

Vedic Shield against Visible and Invisible Organisms

Anantasri Boddupalli and Raghava S. Boddupalli*

Institute of Sanskrit and Vedic Studies (ISVS), Sri Siddhi Vinayaka Temple, Sastry Memorial Hall, Sanjayanagar, Bangalore 560094

*Corresponding author

raghava7boddupalli@gmail.com

Abstract

Humans have been battling viruses since before our species had even evolved into its modern form. There are twelve deadliest viruses present in the world and proved as the worst pathogenic killers of human beings. The novel Coronavirus-19 is one among them and has become a worldwide epidemic. The Ayurveda recommends several principles on human eating and lifestyle habits to combat the present-like crisis situation.

The Atharvaveda (AV) is a curious compendium of medicine in its various stages of evolution and contains the most primitive as well as some of the most highly developed stages of therapy. In AV the word 'Brahma' is used in the sense of physician, whereas the word 'Bhishak' is used in Yajurveda (YV) and 'Rudra' is used in the sense of primordial physician. In the AV, two distinct words are mentioned - the *krimi* and *kṛmi*. The word *kṛmi* means insect (*kīṭakamu*) and whereas *krimi* refers to worm/germ, which multiply, enter human bodies and they are either visible (worms) or invisible (germs/viruses) microorganisms. Vedas mention a large number of diseases both of major and minor human concern. It also provides the remedies through various *mantras*/liturgies for respiratory diseases, cholera and others.

The research and data presented in this article was composed during the year 2020.

Introduction

Humans have been battling the 'invisible enemy' for many millennia now. Even today, new infections are emerging that prove to be a constant threat to the human race. History shows that viral infections are prone to be more fatal. The discovery of vaccines and antiviral drugs have aided in containing the spread and eradication of the certain infections, the most famous example being that of smallpox. But the fight against the viruses is never-ending and in the last couple of decades, there have been an ever increasing number of outbreaks. The more prominent amongst them, in terms of fatalities, being the SARS epidemic from 2002 - 2004

and the lethal viral strain of the Ebola in West Africa which affected people between 2014 - 2016 and killed more than 90% of the infected. Of the many such deadly viruses present in the world, there are 12 worst killers (Figure 1) based on the likelihood that a person will die if they are infected with one of them, the sheer numbers of people they have killed, and whether they represent a growing threat [8]. Shi *et al.*, [24] showed that RNA viruses are many millions of years old, and have been in existence since the first vertebrates existed. Certain viruses found in mammals have even been detected in fishes. A large diversity of viruses, including different strains of Ebola and influenza, has also been found in fish. Some viruses, including the

novel coronavirus currently driving outbreaks around the globe, have lower fatality rates, but still pose a serious threat to public health as we don't yet have the means to combat them.

Coronaviruses (CoV) are a large family of viruses, including some that cause the common cold, to other major diseases such as the SARS and the MERS. In December 2019, the pandemic outbreak of a novel 'Coronavirus disease' (COVID-2019), later termed as SARS-CoV-2, is potentially fatal and a highly contagious disease [11, 27]. Respiratory involvement, presenting as mild flu-like illness to potentially lethal acute respiratory distress syndrome or fulminant pneumonia resembling that of SARS-CoV is the dominant clinical manifestation of COVID-19. Although the pathophysiology of SARS-CoV-2 is not well studied yet, existing evidences suggest likely resemblances to other SARS-CoVs' infection; the acute lung injury resulting from aggressive inflammation initiated by viral replication [5, 27]. In a study, a variant of the novel coronavirus is identified that can infect more laboratory-grown cells than other strains [12]. Regarding SARS-CoV-2 in particular, there are several aspects that need to be understood in order to mitigate further outbreaks of a similar virus. SARS-CoV-2 is likely a bat origin coronavirus that was transmitted to humans through a spillover from bats or through yet undetermined intermediate animal host. **Figure 2** depicts a transmission hypothesis of SARS-CoV-2 outbreak, the potential intermediate host is yet to be determined [6, 27]. Among the well-studied dozen worst virus-killers, vaccines are available only for some viruses. Most of these vaccines are either preventive or therapeutic and do not provide immunization. Research is

continuously being performed to bring out vaccines for the others, including the latest coronavirus (**Table 1**).

On August 11, 2020, Russia became the first country to approve a vaccine - Sputnik V [4] - against SARS-CoV-2. The vaccine, which is based on two adenovirus vectors, was developed by the Gamaleya National Center of Epidemiology and Microbiology, Moscow, Russia. In order to ensure lasting immunity, Russian scientists came up with a breakthrough idea to use two different types of adenovirus vectors (rAd26 and rAd5) for the first and second vaccination, boosting the effect of the vaccine. As of April 2021, fourteen (14) vaccines are authorized by at least one national regulatory authority for public use. They are two RNA vaccines (Pfizer-BioNTech and Moderna), five conventional inactivated vaccines (BBIBP-CorV, CoronaVac, Covaxin, WIBP-CorV and CoviVac), five viral vector vaccines (Sputnik Light, Sputnik V, Oxford-AstraZeneca, Convidecia, and Johnson & Johnson), and two protein subunit vaccines (EpiVacCorona and RBD-Dimer). Most of these vaccines have shown an efficacy of ~95% but only up to Phase III trials conducted till now.

People with compromised immune systems, the very old and young and those with diagnosed heart and lung conditions are most at risk of developing complications if they contract an infection like this. While currently the cure for this is still several stages of phase trails, we can work with our mind and body through natural remedies to greatly strengthen our immune system. If our immune system is strong, then we can fight and prevent any infection.

