block, GPO Complex, INA,
New Delhi - 110023



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General Disclaimer

The recommendations are supplement to the COVID-19 appropriate behaviour and precautionary measures and should not be taken as a substitute.

All the standing instructions issued by various health authorities (Ministry of Health & Family Welfare, World Health Organization and various State and Local Health authorities) are to be adhered to completely and Ayush guidelines may stand as an “add on” to the current line of management in respect of Covid-19 and Post/Long Covid-19.

The medicines recommended here are based on Essential Drugs List, Standard Treatment Guidelines, Ayurvedic Pharmacopoeia of India, Ministry of Ayush Govt. of India along with considerations from other recommendations issued by various health authorities across India.

Use of mask, hand sanitization, physical/social distancing, vaccination to break the chain, healthy nutritious diet, improving immunity, and all other general health care measures are to be advised as per the guidelines issued by health authorities, from time to time.

Table Of Contents

Preamble

4

Ayush recommendations for the prevention of Covid-19

5-19

- Ayush recommendations for prevention
- Dietary recommendations
- Mental health recommendations
- Yoga recommendations

Care during Covid-19

20-28

- Dietary recommendations
- Mental health recommendations
- Yoga recommendations

Post Covid-19 / Long Covid-19

29-36

- Dietary recommendations
- Mental health recommendations
- Yoga recommendations

Annexures

37-43

References and Bibliography

44-51

Preamble

The COVID-19 pandemic is an unprecedented health challenge affecting human existence across the globe. As per the World Health Organization as on October 21, 2021, SARS-CoV-2 has globally infected over 241 million individuals and has directly attributed to over 4.9 million deaths. In India, 4,53,042 deaths and 1,75,745 active cases have been reported by the Ministry of Health and Family Welfare as on 22.10.2021 and more than 1000 million vaccine doses have been administered.

Despite the scientific and medical community's unparalleled efforts to sequence, diagnose, treat, and prevent COVID-19, there is ample evidence for the development of sequelae to the primary disease known as Post-Covid syndrome and Long Covid-19. It has been observed that recovering SARS-CoV-2 patients suffer from persistent and often, debilitating symptoms extending several months past their initial diagnosis. The latest studies suggest that upwards of 37 per cent of SARS-CoV-2 positive individuals go on to develop post-COVID syndrome while for hospitalized patients it may be as high as 85 per cent.

COVID has brought a major change in the delivery of healthcare, that is, self-care and health: by all, for all. There are studies, which establish the fact that many people in some Asian countries, particularly in India, have adopted complementary, alternative, and traditional health-care practices. Considering the persistence of disabling symptoms over a long period of time, even after recovering from the Covid-19 infection and its enduring risk of a possible surge, the need for boosting immune status cannot be undermined. With the current scientific understanding a healthy immune system is pivotal for preventing progression of the disease and for speedy recovery. Life-style behaviours like dietary choices, thoughts, emotions, and physical activity are found to play a significant role in influencing the immune status of an individual.

This document puts forth the concept of holistic health, which emphasizes the selfcare of the individuals by addressing various dimensions of life and health. These recommendations on “holistic health and well-being” are for the public and are formulated emphasizing the need for a healthy lifestyle with Ayush preventive measures and care in respect of Covid-19 and Long Covid-19.

This consensus document has been developed by the Sub-committee formed under the Inter-disciplinary AYUSH R&D Task Force with group of experts from AYUSH stream as well as from contemporary sciences like Diet and Nutrition and Mental Health.



Namaste:
the new norm to greet fellow being.

The background is a light green gradient with several stylized virus icons (resembling coronaviruses) and solid circles of various sizes scattered across the page. A large, dark green rectangular box is centered on the page, containing the title text.

Ayush recommendations for the prevention of Covid-19

General preventive measures

1. Stay updated on the latest Covid-19 information from authentic and reliable sources.
2. Follow the Covid-19 personal hygiene protocol like wearing mask, hand washing, and sanitization
3. Follow respiratory hygiene protocol
4. Maintain physical distancing/quarantine/isolation protocol
5. Take vaccination

Measures for promoting systemic immunity

1. **Ayush Kada or Kwatha**

(Maurya and Sharma, 2020; Gautam *et al.* 2020)

- Four parts of *Tulsi* (Holy basil, *Ocimum sanctum*)
- Two parts of *Tvak/Dalchini* (Cinnamon, *Cinnamomum zeylanicum*)
- Two parts of *Shunti* (Dry Ginger, *Zingiber officinale*)
- One part of *Krishna maricha* (Black pepper, *Piper nigrum*)
- Jaggery or *draksha* (black raisins, *Vitis vinifera*) and/or *Nimbu svarasa* (lemon juice) may be added as per taste, at the time of consuming.

Directions for preparation as an instant hot infusion: Add 3 gm of the above Ayush Kwatha Choorna to 150 ml of boiled hot water, stir well and allow to rest for five minutes. Strain through a muslin cloth or tea strainer. Drink while lukewarm. Once a day.

2. **Kabasura Kudineer**

(Natarajan, *et al.* 2021)

- Method of preparation: 5gm of *Kabasura Kudineer* powder to be added in 240 ml of water, allow to boil and reduce to 60 ml. Kudineer must be used within three hours of preparation.
- Dosage: 50 to 60 ml, twice a day (or) as per the advice of Physician.

Note: As per the availability one may either take *Ayush Kada* or *Kabasura Kudineer*.

3. **Golden Milk**

(Babaei, *et al.* 2020; Sharifi-Rad, *et al.* 2020)

- Half teaspoon (2 gm) *Haridra* (turmeric, *Curcuma longa*) powder in 150 ml hot milk —once or twice a day.

4. **Guduchi (Giloy, *Tinospora cordifolia* IP)**

(Maurya and Sharma, 2020; Shree, *et al.* 2020; Kumar, *et al.* 2020; Borse, *et al.* 2021)

- *Guduchi Ghana vati* (*Samshamanivati* or *Giloy Ghana vati* having Aqueous extract of *Tinospora cordifolia* IP)

Dosage: two tablets twice daily after food with warm water

OR



Measures for promoting systemic immunity



- *Guduchiphanta* (hot infusion)
Preparation: Take 10 pieces of *Guduchi* stem (3 cm each). Remove the outer skin, crush the pieces and put these in 100 ml of boiling water. Store overnight. Drink the strained liquid next morning on an empty stomach. One teaspoonful (5ml) honey may be added, if required.

5. ***Ashwagandha* or *Amukkara Choornam* (Indian ginseng, *withania somnifera*) root powder**
(Chopra, *et al.* 2021; Tripathi, *et al.* 2020; Shree, *et al.* 2020; Saggam, *et al.* 2021; Borse, *et al.* 2021)

Dosage: 3-5gm twice a day with warm milk or water

OR

- *Ashwagandha* extract 500 mg twice a day with warm water.

6. ***Chyavanprash***
(Sharma, *et al.* 2019)

Dosage: 10gm in the morning with warm water/ milk.
Diabetics should take sugar-free *Chyavanprash*.

7. **Medicated water**
(Thota, *et al.* 2020; Mondal, *et al.* 2011; Fatima, *et al.* 2020; Nikhat and Fazil, 2020)

- Boil 6-7 *Tulsi* leaves with 1000 ml of water for 10 min then filter the water. Store it in a bottle. It is advised to take frequent sips or as and when required.

OR

- *Behidana* (*Quince, Cydonia oblonga*) (3 gm)
Unnab (*Jujube, Zizyphus jujuba*) (5 pcs.)
Sapistana (*Assyrian plum, Cordiamyxa*) (9 pcs.).
Boil together in 250 ml water until the quantity reduces to half. Store in a bottle and take sips as and when required.

Only freshly prepared medicated waters should be taken.

Note – All above mentioned Ayush formulations are advised subject to the availability and legal provisions in various countries.

The above said medications can be taken for 45-60 days or as per the discretion of the practitioner.

Measures for promoting local mucosal immunity

1. Nasal application (*Pratimarsh Nasya*)

(Haridas, *et al.* 2021; Rizvi, *et al.* 2021)

Apply two drops of:

Til taila (sesame oil), or

Nariyal taila (Coconut oil), or

Cow's *Ghee* (clarified butter), or

Anu taila

in both the nostrils, daily, morning and evening.

Procedure:

Lying posture: Lie in a supine position with head and neck low position; put 2 drops of any of the above-mentioned oils in each nostril. Pinch the nose once and after releasing, inhale the oil, taking it inwards. Spit the oil out when it reaches the throat.

OR

Sitting posture: dip the distal part of your cleaned little finger (up to distal skin crease) in any of the above-mentioned oils and insert into one nostril while the other nostril is closed (pinched), inhale the oil, taking it inwards, while the little finger is in nostril. Repeat the same for the next nostril. Spit the oil out when it reaches the throat.

2. Steam inhalation

(Swain and Sahu, *et al.* 2021)

Any of the following fresh leaves may be used for steam inhalation and can be done once a day.

- *Pudina* (Mint, *Mentha spicata*),
- *Tulsi* (Holy basil, *Ocimum sanctum*)
- *Nirgundi* (Five-leaved chaste tree, *Vitax Negundo*),
or
- *Ajmoda* seeds (*Trachyspermum ammi*)

3. *JalaNeti*/Nasal wash

(Singh, *et al.* 2020)

This is a technique to cleanse the nasal passages, usually done with a *neti* pot filled with lukewarm saline water.

- To prepare water for *Jal Neti* add 2.5 grams of *saindhavlan*/ rock salt in 500 ml of water.

Procedure:

- A steady stream of the saline water is poured through one nostril and drained out through the other with help of gravity.
- Throughout this flushing out process it is essential to breathe through the mouth, tilting the head slightly in the opposite side of the nostril being flushed.
- Half the quantum of water is flushed through from one nostril and same procedure is repeated with the second nostril. This procedure can also be alternated, 2 or 3 times from each nostril. This has to be performed after obtaining training under expert supervision.

Measures for promoting local mucosal immunity

4. Oil pulling therapy (*Kavala*) (Sharad and Kapur, 2021)

- Take two tablespoons (25-30 ml) warm sesame oil or coconut oil in the mouth. Swish in the mouth for two to three minutes and spit out. This can be done once or twice a day, preferably in the morning or at bedtime.

5. Mouth wash/Gargling (Sharad and Kapur, 2021)

- Take 1 tsp powder of roasted *Ajamoda* (*Ajwain*, *Trachyspermum ammi*) in 500 ml of water and boil it until it reduces to 250 ml. Use this decoction for gargles.
- Gargling with 250 ml of warm water, add half tsp of *Haridra* powder (turmeric, *Curcuma longa* L) and a pinch of salt.

Relief from dry cough / sore throat

1. **Steam inhalation** as prescribed above to be followed.
2. ***Lavanga* (Clove, *Syzygium aromaticum*)** powder (1-2 gm) mixed with natural sugar/honey can be taken two to three times a day in case of cough or throat irritation.

Note: These measures generally treat normal dry cough and sore throat. However, medical advice should be taken if these symptoms persist.

Other preventive measures

Fumigation of surroundings (*Dhupana*) (Mahfooz, et al. 2021)

Antimicrobials such as the following may be used:

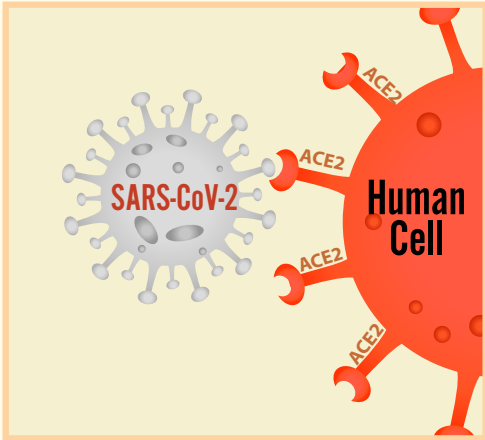
- *Neem* leaf (*Azadirachta indica*) *Sarshapa* (Mustard, *Brassica campestris* L)
- *Loban* (gum bezamin/ benzoin – *Styraxbenzoin* Dryand)
- *Karpura* (Camphor, *Cinnamomumcamphora* (L) J.Presl.)
- Ghee (clarified butter).