The entire universe is always in a state of vibrations, giving rise to 'cosmic sound', from which emanate the Vedas or Śruti. The science of medicine is first mentioned in the Vedas, in particular the Atharvaveda (AV). Here, the extensive information regarding various insects, worms and germs known during the Vedic period is revealed. The name 'Atharvan' is almost synonymous with 'bheṣaja' or medicine. The Atharvan priest was the medical practitioner par excellence. He knows the names of the plants and their properties. There are details and professional exhortation of a medical man in AV (5-30). The best physician was he who cured the disease and prepared the medicine. According to AV, the physician as such was the potential amulet (AV 2-9-5). There are liturgies/hymns addressed to the gods, to the diseases and also to the remedies (plant medicines) through which one can know the cause of the disease, symptoms of the disease and remedy as well. Remedies based on sound therapy using the liturgies in the Vedas are also discussed in this article. The use of bio-weapons for warfare is also explained here - poisonous arrow-heads, poisonous nets, and release of insects and worms to infect the enemy soldiers.

These desperate times have had people resorting to and trying all measures in an attempt to protect oneself against the ongoing pandemic. Practitioners of the traditional medicinal system of Ayurveda have also made strong proposals to recognize its use as a prophylactic and have claimed Ayurveda to be effective against COVID-19. Ayurveda claims a larger share of usage among these systems and in the current health crisis of COVID-19, where no system of medicine has established prevention or a cure yet, Ayurveda has been a

natural recourse for many. Medicinal plants such as *Artemisia annua* (Mugwort) are being considered as possible treatments for COVID-19 and should be tested for efficacy and adverse side effects across the world.

All over the globe, people deserve to use medicines tested to the same standards across the world. There are several studies being published regarding the effect of COVID-19 on the physical and mental health of patients and frontline professionals, alike and the efficacy of conventional practices/medicine in treating the same [9, 22, 23]. Even if therapies are derived from traditional practice and are natural, establishing their effectiveness and safety through rigorous clinical trials is critical [25].

Discussion

Ayurveda Recommendations for Management of COVID-19

The Charaka Saṁhita, one of the authoritative treatises on Ayurveda, categorizes diseases such as COVID-19 under *janapadōdhvaṁsa vikāra* (epidemic disease). These circumstances occur due to the contamination of the environment - that is air, water, land and seasons - which is common for the inhabitants of a region. The disease and infections become widespread among the people, leading to gradual annihilation of large populations (thereby, an epidemic) [*Charaka Saṁhita: Vimana Sthana*, Chapter 3/6]. In the past, epidemics such as the Chikungunya were successfully treated with Ayurveda and Siddha medicines. As yet, there has not been any concrete and validated Ayurvedic treatment for the Coronavirus disease [7, 21].

Recently, an article highlighted the possible role of Ayurveda in treatment of COVID-19 through psychoneuroimmune pathways.

To strengthen immunity, the following dietary advices are recommended to basically

manage symptoms, infection and inflammation [7, 14, 22, 23]:

- Stay away from all dairy and gluten in the diet if experiencing cough, cold, flu or have deteriorating immunity. Also, decrease fried food and oily food.
- Choose intelligent, easy-to-digest foods such as fresh fruits, vegetables, whole grains and legumes. Eat light, warm vegetable soups that are lightly spiced to clear toxic plaque(*ama*), rekindle the digestive fire (*agni*) and bolster immunity (*ojas*).
- Take a diet high in antioxidants: fresh in-season fruits and vegetables
- Cook with immune-boosting spices: Turmeric has immune-supporting qualities, cumin burns toxic plaque (*ama*) that is a home for virus. Black pepper (*Piper nigrum*) clears the channels so the immune cells (*ojas*) can reach the deeper tissues.
- Drink lots of warm water and keep hydration up. Don't let your throat get dry – keep it moist to strengthen the physical resistance barrier of immunity.

The Ayurveda endorsed several principles on human eating and lifestyle habits. In Ayurveda, good digestion or strong digestive fire plays a very important role in fighting viral diseases. Eating a piece of fresh ginger or drinking ginger tea, tulasi tea, mint tea, cinnamon tea, and fennel tea are all good for a weakened immune system which is susceptible to cough, cold and flu [14, 22].

A consensus document [16] is developed by the expert committees from All India Institute of Ayurveda (AIIA), New Delhi, Institute of Post Graduate Training and Research in Ayurveda (IPGTRA), Jamnagar, and National Institute of Ayurveda (CCRAS),

Central Council for Research in Yoga and Naturopathy (CCRYN) and other Indian national research organizations. This protocol is for the management of mild COVID-19 and moderate to severe COVID-19 individuals may have informed choice of treatment options. Here below is the summary of the Ayurvedic treatment for different stages of viral infection of COVID-19 patients.

General and Physical measures

- 1) Follow physical distancing, respiratory and hand hygiene, wear mask.
- 2) Gargle with warm water added with a pinch of turmeric and salt. Water boiled with *Triphala* (dried fruits of *Emblica officinalis*, *Terminalia chebula* and *Terminalia bellirica*) or *Yashtimadhu* (*Glycyrrhiza glabra*) also can be used for gargling.
- 3) Nasal instillation/application of medicated oil (Anu taila or Shadbindu taila) or plain oil (sesame or coconut) or nasal application of cow's ghee (*Goghrita*) once or twice in a day, especially before going out and after coming back to home.
- 4) Steam inhalation with Ajwain (*Trachyspermum ammi*) or Pudina (*Mentha spicata*) or *Eucalyptus* oil once a day.
- 5) Adequate sleep of 6 to 8 hours in a day.
- 6) Moderate physical exercises in a day.

Dietary measures

It is recommended in the protocol to use warm water or boiled with herbs like ginger (*Zingiber officinale*) or coriander (*Coriandrum sativum*) or basil (*Ocimum sanctum* or *Ocimum basilicum*), or cumin (*Cuminum cyminum*) seeds etc., for drinking purpose till complete recovery.

Specific Measures / Symptom Management

Prophylactic care (high risk population, primary contacts):

- 1) Ashwagandha (*Withania somnifera*) aqueous extract 500 mg extract or 1-3 grams of powder twice daily mixed with warm water for 15-days or one month or as directed by Ayurveda physician can be used.
- 2) Guduchi Ghanavati (Samshamanivati or Giloy Ghanavati - *Tinospora cordifolia*) having aqueous extract of 500 mg extract or 1-3 grams powder can be used twice daily mixed with warm water for 15-days or one month or as directed by Ayurveda physician.
- 3) Chyawanaprasha - 10 grams of paste mixed with warm water / milk once a day can be used.

Asymptomatic COVID-19 Positive Patients:

The following Ayurvedic medicines can be used for prevention of disease progression to symptomatic and severe form and to improve recovery rate:

- 1) Guduchi Ghanavati (Samshamanivati or Giloy Ghanavati - *Tinospora cordifolia*) having aqueous extract of 500 mg extract or 1-3 grams powder can be used twice daily mixed with warm water for 15-days or one month or as directed by Ayurveda physician.
- 2) Guduchi and Pippali (aqueous extracts *Tinospora cordifolia* and *Piper longum*) having 375 mg twice daily mixed with warm water for 15-days or as directed by Ayurveda physician can be used.
- 3) AYUSH 64 of 500 mg mixed with water for 15-days or as directed by Ayurveda physician can be used.

Mild COVID-19 Positive Patients:

Mild COVID-19 patients with fever, headache, tiredness dry cough, sore throat and nasal congestion can be managed with the following medicines:

- 1) Guduchi and Pippali (aqueous extracts *Tinospora cordifolia* and *Piper longum*) having 375 mg twice daily mixed with warm water for 15-days or as directed by Ayurveda physician can be used.
- 2) AYUSH 64 of 500 mg mixed with water for 15-days or as directed by Ayurveda physician can be used.

Post-COVID Management:

To prevent post-COVID lung complications like fibrosis, fatigue and mental health, the following medicines can be used:

- 1) Ashwagandha (*Withania somnifera*) aqueous extract 500 mg extract or 1-3 grams of powder twice daily mixed with warm water for 15-days or one month or as directed by Ayurveda physician can be used.
- 2) Chyawanaprasha - 10 grams of paste mixed with warm water / milk once a day can be used.
- 3) Rasayana Churna - 3 grams of compound herbal powder made up of equal amounts of *Tinospora cordifolia*, *Emblica officinalis* and *Tibullus terrestris* mixed with honey, twice daily, for one month or as directed by Ayurveda physician can be used for complete recovery.

An *in silico* study [3] was done on 'AYUSH 64' ayurvedic product which showed that about 35 of its phyto-constituents have high binding affinity in COVID-19 virus. The formulation has also shown very promising results in Influenza-like illness. Six clinical studies across India on AYUSH 64 have shown very promising trends. Based on these

factors and also on its clinical use and safety profile, it was recommended in the COVID-19 care and treatment.

Meditation and Yoga Practices for Immunity and Prāṇa

Stress shuts down the function and power of our immune system. Meditation is the best tool to manage stress and therefore, creates a positive mental environment for the immune system to thrive. Meditation has been shown to stimulate immune system, brain-function regions and boost the T-Cells and antibodies (our soldiers). Hence, meditation twice a day is the best support for optimal immune function [2].

Yoga practices also help in increasing immunity, *ojas* and *prāṇa*, as well as creating a positive physical and psychological environment. *Prāṇayāma* is very important for strengthening *prāṇa* and immunity, particularly done first thing in the morning and before sleep at night.

Homa oblations to control bacterial and fungal pathogens

According to Vedic scholars, the combination of the powerful energy of the fire and the Vedic *mantras*/liturgies creates extremely auspicious and purifying vibrations that are beneficial to the people attending *yajña* or *hōma*. The *homa-ājya* that is used in the *yajñas* is made only from the cow's milk. Research reports indicate that the cow-ghee contains many essential nutrients, antioxidants and saturated fatty acids [13]. These reports provide experimental evidence that the cow-ghee is having anti-bacterial and anti-fungal properties. The practice of *Agnihotra* and placing *havan* (fire offerings) purifies the

house and the outside environment. Some reports indicate that ghee, when burnt in fire, rises and the fat particles get laden on the dust particles in the atmosphere (somewhat similar to the stickiness on the objects in the kitchen) and falls back to the earth along with rain. Shirowic, a Russian scientist, says that if cow's ghee is poured in fire its smoke will lessen the effect of radiation in the atmosphere to a great extent. A scientific report [19] states that *homa* is an effective method to reduce the fungal spores load in small office or room. As per the experiments conducted, the *homa* fire smoke has the potency to kill fungal spores like *Aspergillus*, *Penicillium*, *Curvuleria*, *Cladosporium* etc. In another study [18] it is experimentally shown that the medicinal smoke emanated by kindling wood (*samidha*) and a mixture of odoriferous and medicinal herbs has the ability to effectively reduce pathogenic bacteria, such as *Corynebacterium*, *Enterobacter*, *Kocuria*, *Pseudomonas*, *Staphylococcus*, *Xanthomonas*, etc., in the air. Another report [17] conceptualizes the principle of *Agnihotra Yajña* as having potent pharmacological action. The anti-viral property of the *homa* needs to be experimented and tested.