Aparajita Dhooपा Choorna may also be used as per availability

How to use:

- Take a fumigating vessel
- Add coconut shell or charcoal ember to it
- Sprinkle a little of *Aparajitha Dhooपा Choorna* on to the ember
- Fumigate indoor and outdoor environment
- Add more powder once the previously added powder is completely burnt out and fumigated.
- Make sure the fumigated areas are adequately ventilated

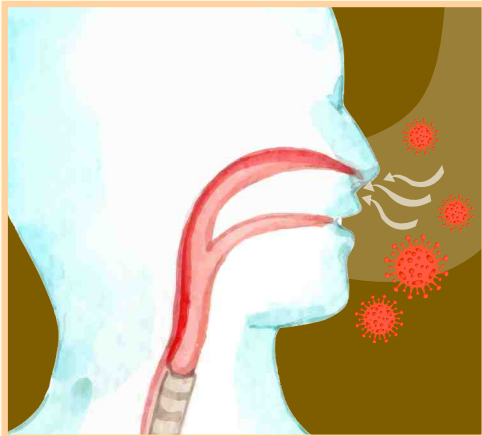
Entry of SARS COV-2 into human cells



Entry of SARS-CoV-2 into human cells

SARS-CoV-2 possesses a spike (S) glycoprotein, which binds to the cell membrane protein ACE2 to enter human cells.

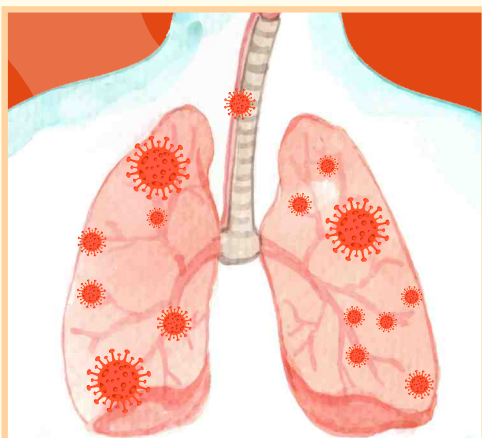
Lu, *et al.* 2020, Sharifkashani, *et al.* 2020, Zhou, *et al.* 2020



Nasal and oral routes: Gateways for the virus to enter cells.

The mouth and nose have higher number of ACE2 expressed cells

Xu *et al.*, 2020, Zou *et al.*, 2020



SARS-CoV-2 targeting Lungs: Making deeper inroads

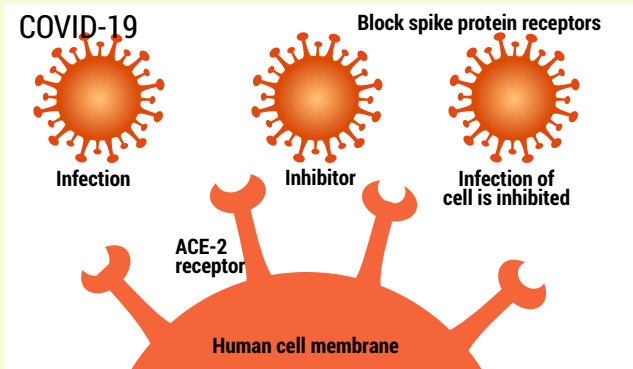
Lung tissues also have higher number of ACE2 expressed cells.

Xu *et al.*, 2020, Zou *et al.*, 2020

Ayush practices and local/mucosal immune responses

Local/Mucosal immune responses in the Nasal & Oral tract play a key role in the early restriction of viral replication and the clearance of SARS-CoV-2. (Fröberg and Diavatopoulos, 2021)

Research studies have supported the indigenous medicine practices like Nasya, Steam inhalation, Jala Neti and Oil pulling/Gargles to be effective.



Blocking the Gate ways of Entry of Virus (Nasal & Oral) could be a good choice to reduce or even prevent the transmission of SARS-CoV-2 virus. (Russell, *et al.* 2020)

Nasya: Nasal administration of medicated oil or herbal rinse (Haridas, *et al.* 2021; Rizvi, *et al.* 2021)



Steam inhalation (Swain and Sahu, 2021)



Jala Neti: Nasal wash (Singh, *et al.* 2020)



Oil pulling /Mouth wash/Gargle (Sharad and Kapur, 2021)

Dietary recommendations for COVID-19 prevention

(Calder, 2020, 2021; Lima, et al. 2021; Joshi, et al. 2020; Hima, et al. 2019; Wu, et al. 2019; Payyampallimana and Venkatasubramanian, 2016; Sarkar, et al. 2015; Pandey, et al. 2013).

Good nutrition is important in supporting the immune response. Stress, physical fitness and diet are considered as some of the significant modifiable factors that influence immune response. Apart from the nutritional value, the core concept of dietetics in Ayush system of medicine is about the entity of digestive fire (agni) on which the whole process of digestion, metabolism, immunity and in fact the life force said to depend on.

(Advised to refer to Annexure I related to diet and immunity)

Recommendations

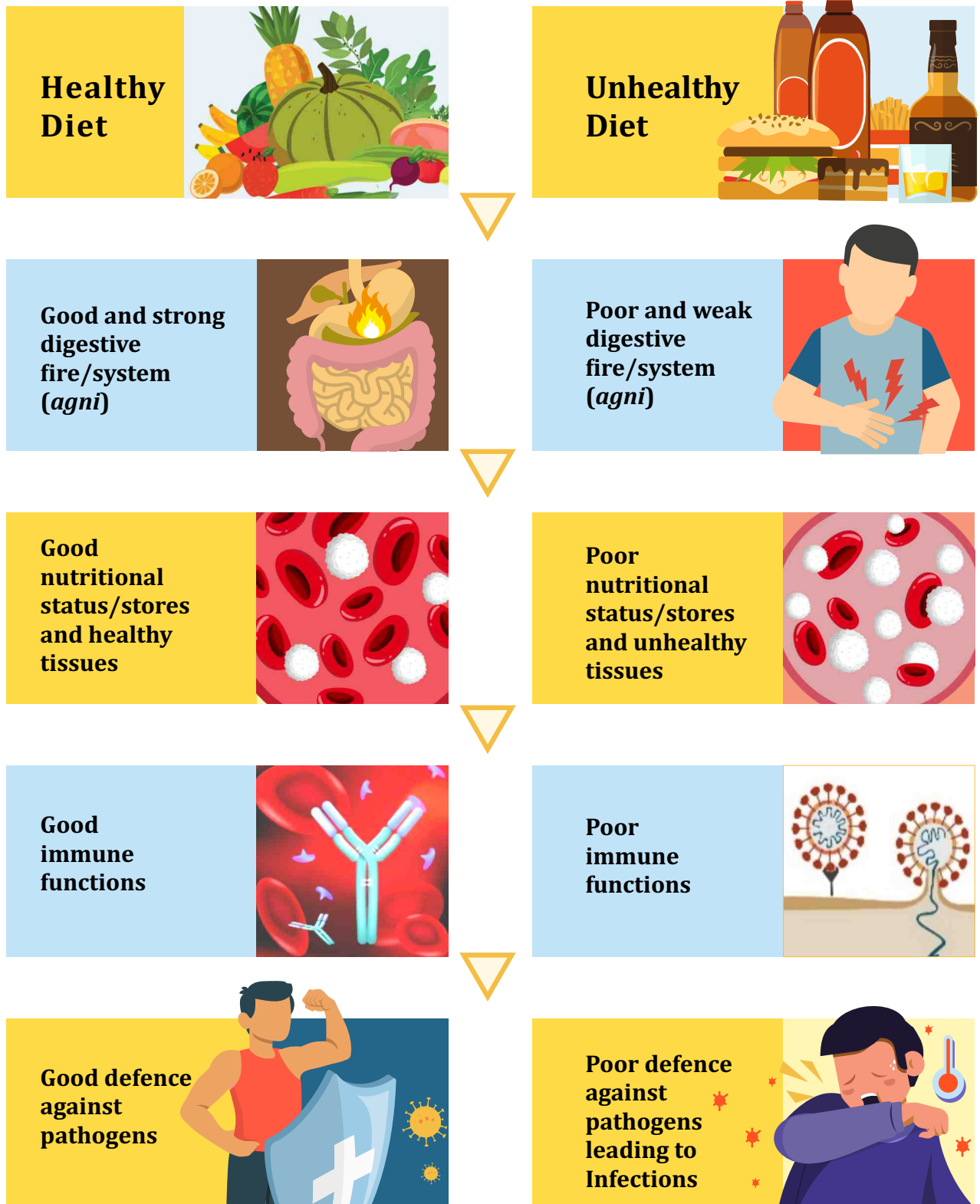
Dietetic Principles

- Intake of food in time only on feeling of hunger and after digestion of previous meal (*Kale Bhojana*).
- Maintain proper hygiene at the culinary place. (*Suchi Bhojan*)
- Intake of food which is warm (*Ushna Bhojan*)
- Intake of food which is easy to digest (*Laghu Bhojan*)
- Eat while there is interest to food and while eating concentrate on food and the process of eating (*Tanmana: Bhojana*)
- Eat food with six taste components (*Sad-Rasayukta Ahara*) that is, *Madhur* (sweet), *Amla* (sour), *Lavan* (salty), *Katu* (pungent), *Tikta* (bitter) and *Kashaya* (astringent).
- Food should be ingested calmly, neither too slow nor too fast (*Na Ati Druta Vilambita*)
- Food should be taken after bathing (*Snatah*) and after attending to nature calls.
- For good digestion, imagine three parts of stomach and advice is to fill one part with solid food, one part with liquid and keep the third part empty. So in short one should consume less food than one's satiety or fullness.
- 'Eat what your grandmother used to eat' and 'Eat from 100 km of radius'.
- Practice region-specific traditional food processing techniques.
- Must not sleep immediately after consuming food. There should be a gap of minimum two hrs.
- Restrict use of food items that are heavy to digest.
- Watching TV, use of phones, and other similar activities during eating are not advised.
- Use natural sugars like honey and jaggery (without chemicals) and reduce the intake of refined sugars.
- Fried, refrigerated, and rewarmed foods have a bad effect on the digestive fire (*agni*) and should be avoided or considerably minimized.
- Quit smoking, avoid alcohol, caffeine, day-time sleep and late-night wakening.

Healthy diet

Water	<ul style="list-style-type: none">• Drink warm water (preferably) daily as per the body's need. Warm water helps in digestion and metabolism and it acts as stimulator for the digestive fire (<i>agni</i>).• Normal room temperature or cold water (water stored in a clay pot, not refrigerated) may be used for individuals with heart burn and acidity problems.• Use copper utensils for storage of drinking water, if possible.• Avoid drinking too much water immediately before and after meals or early in the morning. Drinking large amount of water minimises digestive fire (<i>agni</i>).
Oil for cooking	<ul style="list-style-type: none">• Use regionally available and traditionally used oils for cooking like Mustard oil (<i>Sarason taila</i>), Sesame oil (<i>Tila taila</i>), Coconut oil (<i>Nariyal taila</i>), Groundnut oil (<i>Mongphali taila</i>), Rice bran oil and to get a balance fatty acid one may rotate or use blended oil.• Virgin coconut oil is found to have beneficial effects on improving immunity.
Include spices in daily diet	<ul style="list-style-type: none">• Include/add spices like cumin seeds (<i>jeera</i>), cinnamon (<i>dalchini</i>), dry/fresh ginger (<i>sonth/adrak</i>), garlic (<i>lashuna</i>), cardamom (<i>elaichi</i>), mustard (<i>rai</i>), carom seeds (<i>ajwain</i>), turmeric (<i>haldi</i>), black pepper (<i>kali mirch</i>), coriander (<i>dhania</i>)), etc., as appropriate and in small quantities, while preparing food.• These spices enhance flavour and aroma and add therapeutic value to the meal.• Spices act as stimulators and enhancers of the digestive fire and boost natural immunity.
Fruits	<ul style="list-style-type: none">• Eat seasonal fruits.• Fruits shall be used in moderation but with care. They should be eaten when properly ripe.• Orange and pomegranate are good options.• <i>Amla (Emblica officinalis)</i> is a rich source of vitamin C content, useful for increasing immunity.• Dates (<i>khajoor</i>) have good health benefits

Relationship between good and weak digestive fire (*agni*), nutrition, immunity, and infection



Mental health recommendations for covid-19 prevention

(Li, *et al.* 2021; Rajkumar, 2020; AYUSH, 2018; Irwin, 2008; Segerstrom and Miller, 2004)

Health/well-being in the Ayush system of medicine includes the physical, mental, and spiritual domains. Each individual is considered an “integrated whole” that functions as a “total entity”. Immunity is also an “integrated whole” including both the 'physiological' and 'psychological' domains.