Microorganisms in Veda Mantras/Liturgies

There are two distinct words mentioned in the Atharvaveda (AV) which are the *krimi* and *kṛmi*. The word *kṛmi* means insect (*kīṭakamu*) and whereas *krimi* means worm/germ (AV 5-23-3, 6), which multiply, enter human bodies and are visible or invisible. In other words, germs like bacteria, viruses, worms and others are referred to as *krimi* and various insects like *kīṭa*, *patamga* are referred as *kṛmi*. The word *krimi* occurs in

the Vedas for different macroscopic (worms) and microscopic (bacteria, viruses, fungal pathogens) organisms. Based on the above, there are two types of *krimi* viz., *dr̥ṣṭa* (visible/macroscopic) and *adr̥ṣṭa* (invisible/microscopic), described in AV as an entire hymn [5-5-23]. The classification of microorganisms revealed in the Atharvaveda is illustrated in the **Figure 3**.

[i] *yō akṣyau parisarpati yō nāsē parisarpati\datām yō madhyam gacchati tam krimiṃ jambhayāmasmi* - AV 5-5-23(3)

[ii] *utpurastātsūrya ēti viśvadr̥ṣṭō adr̥ṣṭahā\dr̥ṣṭāmśca dnannadr̥ṣṭāmśca sarvāśca pramṛṇākrimīn* - AV 5-5-23(6)

We pray that both the germs (*krimi*) which can be seen, and that cannot be seen, be destroyed. These two categories encompass nearly all *krimi* (microbes/pathogens). According to their origin and habitat, they are categorized as *praṇyaśrayī* and *anyasthānaśrayī*. Different *śārīrika*, *mānasika* and *ādhyātmika vyādhis* were thought to be originated from these *krimis*. These harmful and debilitating (*puṣṭināśaka*) organisms are recognized by various names based on troubles/sufferings they produce. Sun and fire (*Agni*) were described as internal source of treatment (*krimi cikitsa*). Today, science also confirms these facts that early morning ultraviolet light rays emanating from the sun can cure various diseases originating due germs (*krimijanya-vyādhis*). Apart from this, various treatment modalities by using various natural resources, vegetable drugs, mineral drugs, fumigation, cleansing (*mārjan-prōkṣaṇa*) and hymns are described for *krimi* and diseases caused by them in Yajurveda (YV) and AV.

According to AV, germs are everywhere i.e., in trees, mountains, waters and in living beings (AV 2-31-4). AV also mentions germs found in eyes, nose, mouth and teeth (AV 5-23-3). A few of them are parasites of human beings. Some of the microscopic organisms (bacteria, viruses, fungal pathogens) that are revealed in the Vedas are the following:

- *Viṣūcikā*– *Vibrio cholerae* (cholera), widely described in YV and AV
- *Śrīśriyāṇam* – which causes mania and lunacy
- *Paraṣṭeyam* – The germ/s which can cause disease in ribs (*Mycobacterium tuberculosis*, *Staphylococcus aureus*, *Hemophilus influenzae* and *Actinomyces* species)

Some of the macroscopic organisms that are mentioned in the Vedas are the following:

- *Trisersanam* – Round worms or threadworms (AV 5-23-9)
- *Algandu* – Small intestinal round worms, *Ascaris* (parasitic worm, AV 2-31-2)
- *Salunan* – A type of *Oxyuris* (pinworm, AV 2-31-2)
- *Kururu* – Tiny parasitic worms that infect large intestine (threadworm, AV 2-31-2)

One of the hymns of AV describes the parasite with a floating head (having three projections around the mouth), which is colourless (AV 5-23-9). The description resembles that of a roundworm or a threadworm.

Prayer to Soma(god of medicinal herbs),**Rudra**(primordial doctor) **and other deities**

[iii] *sōmārudrā vi vṛhataṃ viṣūcīmamīvā yā nō gayamāvivēśa \ārē bādheṭhām nirṛtiṃ parācaiḥ kṛtam cidēnaḥ pra*

mumuktamasmāt || - *Yajurveda* [TS 1-8-22(22)]

Oh *Soma* (god of medicinal herbs) and *Rudra*! Enter our homes and eradicate morbidity. Drive away and trouble the unfavorable disease from afar. You will remove from us the sin (which is in the form of disease) that is stuck to our bodies.

[iv] *adhyavōcadadhivaktā prathamō daivyō bhiṣaklahīgśca sarvāñjambhayamthsarvāśca yātudhānyah* || - *Yajurveda* [TS 4-5-1(2), MS 16-5]

The first *anuvaka* of *Namakam* in *Śrī Rudram* is not only chanted for all-round development of the community as well as the well-being of the chanter, but will also provide protective shield (*kavaca*) against the visible and invisible enemies like virulent fevers, fatal disorders, absolution from evil stars and bad karma.

[v] *udgrābham ca nigrābham ca brahma dēvā avīṛdhann | athā saptnāniṁdrāgnī mē viṣūcīnānvyasyatām* || - *Yajurveda* [TS 1-6-4]

Brahma and other *devatas* improved the two-fold nature (*udgrābha* and *nigrābha*) of the ladle (a large deep spoon with a long handle used in *yajñas*), to increase its prosperity. Using this, *Indra* and *Agni* drove away and destroyed cholera.