Recommendations

1. Emphasize the need of integrated immunity: both physical and psychological health are important for a good immune regulation.
2. Ensure positive lifestyle choices such as a nutritious diet, adequate physical activity, good sleep, and judicious use of media.
3. Enhance self-discipline supported by proper scientific knowledge.
4. Encourage life skills such as critical thinking, creative thinking, and impulse control, to transform the information into appropriate behaviour.
5. Propagate responsible self-health care as a means to protect the health of the family and others.
6. The COVID pandemic is very dynamic with rapidly changing social scenarios and personal circumstances. Empower people to be aware that accepting this uncertainty is primary for a peaceful mind.
7. Resilience is the power needed to bounce back. Resilient people always focus and work on “factors under control”. Spread awareness regarding the right focus.
8. Many individuals/families/groups of people have shown effective adaptation during the pandemic. Project them as role models.
9. Enhance cooperation among individuals, within the community and the State administration with the ideal of deriving mutual benefit. Promote collaboration for generating a sense of satisfaction and empathy.

Ayush and Mental Health

Mental strength (Satvabala)



- As per the Ayush system of medicine, mental strength is graded as superior, medium, and inferior.
- Superior mental strength [*Pravara Satva*] is displayed by individuals able to withstand mental trauma well.
- Medium mental strength [*Madhyama Satva*] individuals who can afford to take hardships if encouraged to do so.
- Inferior mental strength [*Avara Satva*] is displayed by individuals who are incapable of bearing even the most trivial trauma and pain.
- The lifestyle nature (healthy or unhealthy) an individual follows results in either improving or increasing mental strength (*Satvabala*) or in debilitating or decreasing mental strength and thus leading to a state when the individual is more susceptible to succumb to stress factors.

Measures to increase mental strength (*Satvabala*):

Achara Rasayana: is a psycho-immuno-socio-behavioural and humanistic approach to healthy and positive living. It envisages a code of conduct to lead a stress-free life, which transports the individual from “I”llness to “We”llness. The following practices are advisable:

- Truthfulness (*satyavadi*): being true to oneself by having a realistic approach towards challenging situations.
- Listening to pleasing music and reading books (*mano anukulata*)
- Helpful to others and service to mankind (*paropakara artham idam shariram*)
- Free from anger and ego (*akrodha* and *anahankritam*)
- Digital fasting – minimize screen time
- Company of wise and positive-minded people (*satsang*)
- Attitude of gratitude: Gratitude to the COVID warriors (*kritajnatah*).
- Empathy for the less privileged (*karuna*)
- Attempt/practices to erase bad memories of COVID (*vismarana*)
- Forgiveness and compassion (*kshama* and *daya*)
- Consolation or vivification (*asvasana*)
- Confidence and courage (*dhairya*)
- Difference of perception (*vikalpa*) that is,
 - **FEAR — Face Everything And Rise**

Yoga recommendations for COVID-19 prevention

(Khoramipour, *et al.* 2021; Mishra, *et al.* 2021; Bushell, *et al.* 2020; Taneja, *et al.* 2020; Suzuki, 2019; Falkenberg, *et al.* 2018; De Heredia, *et al.* 2012)

Yoga is an integrated mind–body practice that is known to have several positive health benefits. Yoga is a complete healing system and not merely a form of physical exercise. Research shows that a physically active lifestyle influences the immune system positively whereas a sedentary lifestyle suppresses the functioning of the immune system. Further, it is broadly accepted that psychological stress can negatively impact several physiological functionalities like the immune system. Hence, Yoga plays a vital role for balancing the psychophysical system or the body-mind complex.

Objectives:

1. Improve cardiac and respiratory efficiency
2. Reduce stress and anxiety
3. Enhance immunity
4. Improve mental health

Recommendations

	Practices	Yoga practice	Rounds	Duration (Minutes)
1	Centering Practice	Sit quietly in a clean place, gently close your eyes and collect yourself. Invoke a sense of gratitude towards mother nature.		1
2	Loosening practices	Neck Bending	3	2
		Shoulder's movement	3 each shoulder	2
		Trunk Movement	3	1
		Knee Movement	3	1
3	Standing asana	<i>Tadasana</i> (Mountain pose)		1
		<i>Pada-hastasana</i> (Forward fold pose)		1
		<i>Ardha Chakra asana</i> (half wheel pose)		1
		<i>Trikonasana</i> (triangle pose)		2


	Practices	Yoga practice	Rounds	Duration (Minutes)
3	Sitting asana	<i>Ardhaushtra asana</i> (half camel pose)		1
		<i>Sasak asana</i> (hare pose)		1
		<i>Utthana mandukasana</i> (extended frog pose)		1
		<i>Simhasana</i> (lion pose)		1
		<i>Marjariasana</i> (cat pose)		1
		<i>Vakrasana</i> (sitting spine twist pose)		2
	Prone lying asana	<i>Makarasana</i> (crocodile pose)		1
		<i>Bhujangasana</i> (cobra pose)		1
	Supine Lying Asana	<i>Setubandhasana</i> (bridge pose)		1
		<i>Utthanapadasana</i> (standing, forward bend pose)		1
		<i>Pawana Muktasana</i> (wind relieving pose/rocking rolling)		1
		<i>Markatasana</i> (spinal twist pose)		1
		<i>Shavasana</i> (corpse pose)		2
4	Kriya	<i>Vata Neti</i>	2 rounds (30 secs each with 30 sec relax)	2
		<i>Kaphalabhati</i> (skull shining breath)	2 rounds, (30 strokes each)	2
5	Pranayama	<i>Nadi Shodhana</i> (alternate nostril breathing)	5 rounds	2
		<i>Surya Bhedhana Pranayama</i> (right nostril breathing)	5 rounds	2
		<i>Ujjayee Pranayama</i> (victorious breath)	5 rounds	2
		<i>Bhramari Pranayama</i> (humming breath)	5 rounds	2
		<i>Dhyana</i> (meditation)		2
		Total Duration		41

- Advised Jala neti kriya (nasal cleansing practice using water) two or three times a week.
- Advised steam inhalation every day or every alternate day.
- Advised gargling with lukewarm saline water regularly.
- Advised Yoga nidra for 20 minutes two or three times a week, specifically for care givers and healthcare workers.

Illustrations of different asanas and mudras given in Annexure III.



• Yoga recommendations mentioned in the document has to be performed under Yoga expert supervision or after obtaining training under Yoga expert supervision.

The background is a solid yellow color. Scattered across it are several stylized virus particles, each with a central circular core and numerous radiating spikes. There are also several solid yellow circles of varying sizes. A large, semi-transparent dark yellow rectangle is centered on the page, containing the text.

Care during Covid-19

Care during COVID-19

(WHO; MOHFW; Patwardhan and Sarwal, 2021, Zhou, *et al.* 2020)

The Coronavirus (COVID-19) pandemic, caused by the novel severe acute respiratory syndrome (SARS) coronavirus 2 (SARS-CoV-2), continues to pose a severe threat to the global community. The common symptoms may include fever, cough, sore throat, fatigue, and muscle pains. Some patients also present with gastrointestinal symptoms, including loss of appetite, nausea, and diarrhoea. Anosmia (loss of smell) and ageusia (loss of taste) have also been reported in almost 70 per cent of patients. Shortness of breath is also common, which suggests a worsening condition of the disease. Most patients with COVID-19 have displayed mild or moderate infection, however, up to 5-10 per cent present with severe and even life-threatening course. The mortality rates is approximately 2 per cent. Apart from the vaccination, several clinical trials are currently trying to identify the most potent drug or combination against the disease through both modern and indigenous systems of medicine.

Dietary recommendations during COVID-19

- In the first seven days of getting infected, the digestive fire (*agni*, the capacity to digest, assimilate and metabolize food) of an individual is compromised (weak/poor).
- The goal has to be to protect, stimulate, enhance, and sustain the *agni*.
- Indigestion accelerates the disease and delays recovery.
- A healthy diet (*pathya aahara*) along with medicines and other standard protocols are most essential in the very first week of illness.
- When the digestive system is weak or compromised, warm water is recommended. Frequent sipping of warm water improves digestion and hydration of the system.
- Liquidy, easy-to-digest, nutritious gruels or broths using locally available grains and pulses are recommended in the beginning. Rice, wheat, barley, and millets are the common grains used to make gruels. These can be used according to availability and local practices.
- Milk and milk products such as curds, paneer, which are nutritious, but often heavy to digest may be avoided in the first seven days or until the digestive fire is restored fully.
- Buttermilk although light for digestion may also be avoided as it is not advised in cough and cold conditions.
- Green gram (*moong dal*) can be used to prepare thin soups and *kicchidi* (a soft, semi-solid broth of rice and lentil, seasoned as per taste)
- In symptomatic cases of the disease, the gruel itself can be medicated by adding small quantities of appropriate herbs, while cooking. The palatability of the food is not compromised, in fact enhanced.

Some preparations of easily digestible foods are given in Annexure II.

Some examples of medicated gruels in disease conditions are given in the following chart.

S.No.	Condition	Additional ingredients in gruels Quantity of the ingredients **
1	Diarrhoea	Fruit of <i>Bilwa</i> (<i>Aeglemarmelos</i>), <i>Shunti</i> (dry ginger), <i>Dhanyaka</i> (coriander)
2	Persisting fever	Same as above
3	Pain in the ribs	<i>Gokshura</i> (<i>Tribulusterrestris</i>), <i>Vyaghri</i> (<i>Solanum xanthocarpum</i>)
4	Headache	Same as above
5	Cough, shortness of breath, hiccups	<i>Laghupanchmula</i> *
6	Constipation	<i>Yava</i> (barley) <i>Amalaki</i> (<i>Emblica officinalis</i>), <i>Draksha</i> (<i>Vitis vinifera</i>)
7	Abdominal cramps	<i>Pippali moola</i> (Long pepper), <i>Amalaki</i> , <i>Draksha</i> , <i>Shunti</i>
8	Loss of appetite	<i>Dadima</i> , pomegranate (<i>Punica granatum</i>), <i>Ardraka</i> (wet/freshginger), <i>Gud</i> (jaggery)
9	Urinary discomfort	<i>Gokshura</i> , <i>Laghupanchamula</i> *

*A mix of five roots of small plants that is, *Shalaparni* (*Desmodium gangeticum*), *Prshniparni* (*Urariapicta*), *Brhati* (*Solanum indicum*), *Kantakari* (*Solanum xanthocarpum*) and *Gokshura* (*Tribulusterrestris*)

** 10 gm per person, put into a clean cotton pack and kept in the cooking utensil until the cooking of gruel or broth is complete.

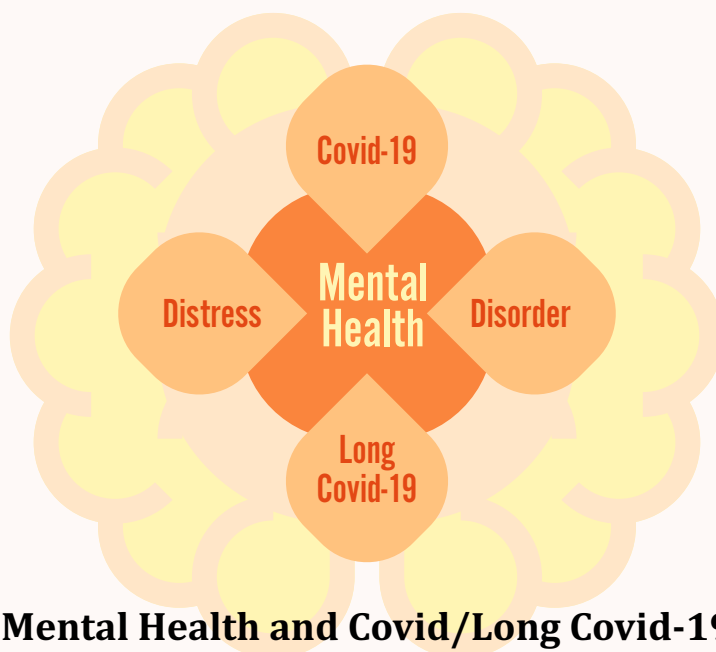
These medicated gruels or broths may be used as part of the diet and other medicines to be continued as advised by the physician till the symptoms subside.

<p>Medicated water (<i>Aushadsiddha paniya</i>)</p>	<ul style="list-style-type: none"> • Medicated water will aid in stimulating the digestive fire (<i>agni</i>). • To prepare medicated water one portion (10 gm) of the raw drug or the coarse powder of herbs should be mixed well with 1280 ml of water and boiled for 10 minutes. This water is then strained or filtered and is ready to drink. Discard the herbal residue. • Medicated water prepared with <i>shunti</i> (dry ginger), <i>dhanyaka</i> (coriander seeds) and <i>Tulsi</i> (<i>Ocimum sanctum</i>) can be used in case of Covid-19. • Freshly prepared medicated water is advised for consumption (preferably within three hours of preparation). • Avoid drinking the water which is boiled and kept overnight.
<p>Herbal tea</p>	<ul style="list-style-type: none"> • Herbal tea made up of either ginger, or liquorice, or cinnamon, or a combination of dry ginger and coriander seeds, can be consumed. • Herbal tea with liquorice and <i>Tulsi</i> is quite useful in cough and cold.