Remedy for germs

[vi] *atriṇā tvā krimē hanmi\kaṇvēna jamadaggninā\viśvāvasōrbhrahmañā hataḥ\krimīṇāguṁ rājā\apyēśāgsthapatir hataḥ\athō mātāthō pitā\athō sthūrā athō*

kṣudrāḥ\athō kṣṇā athō śvētāḥ\athō āśātikā hataḥ\śvētābhi ssaha sarvē hataḥ || - *Taittirīya Āraṇyaka* [TA] 4-36

O Germ! I kill you with the *mantra* revealed by the *ṛṣis* Atri, Kaṇva and Jamadagni. The leader of the germs was killed by the *mantra* revealed by Viśvasu, a Gandharva. The other germ leaders were also killed. The mother and father of the germs were destroyed. All types of germs - big and small, black and white were killed. Moreover, the germs in the bodies of animals like cows and horses were also killed. We offer the *havis* (sacrificial offerings) in the *hōma*, in the *yajñasāla*. Similarly, through this *mantra*, we keep the enemies, in the tooth of Yama. We can listen to the crushing sound of the enemies, while they are killed.

[vii] *yā vyāghram viṣūcikā | ubhauvṛkaṁcarakṣati | śyēnaṁ patatrinaguṁ siguṁham | sēmaṁ pātvaguṁhasaḥ* || - *Taittirīya Brāhmaṇa* [TB] 2-6-1(5)

This *mantra* implores the deity of cholera, *viṣūcikā*, to protect the sacrificer from distress in the same way that the tiger, wolf, winged hawk and the lion are protected or spared.

Prayer to Vayu and Prajapati

[viii] *vātaṁ prāṇaṁ manasānvārabhāmahē | prajāpatiṁ yō bhuvanasya gōpāḥ | sanōmṛtyōstrāyatām pātvaguṁhasaḥ | jyōgīvā jarāmaśīmahī* || - TB 3-7-7(2)

It is a prayer for *vāyu* (custodian of vital air - *prāṇaṁ*) and *Prajāpati*, who is the creator and protector of the universe

(*bhuvanās*) - heaven, earth, and hell - (*bhuvanasya gōpāḥ*) and the people living in them. They relieve us from the attack of *mṛtyu* (dangers and untimely unhappy occurrences) as well as from the sins (*agumhasaḥ*). These may be carried on by the *jīva* even to the next birth. We have to mark the definite hope expressed in the expression: ‘*jyogjīvājarāmaśīmahi*’. This desire is also mentioned as prayer to Sun God in *Śaura sūkta*. As there are many uncertainties in one’s life, there is no guarantee in reaching old age. From birth to death, many *mayantarayas* (*mṛtyu*) occur. Hence, they need to be curbed periodically. When this *mantra* is performed as *japa*, surely the deities under prayer shall focus this care on the devotees. They promote health and save us from death and distress [20].

Cure for respiratory diseases

[ix] *jarāyujah prathama usriyā vṛṣā vātābhrajā stanayannēti vṛṣṭyā | sanō mṛdāti tanvaṛujugō rujan ya ēkamōjastrēdhā vicakramē ||- AV 1-3-12(1)*

We pray the Sun God, who shines strong even through the heavy clouds and rain, and provide comfort to our body by curing many diseases.

[x] *aṅgē aṅgē śōciṣā śriśriyānam namasyamta stvā haviṣā vidhēma | aṅkāmtsamañkān haviṣā vidhēma yō agrabhīt parvāsya grabhītā ||- AV 1-3-12(2)*

In this *mantra*, salutations are offered to the Sun God, who pervades in full brilliance in all creatures. Oblations are offered to the Sun God, His followers and other deities to

cure us all from the virulent diseases and viral fevers which affect our body.

Remedy through Cow Urine (*gō-mutra*)

[xi] *idamidvā u bhēṣajamidam rudrasya bhēṣajam | yēnēṣumēkatējanām śataślyāmapabravat ||- AV 6-12-57(1)*

To cure *wrana* i.e., all diseases the medicines made available by Rudra are indeed the only cures. According to Monier Williams (Sanskrit-English Dictionary), *wrana* stands for wound, sore, ulcer, abscess, tumors, cancer, boil, scar, cicatrix, cracks etc.

[xii] *jālāṣēṇābhi ṣiñcata jālāṣēṇōpa ṣiñcata | jālāṣamugram bhēṣajam tēna nō mṛḍa gīvasē ||- AV 6-12-57(2)*

The body parts affected by disease should be thoroughly washed with the mixture of cow urine and activated water. The nearest to the disease parts of the body should also be washed with mixture of cow urine and activated water. This is the most potent remedy blessed by Lord Rudra for giving healthy life to us for the treatment of these diseases.

[xiii] *saṃ ca nō mayāśca nō mā ca naḥ kiṃ canāmamat | kṣmā rapō viśvam nō astu bhēṣajam sarvam nō astu bhēṣajam ||- AV 6-12-57(3)*

The meaning of this *mantra* is ‘Let there be health for us, peace for us, pleasure for us, let nothing cause injury and harm to us, let all diseases be banished, let all the objects in this world be promoters of our health’.

The above mentioned three AV liturgies [xi - xiii] describe how the urine of cow can be used in treating against unicellular amoeba-like organisms (Vedas call them 'creatures without mouths'). Use of the cow urine is suggested as a mixture with vigorously stirred - foaming water - activated water, similar to the making of homeopathic and bio-dynamic preparations. Research reports [1, 15] indicate that the cow urine has antimicrobial activities and particularly on fungal pathogens. As of now, there is no published report with regard to the measures to fight the virus by using cow urine. It is time to investigate the effectiveness of cow urine against the coronavirus.

Sound Therapy based on Vedic Philosophy

There is a study reported by the Human Energy Research Centre (HERC) [10] to cure COVID-19 based on electro-frequency vibration technique. There is a lot of physics involved in this technique and is a non-medical process. This is a sound therapy based on the principle derived from the ancient Vedic philosophy that the entire universe is eternally in a state of subtle vibrations called cosmic sound. Combining this knowledge with the principles of quantum theory applicable to a wave, the investigators developed three sound waves. First, the vibrational frequencies of the coronavirus and two enzymes were decoded and all of them were found to have different frequencies. The three sound waves developed attacked the virus by creating a resonance, causing the chemical bond between the virus and protein cell layer to break down. The virus cannot sustain beyond

a certain energy level, ultimately getting destroyed.

Conclusions

It is unfortunate that nowadays, humans are affected by many diseases. The outbreak of coronavirus has been detected nearly a year ago. God being our real father has given us the knowledge of four Vedas to destroy illusion and solve all kinds of problems, including those of medical science. Many fatal infections can be destroyed by performance of Vedic rituals (*yajñas* and *yāgās*). When we obey the Vedic principles, diseases are either destroyed from the roots or do not even generate. Vedic liturgies state that *agnihotra* purifies food grains, water, and bestows mental and physical strength so that human beings can enjoy prosperous life. Veda liturgies have the ability to drive away the health hazards and *sādhana* is important for *siddhi*.

It is therefore quite natural for us to look upon the Veda *saṁhitās* as a channel through which the continuous tradition of Indian medical science has reached down to the earliest systematization. Hence, it doesn't come as a surprise that the *saṁhitās* contain ample material bearing information on diseases and medicines. Therefore, we are required to look upon Vedic medicine as a part of the tradition from which the Ayurveda has gradually evolved. To conclude, Ayurveda has been rightly referred as *Upavēda* or *Upāṅga* of AV.

In fact, many of the viruses infecting humans today have ancient evolutionary histories that date back to the first vertebrates and perhaps the first animals in existence. The coronavirus disease (COVID-19) pandemic is

unique and unprecedented in several aspects and has challenged health care systems across the globe. The coronavirus pandemic has turned the world's attention to the immune system, the body's defense force against disease-causing bacteria, viruses and other organisms that we touch, ingest and inhale every day. Our immune systems will need to adapt unaided to COVID-19, until a potential vaccine is available. The Ayurveda provides a holistic approach on improving ones immunity. The relevance of this on psychological and immune function can be noticed by following the principles provided in Ayurveda on good eating habits. In addition to this, yoga practice is a good stress-buster, whilst also promoting the physical fitness. Reliving of stress is a direct path to enhancing the immunity. It is possible that such traditional measures can positively influence mental health and immune function. The World Health Organization (WHO) welcomes innovations around the world including repurposing drugs, traditional medicines (including Ayurveda) and developing new therapies in the search for potential treatments for COVID-19. The development of a combination of sound therapy using Vedic liturgies and 'traditional' medical practices should be further investigated, which could facilitate a more synergistic interaction between traditional and modern medicine to combat such disease outbreaks.

References

1. Ahuja A, Kumar P, Verma A, Tanwar R. (2012). Antimicrobial activities of Cow Urine against various bacterial strains. *International Journal of Recent Advances in Pharmaceutical Research*, 2(2): 84-87.
2. All India Institute of Ayurveda (AIIA). (2020). Delhi institute cures COVID-19 patients with Ayurvedic treatment protocol, records zero deaths. Retrieved from <https://www.financialexpress.com/> (Accessed 25 May 2021).
3. Borse S, Joshi M, Saggam A, Bhat V, Walia S, Marathe A, Sagar S, Gautam PC, Girme A, Hingorani L, Tillu G. (2021). Ayurveda botanicals in COVID-19 management: An *in silico* multi-target approach. *PLOS ONE*, <https://doi.org/10.1371/journal.pone.0248479>.
4. Burki TK. (2020). The Russian Vaccine for COVID-19. *The Lancet Respiratory Medicine*, 8(11): E85-E86.
5. Chen Y, Liu Q, Guo D. (2020). Emerging coronaviruses: Genome structure, replication, and pathogenesis. *Journal of Medical Virology*, 92(4): 418-423.
6. El Zowalaty ME, Järhult JD. (2020). From SARS to COVID-19: A previously unknown SARS-related coronavirus (SARS-CoV-2) of pandemic potential infecting humans – Call for a One Health approach. *One Health*, 9: 1-6.
7. Girija PLT, Sivan N. (2020). Ayurvedic treatment of COVID-19/SARS-CoV-2: A case report. *Journal of Ayurveda and Integrative Medicine*, 13(1): 1-5 (Article No: 100329 <https://doi.org/10.1016/j.jaim.2020.06.001>).
8. Harding A, Lanese N. (2020). The 12 deadliest viruses on Earth. *Life Science*. Retrieved from <https://www.livescience.com/> (Accessed March 04, 2021).