Mental health recommendations during COVID-19

Individuals who have been infected with Covid-19 and those suffering from Post/Long Covid-19 may be in a mental state of 'distress' and or 'disorder'. Accordingly, these recommendations may be applied, as the case may be, for the persons with Covid-19 and or Post/Long Covid-19.



Mental Health and Covid/Long Covid-19

Distress and Mental Health

Stress: is a physical and psychological response to harmful or potentially harmful circumstances — that is, to anything that threatens to damage the organism.

Stressor: is the event or condition that puts a strain on the organism and poses a challenge to adjust.

We can say that the demands and needs to adjust are stressors, the effects they create on an individual is stress, and the effort one puts in to deal with them are coping strategies.

In times of Covid-19 the following, which are basic indicators, can be considered major stressors:

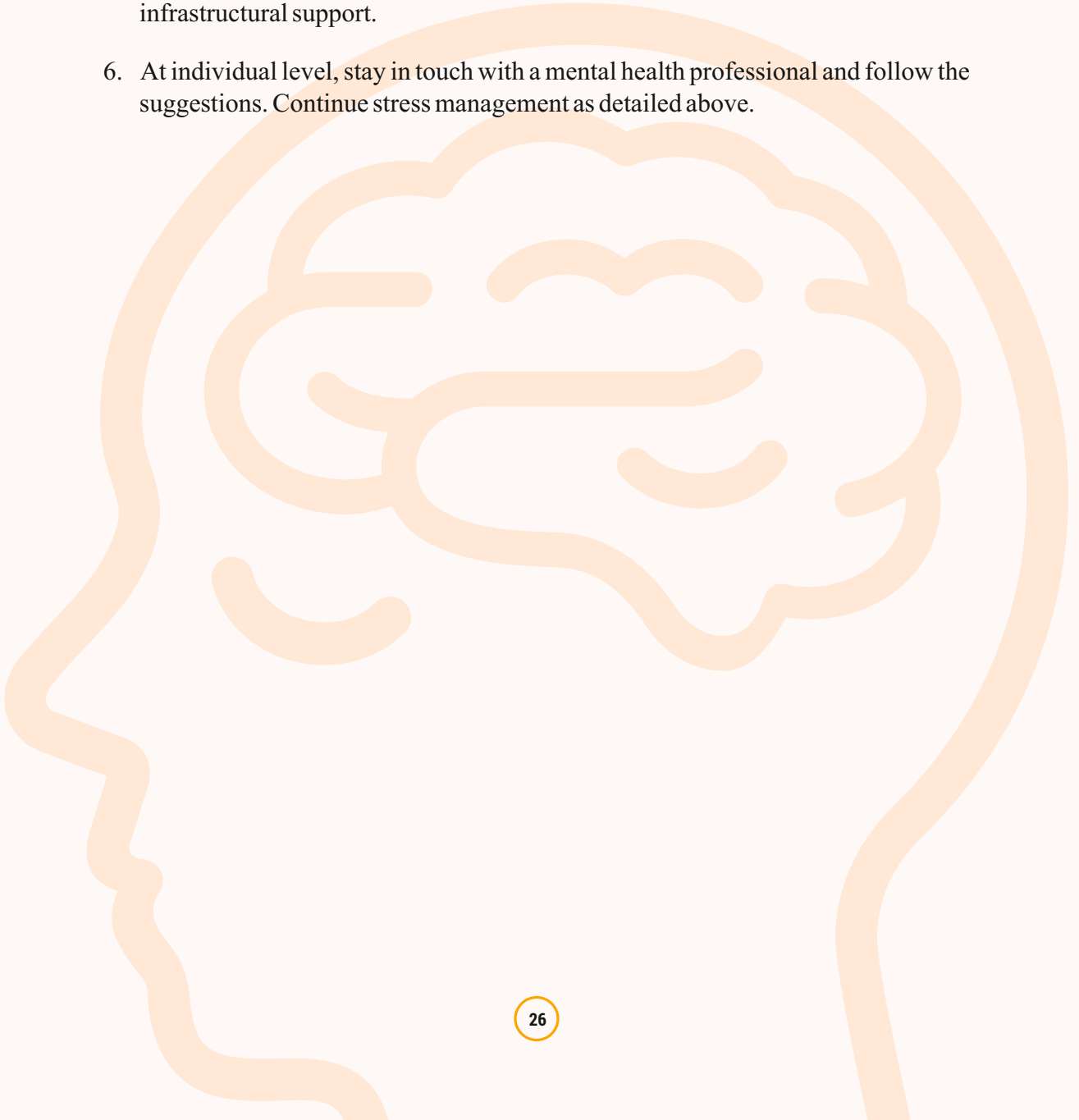
- Need for physical distancing, and/or quarantine
- Fear of getting infected
- Fear of family getting infected
- Separation from family members
- Uncertain future
- Financial concerns

Distress: Recommendations to De-stress from Distress

1. Thoughts propel emotions: It is important to convey to the affected persons that emotions emerge from thoughts, which are the consequence of the play of cause and effect, and therefore, they arise in response to an event (or information). It is the perception, perspective, and attitude towards the event that decides the response to a (perceived) stressor.
2. Verification of information: It is imperative that all information is verified for its authenticity and to be aware of the danger of believing in hearsay or arbitrary theories.
3. Screening of thoughts: Thoughts must be screened realistically and with objectivity to avoid their maximization (intensification) or minimization (trivialization).
4. Empowerment through positivity: This means restructuring of thoughts. Therefore, instead of saying "I am sad that I cannot meet my friends", one could say, "I am happy that I am protecting my friends."
5. Avoid the blame game and stay focused: During calamities, people either blame themselves, others, or destiny. It is important to retain focus on the 'problem' at hand.
6. Problem solving: For effective problem solving, encourage generating innovative ideas, creative alternatives, and out of the box, flexible thinking approaches.
7. Gratitude and empathy: Promote gratitude for all the COVID warriors (direct or indirect) and empathy for the less privileged.
8. Dissemination of scientific information: Widely disseminate the scientific fact that timely professional help can save the distress which can derail further into a mental health disorder. There are some definite "red flags", as listed below; these are signs associated with increasing intensity, frequency and duration of negative emotions, such as excessive worry, sadness, guilt, anger or grief. If they extend for a period of four weeks or more, then the person needs a detailed evaluation.
 - Physical health concerns like marked increase or decrease of appetite and weight, and significant changes in sleep patterns.
 - Loss of pleasure from or interest in previously enjoyable activities.
 - Loss of comfort with self.
 - Increased interpersonal conflicts.
 - Decline in productivity.
 - Deviation from important life goals.

Disorder: Bringing Order in Mental Disorders

1. Deal with psychological disorders on par with physical illnesses.
2. Burst myths about the mental health. Conduct awareness drives regarding the nature of mental health issues and the local/online support centres for the same.
3. Extend scientific help proactively to people who have known or emerging psychological concerns. Target the high-risk groups (COVID death in the family, income-job loss, senior citizens living alone.)
4. Re-evaluate people suffering from neuropsychiatric disorders, such as Autism Spectrum, Attention Deficit Hyperactivity Disorder, Depression, and Schizophrenia.
5. Upgrade rehabilitation facilities by training manpower and providing suitable infrastructural support.
6. At individual level, stay in touch with a mental health professional and follow the suggestions. Continue stress management as detailed above.



Yoga recommendations during COVID-19

Illustrations of different asanas and mudras are given in Annexure III

S.No.	Yoga practice	Mild category	Moderate category	Severe category	Reference
1	<i>Shvasa Kriya-I</i> (Hands in and out breathing)	5 rounds	5 Five rounds at comfortable pace	3 rounds at comfortable pace*	Nagendra <i>et al</i> , 2020; Umesh <i>et al</i> , 2021; Jasti <i>et al</i> , 2020
2	<i>Shvasa Kriya-II</i> (Hands stretch breathing)	3 rounds each at 90°, 135° and 180°	Same as in mild, at comfortable pace	Same as in mild, at comfortable pace*	<i>Ibid.</i>
3	<i>Kati chakrasana</i> (Spinal twisting)	5 rounds each side	Sitting on chair: Twisting with support of the arms of chair 3 rounds each side	Sitting on chair: Twisting with support of the arms of chair	<i>Ibid.</i>
4	<i>Vibhagiya Pranayama</i> (Sectional Breathing)	3 rounds each in Chin, Chinmaya, and Adi mudra	3 rounds each in Chin, Chinmaya, and Adi mudra	3 rounds each in Chin, Chinmaya and Adi mudra *	<i>Ibid.</i>
		Start with 4:8:8:4 and slowly increase to 4:12:8:4 and then to 4:16:8:4 (sequence in seconds is inhale: hold: exhale: hold)	4:4:4:4 (inhale: hold: exhale: hold)	4:4:4 (inhale: hold: exhale)*	
5	<i>KapalabhatiKriya</i> (Skull shining breath)	One stroke per 3 seconds	1 stroke per 3 seconds	To be avoided	Bhargav, <i>et al</i> . 2014; Nagendra, <i>et al</i> . 2020; Jasti, <i>et al</i> . 2020; Umesh, <i>et al</i> . 2021
		30 strokes per minute	20 strokes per minute		
		1 cycle	1 cycle		

S.No.	Yoga practice	Mild category	Moderate category	Severe category	Reference
7	<i>Ujjayi</i> (Victorious breath)	6 rounds	6 rounds	6 rounds of deep breathing with the awareness of air passing down the throat region*	Kochupillai, <i>et al.</i> 2005; Nagendra, <i>et al.</i> 2020
8	<i>Nadi shuddhi</i> (Alternate nostril breathing)	6 rounds	6 rounds	3 rounds*	Telles, <i>et al.</i> 1994; 2008 Shannahoff-khalsa, 2001
9	<i>Anthar kumbhaka</i> (Internal retention of breath)	After a full inhalation, hold the breath until comfort-table. Then exhale and observe the breath (Note the breath holding time).			Riley, <i>et al.</i> 2020
10	<i>Bhramari</i> (Humming bee breath) with the tip of the tongue touching the upper palate	5 minutes	5 minutes with rest in between, if required	5 minutes with sufficient gaps in between*	Taneja, 2020
		Without <i>shanmukh-imudra</i>	Without <i>shanmukhi- mudra</i>	Without <i>shanmukhi- mudra</i>	
11	<i>Nadanu-sandhana</i> (Chanting)	AAA-kara- 3 rounds UUU-kara- 3 rounds MMM-kara- 3 rounds A-U-M kara-3 rounds			Bormann, <i>et al.</i> 2006; Davidson, <i>et al.</i> 2003

**may be done if possible*



Post Covid-19 / Long Covid-19

POST COVID-19/ LONG COVID-19

(El Sayed, *et al.* 2021; Akbarialiabad, *et al.* 2021; Lopez-Leon, *et al.* 2021; Iqbal, *et al.* 2021; Raveendran, *et al.* 2021; Huang, *et al.* 2021; Greenhalgh, *et al.* 2020; WHO; CDC; DGHS MoHFW)

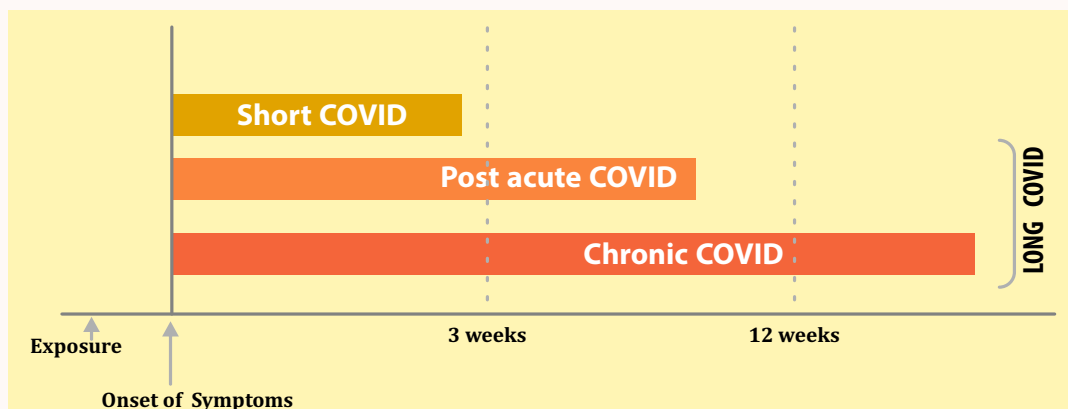
As per WHO, Post COVID-19 condition occurs in individuals with a history of probable or confirmed SARS CoV-2 infection, usually three months from the onset of COVID-19 with symptoms that last for at least two months and cannot be explained by an alternative diagnosis. Common symptoms include fatigue, shortness of breath, and cognitive dysfunction, among other symptoms that adversely impact everyday functioning. Symptoms may be new onset following initial recovery from an acute COVID-19 episode or persist from the initial illness. Symptoms may also fluctuate (a change from time to time in quantity or quality) or relapse (return of disease manifestations after a period of improvement), over time.