9. Hart CW, Koenig HG. (2020). Special Section: Religion and Health Response to the COVID-19 Pandemic. *Journal of Religion and Health*, 59: 2191–2192.
10. Human Energy Research Centre (HERC). (2020). Delhi-based institute claims to 'cure' COVID-19 through cosmic sound therapy. Retrieved from [Indian Express News Link](#) (Accessed March 04, 2021).
11. Huang C, Wang Y, Li X, Ren L, Zhao J, Hu Y, *et al.* (2020). Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *Lancet* 2020; 395: 497–506.
12. Korber B, Fischer WM, Gnanakaran S, Yoon H, Theiler J, Abfalterer W, *et al.*,. (2020). Tracking changes in SARS-CoV-2 Spike: evidence that D614G increases infectivity of the COVID-19 virus. *Cell*, 182: 812–827.
13. Kumar A, Tripathi S, Hans N, Pattnaik F, Naik SN. (2018). Ghee: Its Properties, Importance and Health Benefits. *Lipid Universe*, 6: 6-14.
14. Mahaveer G. (2020). Time to realize the true potential of Ayurveda against COVID-19. *Brain, Behavior, and Immunity*, 87: 130–131.
15. Manjramkar A, Deshmukh V, Waghmare R, Vaidya M. (2019). Assessment of Antimicrobial Properties of Cow Urine Distillates. *International Journal of Current Microbiology and Applied Sciences*, 8(8): 2556-2565.
16. Ministry of Ayurvedic, Yoga and Naturopathy, Unani, Siddha and Homeopathy (AYUSH), National Clinical Management Protocol Based on Ayurveda and Yoga for Management of COVID-19, Government of India, New Delhi, 2021, 1-24.
17. Nair RR. (2017). Agnihotra Yajña: A Prototype of South Asian Traditional Medical Knowledge. *Journal of Acupuncture and Meridian Studies*, 10(2): 143 - 150.
18. Nautiyal CS, Chauhan PS, Nene YL. (2007). Medicinal smoke reduces airborne bacteria. *Journal of Ethnopharmacology*, 114(3): 446 - 451.
19. Nayar TS, Mohan TK, Jothish PS. (2007). Status of airborne spores and pollen in a coir factory in Kerala, India. *Aerobiologia*, 23(2): 131 - 152.
20. Prabhakar CL. (2020). Monthly Bulletin of Vedadhyayana Kendra, Bengaluru. *Veda Nada Sarit*, 27(228): 1.
21. Puripanda SK, Pathrudu MN, Sahithi K. (2020a). A Brief Review on Ayurvedic Concept of Corona with Special Reference to Janapadodhwamsa. *International Journal of Ayurveda and Pharma Research*, 8(6): 49 - 54.
22. Rajkumar RP. Ayurveda and COVID-19: Where psychoneuroimmunology and the meaning response meet. *Brain, Behavior, and Immunity*, 87: 8-9.
23. Rajkumar RP. (2020b). COVID-19 and mental health: A review of the existing literature. *Asian Journal of Psychiatry*, 52: 1-5 (Article No: 102066. <https://doi.org/10.1016/j.ajp.2020.102066>).
24. Shi M, Lin XD, Chen X, Tian JH, Chen LJ, Li K, *et al.* (2018). The evolutionary history of vertebrate RNA viruses. *Nature*, 556: 197-202.

25. World Health Organization (WHO) (2020). WHO supports scientifically-proven traditional medicine Retrieved from <https://www.afro.who.int/news> (Accessed May 04, 2021).
26. Wu F, Zhao S, Yu B, Chen Y-M, Wang W, Song Z-G, *et al.*(2020). A new coronavirus associated with human respiratory disease in China. *Nature*, 579: 265–269.
27. Zhou P, Yang X-L, Wang X-G, Hu B, Zhang L, Zhang W, *et al.* (2020). A pneumonia outbreak associated with a new coronavirus of probable bat origin. *Nature*, 579: 270–273.

About Authors



Mr. Anantasri Boddupalli, ME (Research) - After receiving his Bachelor of Engineering (BE) degree from the Visvesvaraya Technological University (VTU), he worked as a Project Associate in the Department of Electrical Communication Engineering (ECE), Indian Institute of Science (IISc), Bangalore. He received ME (Research) from the University of Technology at Sydney (UTS), Australia. He is very interested in Indian Culture and Customs and learnt *Śrī Rudram*, *Aruṇa Praśna* and '*Sukta*' mantralu. He is presently settled and working in San Francisco, CA, USA.



Dr. Raghava S. Boddupalli, MSc., PhD - After obtaining the PhD degree, he worked as a Scientist in the Department of Microbiology and Cell Biology at the Indian Institute of Science (IISc), Bangalore. Later, he worked as a Project Leader for a multinational agricultural biotechnology company. He has more than 35 years of experience as a scientist in field of Plant Biology and Agriculture Biotechnology. Over the last twelve years, he has completed studying the Krishna Yajurveda. This has inspired him to publish several research articles on Vedas in relation to Botany. He has also completed two Vedic Projects titled, '*Plant Biology of Yajurveda*' and '*Plants of Atharvaveda - Their Descriptions and Uses*' sponsored by the Indian National Science Academy (INSA), New Delhi. He has published three Veda books namely, '*Taittirīya Yajurvēdīya Āśīrvāda Manjarī*', '*Abhiśravaṇa Mantrah*' and '*Agnimantra Manjarī*'.

Figure 1: The 12 Deadliest Viruses on Earth [Source: www.livescience.com]