Other significant symptoms are related to lung disease (cough, chest discomfort, reduced pulmonary diffusing capacity, sleep apnea, and pulmonary fibrosis), cardiovascular (arrhythmia, myocarditis), and neuro-psychiatric (dementia, depression, anxiety, attention disorder, obsessive-compulsive disorders). Furthermore, it is also reported that COVID-19 can lead to persistent low immunity, clotting disorders, and inflammation.

Stages: Depending on the duration of symptoms, post COVID or Long COVID can be divided into two stages — post acute COVID where symptoms extend beyond three weeks, but less than 12 weeks, and chronic COVID where symptoms extend beyond 12 weeks.

Post/Long Covid Stages


(adopted from Raveendran, *et al.* 2021)



Dangerous symptoms and signs

There are certain warning signs that may be suggestive of serious abnormalities as given in the following chart: (DGHS, MoHFW)

Symptoms	Signs
<ul style="list-style-type: none">• Acute or sever chest pain• Acute or severe dyspnea/ respiratory distress• Hypotension (low blood pressure)• Hemoptysis (coughing up blood)• High grade fever	<ul style="list-style-type: none">• Spo2 <90% (oxygen saturation)• Increased respiratory rate or heart rate• Cyanosis (bluish discoloration) of tongue or finger tips• Increased use of accessory muscles



The diagram illustrates the human respiratory system, including the trachea and lungs. On the left side, there are icons representing symptoms: a virus particle, a gear, and a thermometer. On the right side, there are icons representing signs: a pulse oximeter, a clock, and a water drop.

Strength of the appetite (*Agni*)

Categorical administration of Diet

Good or Normal appetite

- Moderate appetite diet
- Cow's milk and judicious use of milk products
- Ghee (clarified butter)
- Judicious use of deserts, dry fruits (almond, cashew)
- Judicious use of meat, fish, egg
- Ayush dietetic principles to be followed

Moderate appetite

- Cow's milk with pinch of dry Ginger or pepper powder
- Gruels prepared with milk
- Moong dal Khicchidi
- Porridge preparations
- Vegetables, fruits, raisins, Khajoor
- Meat soup with addition of appetisers like pepper
- Ayush dietetic principles to be followed

Mild to Moderate appetite

- Thin gruels and Moong dal soup
- Vegetable soups, fruits, raisins, Khajoor
- Sipping of warm/medicated water
- Occasional fasting with proper precautions under medical supervision
- Ayush dietetic principles to be followed

Poor or Mild appetite

- Luke warm water/Medicated warm water
- Thin gruels, Moong Dal soup and Fruits
- Fasting, if necessary, when appetite doesn't improve with proper precautions under medical supervision
- Ayush dietetic principles to be followed

No appetite

- Langhana/Fasting with strict precautions under medical supervision only
- Sipping of luke warm water or medicated water boiled with dry ginger and roasted coriander
- Ayush dietetic principles to be followed

No appetite:

Feel no hunger at all.

Mild appetite:

Able to take less than one-fourth of the normal food intake and not feel hunger for the next meal. Bowel movement and sleep may not be normal.

Mild to moderate appetite:

Able to take approximately half of normal food intake and sometimes can feel hunger for the next meal. Slight improvement is noticeable with bowel movement and sleep.

Moderate appetite:

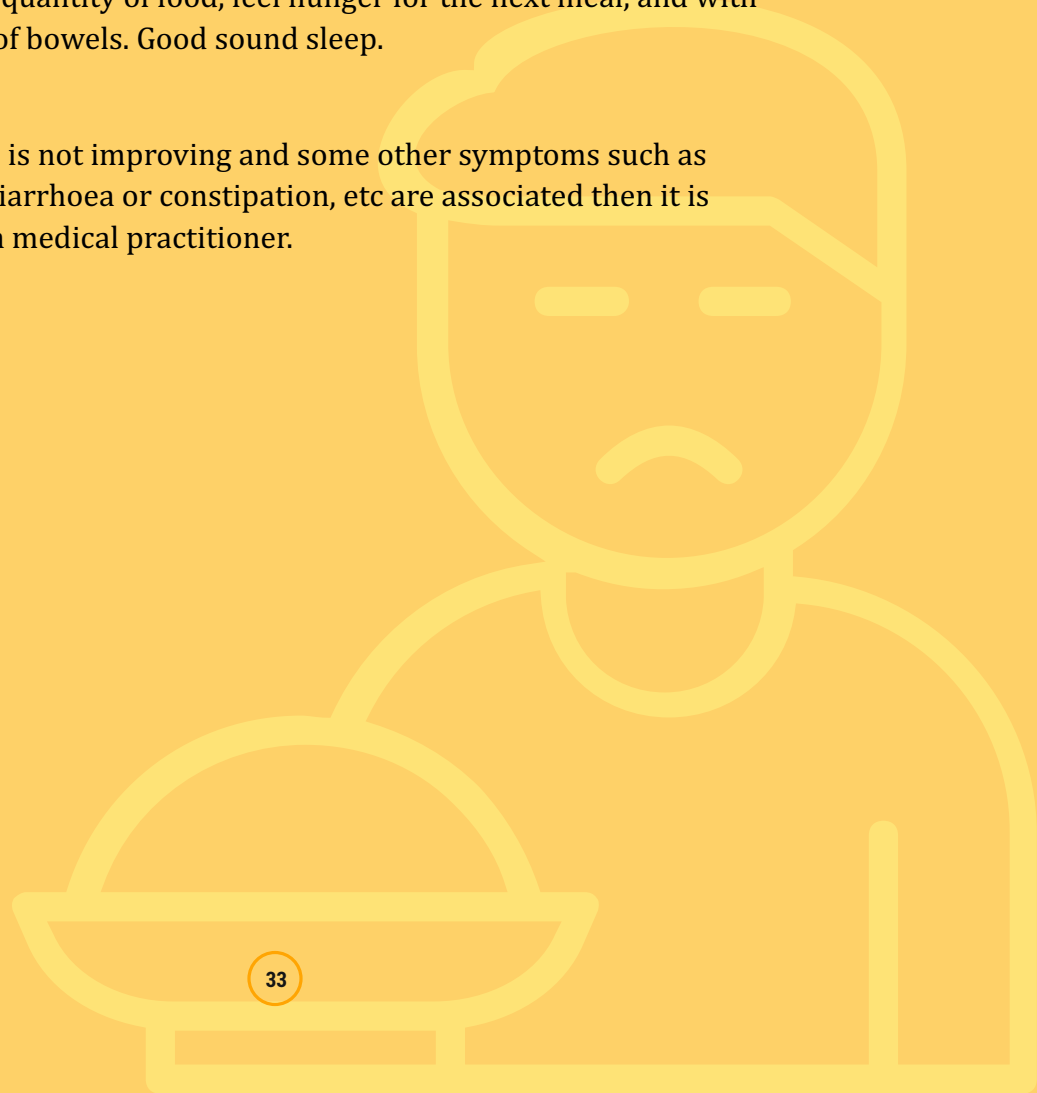
Able to take approximately one-third of one's normal food intake and able to feel hunger for the next meal. Considerable improvement is noticed with bowel movement and sleep.

Good or Normal appetite:

Able to eat normal quantity of food, feel hunger for the next meal, and with proper evacuation of bowels. Good sound sleep.

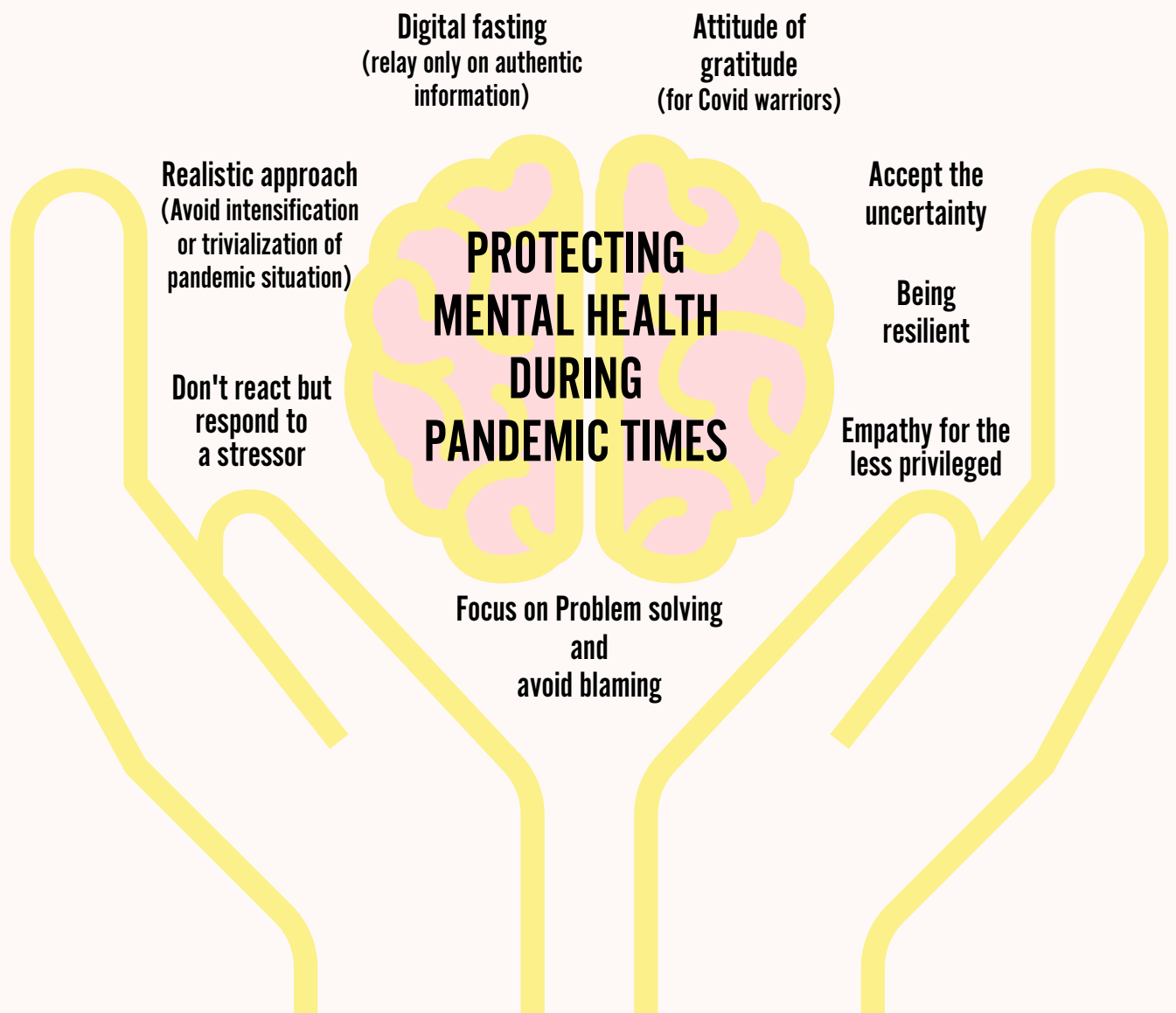
Note:

In case the appetite is not improving and some other symptoms such as nausea, vomiting, diarrhoea or constipation, etc are associated then it is advised to consult a medical practitioner.



Mental health recommendations for post COVID-19/ LONG COVID-19

Individuals who have been infected with Covid-19 and those suffering from Post/Long Covid-19 may be in a mental state of 'distress' and or 'disorder'. Accordingly, the recommendations have been made for Distress and Disorder (in the preceding section, "Care during Covid-19"), which may be applied, as the case may be, for such persons..




Yoga recommendations for POST COVID-19 / LONG COVID-19

Objectives

- Improve pulmonary function and lung capacity
- Reduce stress and anxiety
- Improve Muco-ciliary clearance

Recommendations: Morning Session

Practices	Name of Practice	Rounds	Duration (minutes)
1	Centering practice	Sit quietly in a clean place, gently close your eyes and collect yourself. Invoke a sense of gratitude towards Mother Nature	1
2	Preparatory practices (in sitting)	<i>Tadasana</i> (mountain pose)	6
		<i>Urdhva hastottanasana</i> (palm tree pose)	
		<i>Uttana mandukasana</i> (extended frog pose)	
		Shoulder rotation	3 rounds
		Trunk twisting	3 rounds
		<i>Ardha ustrasana</i> (half camel pose)	
		<i>Sasak asana</i> (hare pose)	
3	Breathing Practices	<i>Vataneti</i> (cleansing the nasal airway — slow deep breaths, prolonged exhalations)	2 rounds (30 seconds per round)
		<i>Kapalabhati</i> (skull shining breath)	3 rounds (30 seconds per round)
		Deep breathing	10 rounds

Practices	Name of Practice	Rounds	Duration (minutes)	
4	Pranayama Practices	<i>Nadishodhana</i> (alternate nostril breathing)	10 rounds	6
		<i>Ujjaayi</i> (victorious breath)	10 rounds	3
		<i>Bhramari</i> (humming breath)	10 rounds	3
5	Meditation	<i>Dhyana</i>	Awareness of breathing, of positive thoughts, emotions, actions	5
			Total Duration	30 mins

Recommendations: Evening Session

	Name of the practice	Rounds	Duration (minutes)
1	Shavasana (corpse pose) arms stretched	1	1
2	Abdominal breathing	10	2
3	Thoracic breathing	10	2
4	Clavicular breathing	10	2
5	Deep breathing (lying down position)	10	2
6	Relaxation in <i>Shavasana</i> with awareness on abdominal breathing		6
			Total Duration 15

- *Period of exhalation shall be more than the period of inhalation, preferably 1:2 (Inhalation: Exhalation).*
- *Illustrative pictures of different asanas and mudras are given in Annexure III*
- *Yoga recommendations mentioned in the document has to be performed under Yoga expert supervision or after obtaining training under Yoga expert supervision.*

Annexures

Annexure I

Diet and Immunity

- The immune system protects the individual against pathogenic organisms including bacteria, virus, fungi, and parasites.
- Nutrition is one of multiple factors that determine the immune response.
- Good nutrition is important in supporting the immune response and also in promoting a diverse gut microbiota.
- Immune dysfunction along with improper nutrition increases the risk to infection, as scientific studies explain even for infection with SARS-CoV-2.
- Studies of individual micronutrients including vitamin D and zinc suggest playing a role in reducing the severity of infection with SARS-CoV-2.
- The importance of nutrition in supporting the immune response also applies to assuring robust responses to vaccination.
- Stress, physical fitness, and diet are some of the significant modifiable factors that influence the immune response.

Ayush Concepts of Immunity, Nutrition, and Dietetics

- Ayurveda has a comprehensive approach of immunity (*vyadhik shamatva*) encompassing two-fold management towards health and disease.
 - ✧ The resisting power of the body to prevent the manifestation of a disease (*vyadhi-utpada-pratibandhakatvam*)
 - ✧ The resisting power of the body to restrain or withstand the strength or severity or progression of a disease (*vyadhi-bala-virodhitvam*)
- The modifiable factors that influence the immune status of an individual encompass a healthy diet (*pathyaahara*), the state of physical health (*sareera*), and mental health (*manasika*).
- In the Ayush systems of medicine, diversified aspects of dietetics and nutrition have been emphasized, such as: quality, quantity, processing method, rationale of the combination of food articles, emotional aspects, nature of the consumer, geographical and environmental conditions, all of which are vital in the restoration of homeostatic biomechanisms (*dhatu-samyata*), preservation and promotion of health and prevention of disease. In Ayurveda, proper food is considered the best medicine.

- Apart from the nutritional value, macro- and micro-nutrients, the core concept of dietetics in Ayurveda is about the entity of digestive fire (*agni*) on which depends the entire process of digestion, metabolism, immunity, and in fact, the life force itself.
- The cardinal role of the *agni* is to bring transformation (*paka*) of the ingested food substances (*aharadravyas*), which are heterogenous (*vijatiya*) in nature to the human body and convert them into homogenous (*sajatiya*) substances helping in the process of building healthy tissues.
- Emotional factors are said to have strong reciprocal influence on *agni* such that even if wholesome food is taken in the right quantity it does not get properly digested when the individual is under constant psychological stress, that is, afflicted with grief, fear, anger, sorrow, excessive sleep, or sleep deprivation.
- The food with respect to *Agni* is basically categorized as easily digestible food (*laghu aahara*) and heavy to digest food (*guru aahara*).
- When *agni* is good, wellness is sustained and when it is weak/poor, illness results. Hence it is important to protect the digestive fire and plan a diet in accordance to its sustenance.

Annexure II

Some preparations of easily digestible food (*Laghu aahara*)

May be prepared according to the availability of ingredients and local practices.

Rice gruels

- Properly washed and soaked rice has to be boiled over a moderate fire by adding the required quantity of water according to the desired gruel preparation.
- Depending on the quantity of liquid and solid part taken from the cooked rice, it is categorized as *manda*, *peya*, *yavagu* and *vilepi*
 - ▲ **Manda**: One part rice and 14 parts water is taken for preparation. Only the supernatant liquid part is consumed leaving the boiled rice.
 - ▲ **Peya**: One part rice and 4 parts water is taken for preparation. Equal portion of solid rice and liquid portion are consumed.
 - ▲ **Yavagu**: One part rice and 6 parts water is taken for preparation. More solid rice portion and less liquid part are consumed together.
 - ▲ **Vilepi**: One part rice and 4 parts water is taken for preparation. In this dish only solid rice part is obtained.



Mudga Yusha (Moong dal soup)

- This is a semisolid preparation obtained by boiling one part of *Moong dal* (green gram), with one-eighth quantity of *shunti* (dried ginger), *pippali* (long pepper, *Piper longum*) and 16 parts of water.

Moong dal (Green gram) Khichidi

- To prepare *khichidi*, rice grains and *moong dal* are taken either in equal quantity, or in 1:1/2, or 1:1/4 ratio, as per the need. A little amount of *sneha* (oils), *saindhavalavana* (rock salt), *ardraka* (ginger), *hingu* (asafoetida), and *haridra* (turmeric, curcumin) are added to the preparation. The mixture is cooked in a vessel with six parts of water.



Porridge

- ***Uzhunthu Kanji*** (porridge made of black gram and rice)
- ***Payaru Kanji*** (Porridge made of green gram and rice)
- ***Panchamutti Kanji*** (Porridge made of raw rice, *urad dal*, *toor dal*, *chana dal* and green gram).
- **Preparation method:** take all the ingredients in equal proportions and fry in a pan in medium flame, grind well into a powder and wrap it in a cloth and make as a pouch. Then add 250 ml of water in a pot and immerse the pouch, let it boil and the extract from the contents of the pouch spread in the water and thickens the water into a ready-to-eat porridge. The pouch itself is discarded.



Meat soup (*Mamsa rasa*)

- A soup prepared by boiling finely chopped meat with required quantity of water i.e., two, four, six or eight times of water and boiled over moderate fire to get it in desired consistency. To these spices can be added which brings taste as well as aids in digestion.

Annexure III

Illustration of Yoga practices during Covid-19

Yoga practice

Shvasa Kriya-I (Hands-in and out breathing)



Shvasa Kriya-II (hands stretch breathing)



Katichakra asana (spinal twisting)



Vibhagiya pranayama (Sectional Breathing)



Kapalabhati Kriya (skull shining breath)



Bhastrika (bellow's breath)



Ujjayi (victorious breath)



Nadishuddhi (alternate nostril breathing)



Anthar kumbhaka (internal retention of breath)



Bhramari (humming bee breath)
with the tip of the tongue touching upper palate



Nadanusandhana (chanting)



Asanas for prevention and during Long COVID



Prayers



Neck Bending



Shoulder Stretching



Shoulder Rotation



Trunk Twisting



Knee Movement



Tadasana



Vrikshasana



Pada-Hastasana



Ardh-Chakrasana



Trikonasana



Dandasana



Bhadrasana



Vajrasana



Ardh-Ushtrasana



Ushtrasana



Shashankasana



Uttana-manduk-asana



Vakrasana



Makarasana



Bhujangasana



Shalabhasana



Setubandh-asana



Uttana-pada-asana



Ardh-hala-asana



Pavan-mukt-asana



Savasana



Kapalbharti



Nadishodhana



Sitali Pranayama



Bhramri Pranayama



Dhyana

References

- Akbarialiabad H, Taghrir MH, Abdollahi A, Ghahramani N, Kumar M, Paydar S, Razani B, Mwangi J, Asadi-Pooya AA, Malekmakan L, and Bastani B. 2021. Long COVID, a comprehensive systematic scoping review. [Epub ahead of print.] *Infection*. 2021 Jul 28;1-24. doi: 10.1007/s15010-021-01666-x. PMID: 34319569; PMCID: PMC8317481.
- Ayush, Ministry of. Guidelines for Ayurveda Practitioners for COVID-19.
- Ayush. 2018. Ayurveda based dietary and lifestyle advocacy for mental health and psychiatric disorders. New Delhi: Central Council for Research in Ayurvedic Sciences, Ministry of Ayush, Government of India.
- Babaei F, Nassiri-Asl M, and Hosseinzadeh H. 2020. Curcumin (a constituent of turmeric): New treatment option against COVID-19. *Food Sci. Nutr.* Sep 6; 8(10):5215-5227. doi: 10.1002/fsn3.1858. PMID: 33133525; PMCID: PMC7590269.
- Bhargava H, Nagendra HR, Gangadhar BN and Nagarathna R 2014. Frontal hemodynamic responses to high frequency yoga breathing in schizophrenia: a functional near-infrared spectroscopy study. *Frontiers in Psychiatry*. 2014 Mar 24; 5:29. doi: 10.3389/fpsy.2014.00029
- Bormann JE, Gifford AL, Shively M, Smith TL, Redwine L, Kelly A, Becker S, Gershwin M, Bone P, and Belding W. 2006. Effects of spiritual mantram repetition on HIV outcomes: a randomized controlled trial. *Journal of Behavioral Medicine*. 2006 Aug 1; 29(4):359-76.
- Borse S, Joshi M, Saggam A, Bhat V, Walia S, and Marathe A. 2021. Ayurveda botanicals in COVID-19 management: An in silico multi-target approach. *PLoS ONE* 16(6): e0248479. <https://doi.org/10.1371/journal.pone.0248479>.
- Bushell W, Castle R, Williams MA, Brouwer KC, Tanzi RE, Chopra D, and Mills PJ. 2020. Meditation and Yoga Practices as Potential Adjunctive Treatment of SARS-CoV-2 Infection and COVID-19: A Brief Overview of Key Subjects. *J. Altern Complement Med*. 2020 July 26(7):547-556.
- Calder PC, 2020. Nutrition, immunity and COVID-19. *BMJ Nutrition, Prevention and Health*; 0. doi:10.1136/bmjnph-2020-000085.
- Calder PC. 2021. Nutrition and immunity: lessons for COVID-19. *Eur. J. Clin. Nutr.* 75: 1309–1318. <https://doi.org/10.1038/s41430-021-00949-8>
- CDC. <https://www.cdc.gov/coronavirus/2019-ncov/long-term-effects>.
- Chopra A, Srikanth N, Patwardhan B, Gundeti M, Choudhary K. (2021). *Withania somnifera* as a Safer Option to Hydroxychloroquine in the Chemoprophylaxis of COVID-19: Results of Interim Analysis. *Complementary Therapies in Medicine*. 10.1016/j.ctim.2021.102768.
- Davidson RJ, Kabat-Zinn J, Schumacher J, Rosenkranz M, Muller D, Santorelli SF, Urbanowski F, Harrington A, Bonus K, and Sheridan JF. 2003. Alterations in brain and immune function produced by mindfulness meditation. *Psychosomatic medicine*. 2003 Jul 1; 65(4):564-70.
- De Heredia FP, Gómez-Martínez S, and Marcos A. 2012. Obesity, inflammation and the immune system. *Proceedings of the Nutrition Society*. 71 (2), 332–338. <https://doi.org/10.1017/S0029665112000092>.
- DGHS (Directorate General of Health Sciences). 2021. National comprehensive guidelines for management of post-Covid respiratory sequelae, September 2021.

- El Sayed S, Shokry D, and Gomaa SM. 2021. Post-COVID-19 fatigue and anhedonia: A cross-sectional study and their correlation to post-recovery period. *Neuro-psychopharmacol. Rep.* 41:50–55. doi:10.1002/npr2.12154
- Falkenberg RI, Eising C, and Peters ML. 2018. Yoga and immune system functioning: a systematic review of randomized controlled trials. [Epub 2018 Feb 10.] *J. Behav. Med.* 2018 Aug; 41(4):467-482. doi: 10.1007/s10865-018-9914-y. PMID: 29429046.
- Fatima S, Haider N, Alam MA, Gani MA, Ahmad R, and Taha, M. 2020. Herbal approach for the management of COVID-19: an overview. *Drug Metab. Pers. Ther.* Nov 2: /j/dmdi.ahead-of-print/dmdi-2020-0150/dmdi-2020-0150.xml. doi: 10.1515/dmdi-2020-0150. Epub ahead of print. PMID: 33128525.
- Fröberg J, and Diavatopoulos DA. 2021. Mucosal immunity to severe acute respiratory syndrome coronavirus 2 infection. *Curr Opin Infect Dis.* 2021 Jun 1;34(3):181-186. doi: 10.1097/QCO.0000000000000724. PMID: 33899752.
- Gautam S, Gautam A, Chhetri S, and Bhattarai U. 2020. Immunity Against COVID-19: Potential Role of Ayush Kwath. [Epub ahead of print.] PMID: 32837101; PMCID: PMC7430223. *J. Ayurveda. Integr. Med.* doi:10.1016/j.jaim.2020.08.003.
- Greenhalgh T, Knight M, A'Court C, Buxton M, and Husain L. 2020. Management of post-acute covid-19 in primary care. *BMJ.* 370 doi: 10.1136/bmj.m3026. m3026.
- Haridas M, Sasidhar V, and Nath P. 2021. e Compounds of *Citrus medica* and *Zingiber officinale* for COVID-19 inhibition: in silico evidence for cues from Ayurveda. *Futur. J. Pharm. Sci.* 7, 13. <https://doi.org/10.1186/s43094-020-00171-6>.
- Hima L, Pratap UP, Karrunanithi S, Ravichandran KA, Vasantharekha R, and ThyagaRajan S. 2019. Virgin coconut oil supplementation in diet modulates immunity mediated through survival signaling pathways in rats. *J Complement Integr Med.* 2019 Sep 18; 17(1):/j/jcim.2019.17.issue-1/jcim-2019-0114/jcim-2019-0114.xml. doi: 10.1515/jcim-2019-0114. PMID: 31536034.
- Huang C, Huang L, Wang Y, Li X, Ren L, Gu X, Kang L, Guo L, Liu M, Zhou X, and Luo J. 2021. 6-month consequences of COVID-19 in patients discharged from hospital: a cohort study. *The Lancet.* 2021 Jan 16; 397(10270):220-32.
- Iqbal FM, Lam K, Sounderajah V, Clarke JM, Ashrafian H, and Darzi A. 2021. Characteristics and predictors of acute and chronic post-COVID syndrome: A systematic review and meta-analysis. *EClinical Medicine.* 2021 May 24; 36:100899. doi: 10.1016/j.eclinm.2021.100899. PMID: 34036253; PMCID: PMC8141371.
- Irwin MR. 2008. Human psychoneuroimmunology: 20 years of discovery. *Brain Behav Immun.* 2008 Feb;22(2):129-39. doi: 10.1016/j.bbi.2007.07.013. Epub 2007 Oct 29. PMID: 17911004.
- Jasti N, Bhargav H, George S, Varambally S, and Gangadhar BN. 2020. Tele-yoga for stress management: Need of the hour during the COVID-19 pandemic and beyond? *Asian Journal of Psychiatry.* 2020 Dec; 54:102334.
- Joshi S, Kaushik V, Gode V, and Mhaskar S. 2020. Coconut oil and immunity: what do we really know about it so far? *The Journal of the Association of Physicians of India.* 68. 67-72.
- Khoramipour K, Basereh A, Hekmatikar AA, Castell L, Ruhee RT, and Suzuki K. 2021. Physical activity and nutrition guidelines to help with the fight against COVID-19. [Epub 2020 Aug 25]. *J Sports Sci.* 2021 Jan; 39(1):101-107. doi: 10.1080/02640414.2020.1807089.. PMID: 32842905.

- Kochupillai V, Kumar P, Singh D, Aggarwal D, Bhardwaj N, Bhutani M and Das SN 2005. Effect of rhythmic breathing (Sudarshan kriya and pranayam) on immune functions and tobacco addiction. *Ann NY Acad Sci.* 1056:242–52.
- [Kumar A, Prasad G, Srivastav S, Gautam V, and Sharma N. 2020. Efficacy and safety of Guduchi Ghan Vati in the management of asymptomatic COVID-19 Infection: An Open Label Feasibility Study. 10.1101/2020.09.20.20198515.](https://doi.org/10.1101/2020.09.20.20198515)
- Lima WG, Brito JCM, and da Cruz Nizer WS. 2021. Bee products as a source of promising therapeutic and chemoprophylaxis strategies against COVID-19 (SARS-CoV-2). *Phytother. Res.* 2021 Feb; 35(2):743-750.
- Li X, Cai Q, Jia Z, Zhou Y, Liu L, Zhou Y, Zhang B, Ren L, and Tang Y. 2021. The correlation between mental health status, sleep quality, and inflammatory markers, virus negative conversion time among patients confirmed with 2019-nCoV during the COVID-19 outbreak in China: an observational study. *Medicine* 100:27(e26520).
- Lopez-Leon S, Wegman-Ostrosky T, Perelman C, Sepulveda R, Rebolledo PA, Cuapio A, Villapol S. 2021. More than 50 Long-term effects of COVID-19: a systematic review and meta-analysis. medRxiv [Preprint]. 2021 Jan 30:2021.01.27.21250617. doi: 10.1101/2021.01.27.21250617. Update in: *Sci Rep.* 2021 Aug 9;11(1):16144. PMID: 33532785; PMCID: PMC7852236.
- Lu R, Zhao X, Li J, Niu P, Yang B, Wu H, Wang W, Song H, Huang B, Zhu N, Bi Y, Ma X, Zhan F, Wang L, Hu T, Zhou H, Hu Z, Zhou W, Zhao L, Chen J, and Tan W. 2020. Genomic characterisation and epidemiology of 2019 novel coronavirus: Implications for virus origins and receptor binding. *The Lancet* 395(10224), 565–574. [https://doi.org/10.1016/S0140-6736\(20\)30251-8](https://doi.org/10.1016/S0140-6736(20)30251-8).
- Mahfooz S, Itrat M, Uddin H, and Khan TN. 2021. Unani medicinal herbs as potential air disinfectants: an evidence-based review. [Epub ahead of print.] *Rev Environ Health.* 2021 Aug 12; doi: 10.1515/reveh-2021-0087. PMID: 34384009.
- Maurya DK, and Sharma D. 2020. Evaluation of traditional Ayurvedic Kada for prevention and management of the novel Coronavirus (SARS-CoV-2) using in silico approach [published online ahead of print, 2020 Nov 30]. *J. Biomol. Struct. Dyn.* 1-16. doi:10.1080/07391102.2020.1852119.
- Mishra A, Bentur SA, Thakral S, Garg R, and Duggal B. 2021. The use of integrative therapy based on Yoga and Ayurveda in the treatment of a high-risk case of COVID-19/SARS-CoV-2 with multiple comorbidities: a case report. *Journal of medical case reports.* 2021 Dec;15(1):1-2.
- MOHFW (Ministry of Health and Family Welfare). <https://www.nohfw.gov.in>.
- Mondal S, Varma S, Bamola VD, Naik SN, Mirdha BR, Padhi MM, Mehta N, and Mahapatra SC. 2011. Double-blinded randomized controlled trial for immunomodulatory effects of Tulsi (*Ocimum sanctum* Linn.) leaf extract on healthy volunteers. *J. Ethnopharmacol.* 2011 Jul 14; 136(3):452-6. doi:10.1016/j.jep.2011.05.012. Epub 2011 May 17. PMID: 21619917.
- Natarajan, S, Anbarasi, C, Sathiyarajeswaran, P, Manickam, P, Geetha, S, Kathiravan, R, Prathiba, P, Pitchiahkumar, M, Parthiban, P, Kanakavalli, K, and Balaji, P. 2021. Kabasura Kudineer (KSK), a poly-herbal Siddha medicine, reduced SARS-CoV-2 viral load in asymptomatic COVID-19 individuals as compared to vitamin C and zinc supplementation: findings from a prospective, exploratory, open-labeled, comparative, randomized controlled trial, Tamil Nadu, India. *Trials.* 2021. 22(1): 623. doi: 10.1186/s13063-021-05583-0. PMID: 34526104; PMCID: PMC8441246.

- Nikhat S, and Fazil M. 2020. Overview of Covid-19; its prevention and management in the light of Unani medicine. *Sci. Total Environ.* 2020 Aug 1;b728:138859. doi: 10.1016/j.scitotenv.2020.138859. Epub 2020 Apr 22. PMID: 32334163; PMCID: PMC7174982.
- Pandey MM, Rastogi S, and Rawat AKS. 2013. Indian traditional Ayurvedic system of medicine and nutritional supplementation. *Evid Based Complement Alternat Med.*:1.
- [Patwardhan B, Chavan-Gautam P, Gautam M, Tillu G, Chopra, A, Gairola S, and Jadhav S. 2020. Ayurveda rasayana in prophylaxis of COVID-19. *Current Science.* 118. 1158-1160.](#)
- Patwardhan B, and Sarwal R. 2021. Significance of AYUSH: India's first line of defence against COVID-19. *J. Ayurveda Integr. Med.* 12(2):227-228. doi:10.1016/j.jaim.2021.05.007.
- Payyappallimana U, and Venkatasubramanian P. 2016. Exploring Ayurvedic knowledge on food and health for providing innovative solutions to contemporary healthcare. *Front Public Health.* 4:1.
- Rajkumar RP. 2020. Ayurveda and COVID-19: Where psychoneuroimmunology and the meaning response meet. *Brain Behav. Immun.* 2020 Jul; 87:8-9. doi: 10.1016/j.bbi.2020.04.056. Epub 2020 Apr 22. PMID: 32334064; PMCID: PMC7175849.
- Raveendran AV, Jayadevan R, and Sashidharan S. 2021. Long COVID: An overview. *Diabetes Metab Syndr.* 2021 May-Jun; 15(3):869-875.
- Riley TN, Houston DB, Appasamy PM, Gingrich SY, Houston C, Ryan EJ, Carrillo AE. Heart Rate Variability in Response to a 3-day Kumbhaka Pranayama Practice. *International Journal of Exercise Science: Conference Proceedings 2020*; 9 (8): 97.
- Rizvi ZA, Tripathy MR, Sharma N, Goswami S, Srikanth N, Sastry JLN, Mani S, Surjit M, Awasthi A, and Dikshit M. 2021. Effect of prophylactic use of intra-nasal oil formulations in the hamster model of Covid-19. [Preprint]. bioRxiv 2021.06.25.449990; doi: <https://doi.org/10.1101/2021.06.25.449990>.
- Russell MW, Moldoveanu Z, Ogra PL, and Mestecky J. 2020. Mucosal Immunity in COVID-19: A Neglected but Critical Aspect of SARS-CoV-2 Infection. *Front Immunol.* 2020;11:611337. Published 2020 Nov 30. doi:10.3389/fimmu.2020.611337
- [Saggam A, Limgaokar K, Borse S, Chavan-Gautam P, Dixit S, Tillu G, and Patwardhan B. 2021. Withania somnifera \(L.\) Dunal: opportunity for clinical repurposing in COVID-19 management. *Front. Pharmacol.* 12:623795. doi: 10.3389/fphar.2021.623795.](#)
- Sarkar P, Kumar L, Dhumal CV, Panigrahi SS, and Choudhary R. 2015. Traditional and ayurvedic foods of Indian origin. *J Ethnic Foods.* 2:97–109.
- Segerstrom SC, and Miller GE. 2004. Psychological stress and the human immune system: a meta-analytic study of 30 years of inquiry. *Psychol. Bull.* 130(4):601-630. doi:10.1037/0033-2909.130.4.601.
- Shannahoff-Khalsa DS. 2001. Unilateral forced nostril breathing: basic science, clinical trials, and selected advanced techniques. *Subtle Energies & Energy Medicine Journal Archives.* 12(2).
- Sharad S, and Kapur S. 2021. Indian Herb-Derived Phytoconstituent-Based Antiviral, Antimicrobial and Antifungal Formulation: An Oral Rinse Candidate for Oral Hygiene and the Potential Prevention of COVID-19 Outbreaks. *Pathogens.* 10(9):1130. <https://doi.org/10.3390/pathogens10091130>.

- Sharifi-Rad J, Rayess YE, Rizk AA, Sadaka C, Zgheib R, Zam W, Sestito S, Rapposelli S, Neffe-Skocińska K, Zielińska D, Salehi B, Setzer WN, Dosoky NS, Taheri Y, El Beyrouthy M, Martorell M, Ostrander EA, Suleria HAR, Cho WC, Maroyi A, and Martins N. 2020. Turmeric and its major compound curcumin on health: bioactive effects and safety profiles for food, pharmaceutical, biotechnological and medicinal applications. *Front Pharmacol.* Sep 15; 11:01021. doi: 10.3389/fphar.2020.01021. PMID: 33041781; PMCID: PMC7522354.
- Sharifkashani S, Bafrani MA, and Khaboushan AS. 2020. Angiotensin-converting enzyme 2 (ACE2) receptor and SARS-CoV-2: Potential therapeutic targeting. *Eur J Pharmacol.* 2020;884:173455. doi:10.1016/j.ejphar.2020.173455
- Sharma R, Martins N, Kuca K, Chaudhary A, Kabra A, Rao MM, and Prajapati PK. 2019. Chyawanprash: a traditional Indian bioactive health supplement. *Biomolecules.* May; 9 (5):161.
- Shree P, Mishra P, Selvaraj C, Singh SK, Chaube R, Garg N, and Tripathi YB. 2020. Targeting COVID-19 (SARS-CoV-2) main protease through active phytochemicals of ayurvedic medicinal plants — *Withania somnifera* (Ashwagandha), *Tinospora cordifolia* (Giloy) and *Ocimum sanctum* (Tulsi) – a molecular docking study. *J. Biomol. Struct. Dyn.:* 1–14.
- Singh S, Sharma N, Singh U, Singh T, Mangal DK, and Singh V. 2020. Nasopharyngeal wash in preventing and treating upper respiratory tract infections: Could it prevent COVID-19. *Lung India.* 2020;37(3):246-251. doi:10.4103/lungindia.lungindia-241-20.
- Suzuki K. 2019. Chronic inflammation as an immunological abnormality and effectiveness of exercise. *Biomolecules* 9(6), 223. <https://doi.org/10.3390/biom9060223>.
- Swain SK, and Sahu A. 2021. Steam Inhalation as an Adjuvant Treatment in Covid-19 Positive Health Care Professionals: Our Experiences at Tertiary Care Teaching Hospital. *Int. J Cur. Res. Rev.* Vol 13 (5). doi: <http://dx.doi.org/10.31782/IJCRR.2021.13525>.
- Taneja MK. 2020. Modified Bhramari Pranayama in Covid 19 infection. *Indian J Otolaryngol Head Neck Surg.* 2020 Sep; 72(3):395-397.
- Telles S, Nagarathna R, and Nagendra HR. 1994. Breathing through a particular nostril can alter metabolism and autonomic activities. *Indian Journal of Physiology and Pharmacology.* 1994 Apr; 38:133.
- Telles S, and Naveen KV. 2008. Voluntary breath regulation in yoga: its relevance and physiological effects. *Biofeedback.* 2008 Jul 1; 36(2):70-3.
- Thota SM, Balan V, and Sivaramakrishnan V. 2020. Natural products as home-based prophylactic and symptom management agents in the setting of COVID-19. *Phytother Res.* Dec; 34(12):3148-3167. doi: 10.1002/ptr.6794. Epub 2020 Aug 17. PMID: 32881214; PMCID: PMC7461159.
- Tripathi MK, Singh P, Sharma S, Singh TP, Ethayathulla AS, Kaur P. Identification of bioactive molecule from *Withania somnifera* (Ashwagandha) as SARS-CoV-2 main protease inhibitor. *J Biomol Struct Dyn.* 2021 Sep;39(15):5668-5681. doi: 10.1080/07391102.2020.1790425. Epub 2020 Jul 8. PMID: 32643552; PMCID: PMC7441797.
- Umesh C, Ramakrishna KK, Jasti N, Bhargav H, and Varambally S. 2021. Role of Ayurveda and Yoga-Based lifestyle in the COVID-19 Pandemic—A Narrative Review. *J Ayurveda Integr Med.* 2021 Jul 19. doi: 10.1016/j.jaim.2021.07.009. Epub ahead of print. PMID: 34305355; PMCID: PMC8286865.

- WHO. <https://covid19.WHO.int>.
- WHO. <https://www.who.int/publications/i/item/WHO-WHE-2021.02>.
- WHO. <https://www.who.int/covid-19/long-covid>.
- Wu D, Lewis ED, Pae M, and Meydani SM. 2019. Nutritional modulation of immune function: Analysis of evidence, mechanisms, and clinical relevance. *Front Immunol.* 9:3160. DOI: 10.3389/fimmu.2018.03160.
- Xu H., Zhong L., Deng J., Peng J., Dan H., Zeng X., Li T., Chen Q. 2020. High expression of ACE2 receptor of 2019-nCoV on the epithelial cells of oral mucosa. *Int. J. Oral Sci.* 2020;12.
- Zhou P, Yang XL, Wang XG, Hu B, Zhang L, Zhang W, Si HR, Zhu Y, Li B, Huang CL, Chen HD, Chen J, Luo Y, Guo H, Jiang RD, Liu MQ, Chen Y, Shen XR, Wang X, Zheng XS, Zhao K, Chen QJ, Deng F, Liu LL, Yan B, Zhan FX, Wang YY, Xiao GF, and Shi ZL. 2020. A pneumonia outbreak associated with a new coronavirus of probable bat origin. *Nature.* 579: 270–273.
- Zou X, Chen K, Zou J, Han P, Hao J, and Han Z. 2020. Single-cell RNA-seq data analysis on the receptor ACE2 expression reveals the potential risk of different human organs vulnerable to 2019-nCoV infection. *Front. Med.*



Bibliography


- Charaka A. Dridhabhal. In: Charaka Samhita with Ayurveda-Dipika commentary of Chakapanidatta, Chikitsa Sthana, ch. 1, Ver. 62-74. Retrieved from niimh.nic.in/ebooks/ecaraka.
- Dhanya S, Ramesh NV, and Mishra A. 2019. Traditional methods of food habits and dietary preparations in Ayurveda—the Indian system of medicine. *Journal of Ethnic Foods* 6:14.
- Meera S, Vandana Rani M, Sreedhar C, and Robin DT. 2020. A review on the therapeutic effects of Neti Kriya with special reference to JalaNeti. *J Ayurveda Integr Med.* 11(2):185-189. doi:10.1016/j.jaim.2018.06.006.
- Mekkara Nikarthil Sudhakaran S, and Bukkan DS. 2021. A review on nutritional composition, antinutritional components and health benefits of green gram (*Vigna radiata* (L.) Wilczek). *J. Food Biochem.* 00:e13743.
- Pavli A, Theodoridou M, and Maltezou, HC. 2021. Post-COVID Syndrome: Incidence, Clinical Spectrum, and Challenges for Primary Healthcare Professionals. *Archives of medical research,* 52(6), 575–581. <https://doi.org/10.1016/j.arcmed.2021.03.010>.
- Smith N, Gonçalves P, Charbit B, Grzelak L, Beretta M, Planchais C, Bruel T, Rouilly V, Vincent B, Hadjadj J, Yatim N, Helene P, Merklings S, Ghozlane A, Kernéis S, Rieux-Laucat F, Terrier B, Schwartz O, Mouquet H, and Di Santo J. 2021. Distinct systemic and mucosal immune responses during acute SARS-CoV-2 infection. *Nat Immunol.* <https://doi.org/10.1038/s41590-021-01028-7>.
- Suresh Gupta M, Shivaprasad HN, Kharya MD, and Rana AC. 2008. Immunomodulatory activity of the Ayurvedic formulation “Ashwagandha Churna” Pp. 263-265 | Accepted 23 Feb 2006, Published online: 07 Oct 2008.
- Upadhyay AK, Kumar K, Kumar A, and Mishra HS. 2020. *Tinospora cordifolia* (Willd.) Hook. f. and Thoms. (Guduchi) - validation of the Ayurvedic pharmacology through experimental and clinical studies. *Int. J. Ayurveda Res.* 1(2):112–121. doi:10.4103/0974-7788.64405.

Sub-committee

Sub-committee under Interdisciplinary AYUSH R&D Task force, Ministry of Ayush.

Name	Designation	Role
Prof. Smita Lele	Emeritus Professor, Institute of Chemical Technology, Nathalal Parekh Marg, Matunga, Mumbai-400019.	Chair-person
Prof. Mita Kotecha	Pro VC, National Institute of Ayurveda, Madhav Vilas Palace, Amer Road, Jaipur, Rajasthan-302002.	Member
Prof. Asim Ali Khan	Director General, CCRUM, 61-65, Institutional Area, Janakpuri, New Delhi-110058.	Member
Dr. A. Raghu	Joint Advisor (Ayurveda), Ministry of Ayush, Ayush Bhavan, GPO complex, INA, New Delhi-110023.	Member
Dr. K. Jagannathan	President, Board of Unani, Siddha and Sowa-Rigpa, NCISM, 61-65, Institutional Area, Janakpuri, New Delhi-110058.	Member
Dr. Dinesh Kumar	Scientist 'G' – Director (Former), ICMR – National Institute of Nutrition (NIN), Metro Station, Beside Tarnaka, Osmania University, Hyderabad, Telangana- 500007.	Member
Prof. Dr. G. G. Gangadharan	Director, Ramaiah Indic Speciality Ayurveda Restoration Hospital, New BEL Road, M S R Nagar, Mathikere, Bengaluru, Karnataka-560054.	Member
Dr.Prabodh Halde	Renowned Food Technologist, 102 Oxford, Hiranandani estate, GB road, Thane, Maharashtra-400607.	Member
Dr. Anand Nadkarni	Consultant Psychiatrist, MD., DPM, Managing Trustee, Institute of Psychological Health, Thane (West), Maharashtra-400602.	Member
Smt. Varalakshmi Venkatapathy	A policy consultant, independent researcher, and certified yoga instructor, Ashok Nagar, Maniyakaranapalayam Road, Ganapathy (P.O.), Coimbatore, Tamil Nadu- 641006.	Member
Dr. Hemant Bhargav	Assistant Professor of Yoga, Department of Integrative Medicine, NIMHANS, Hosur Road, Bangalore, Karnataka-560029.	Member
Vaidya M. Prasad	RAV Guru, Chief Physician & Director, Sunethri Ayurvedashram, P.O, Mathikkunnu, Ponnukkara, Trikkur, Thrissur, Kerala-680306.	Member
Dr. Swati Ghate	Visiting Paediatrician, Department of Kaurmarbhritya, National Institute of Ayurveda, Madhav Vilas Palace, Amer Road, Jaipur, Rajasthan-302002.	Member
Dr. Sathya N Dornala	CMO (NFSG), Ayurveda, Swami Vivekananda Ayurvedic Panchakarma Hospital (Under East Delhi Municipal Corporation), GTB Enclave, Dilshad Garden, New Delhi-110095.	Member
Dr. Anupama Krishnan	Associate Professor, Dept. of Swasthavritta, VPSV Ayurveda College, Kottakkal, Kerala-676501.	Member
Dr. Raman Kaushik	Research Officer (Ayurveda), Ministry of Ayush, Ayush Bhavan, GPO complex, INA, New Delhi-110023.	Member
Dr. C. Ashwin Chandra	Research Officer (Ayurveda), Ministry of Ayush, Ayush Bhavan, GPO complex, INA, New Delhi-110023.	Member Secretary

Notes



Ayush recommendations for the public
on holistic health and well-being

**Preventive measures and care
during
COVID-19 & LONG COVID-19**

Ayush recommendations for the public
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**Preventive measures and care
during
COVID-19 & LONG COVID-19**

This document puts forth the concept of holistic health, which emphasizes the selfcare of the individuals by addressing various dimensions of life and health. These recommendations on “holistic health and well-being” are for the public and are formulated emphasizing the need for a healthy lifestyle with Ayush preventive measures and care in respect of Covid-19 and Long Covid-19.

This consensus document has been developed by the Sub-committee formed under the Inter-disciplinary AYUSH R&D Task Force with group of experts from AYUSH stream as well as from contemporary sciences like Diet and Nutrition and Mental Health.



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Ministry of Ayush

Ayush Bhawan, B Block, GPO Complex, INA,
New Delhi - 110023