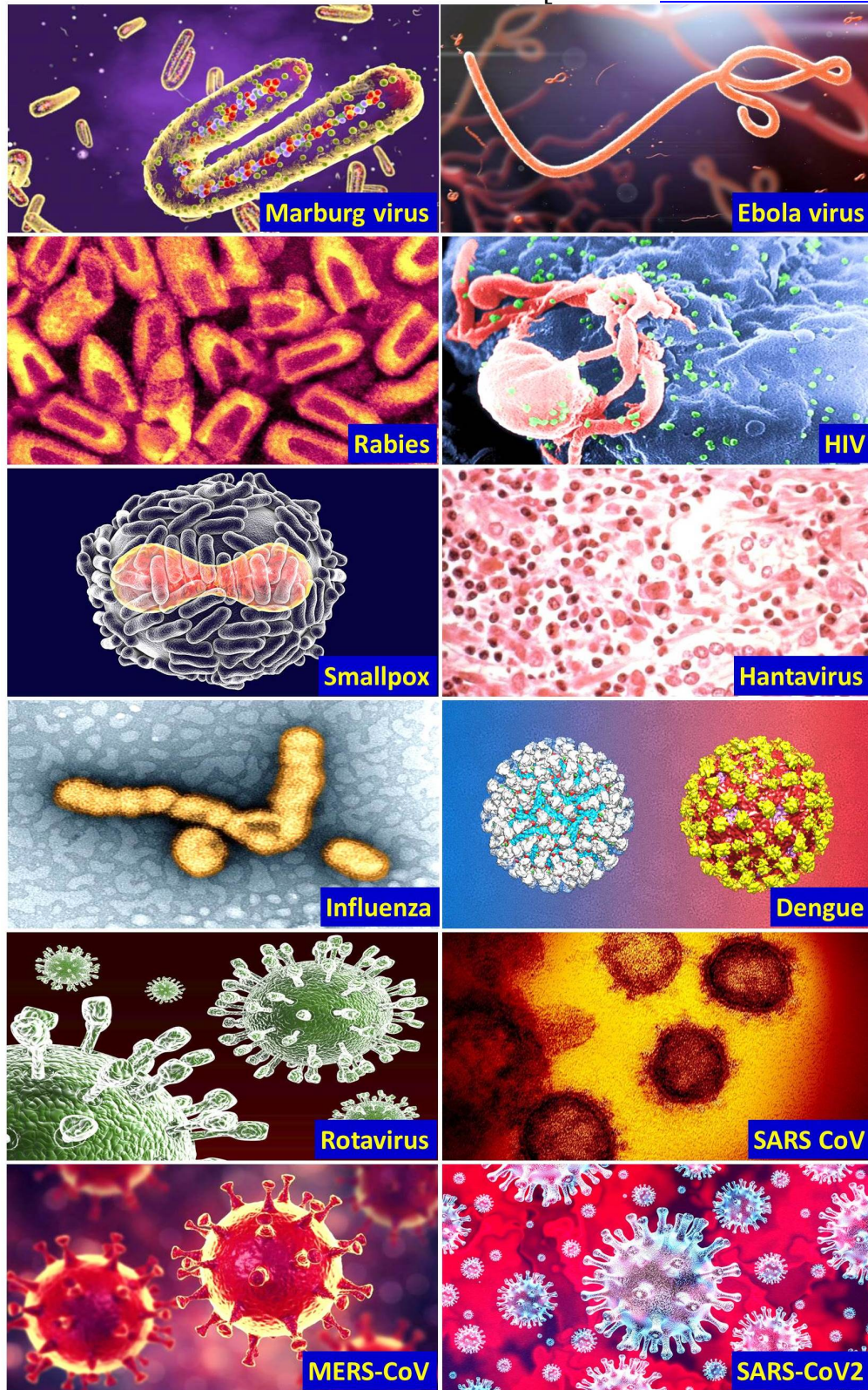


Figure 2: The emergence of SARS-CoV-2 and the outbreak of COVID-19.

A hypothesized origin of the virus and a generalized route of transmission of the epidemic zoonotic coronavirus (Zowalaty and Järhult 2020)

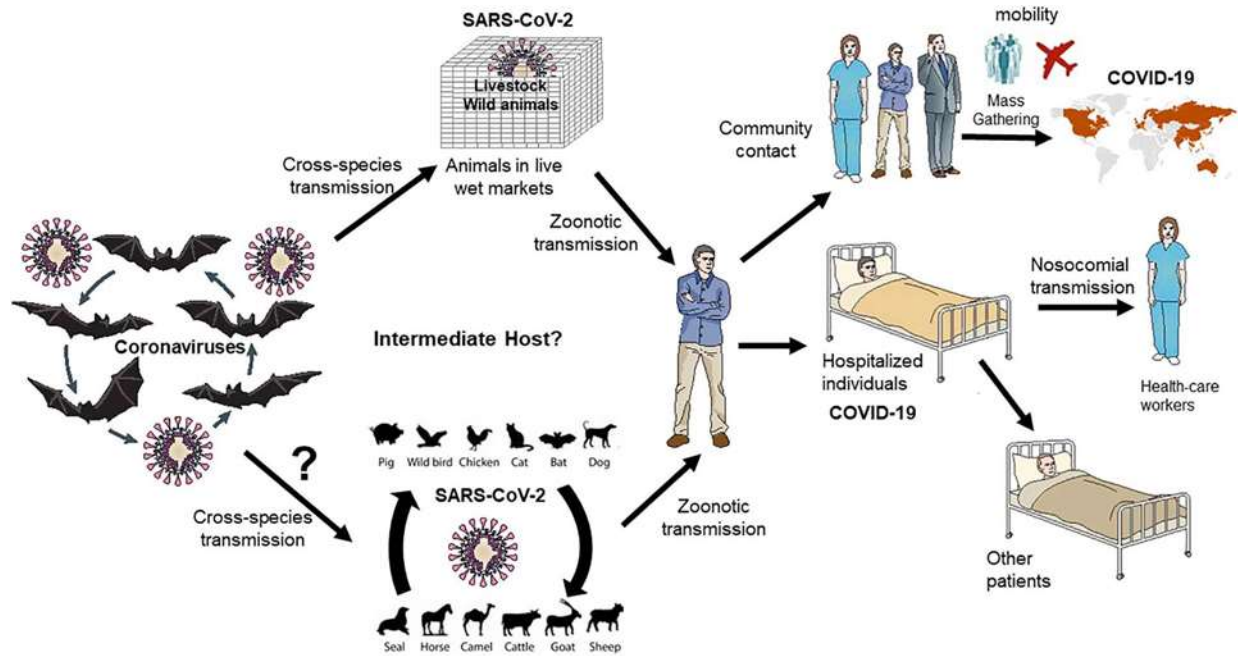


Figure 3: Classification of Microorganisms as Revealed in the Atharvaveda

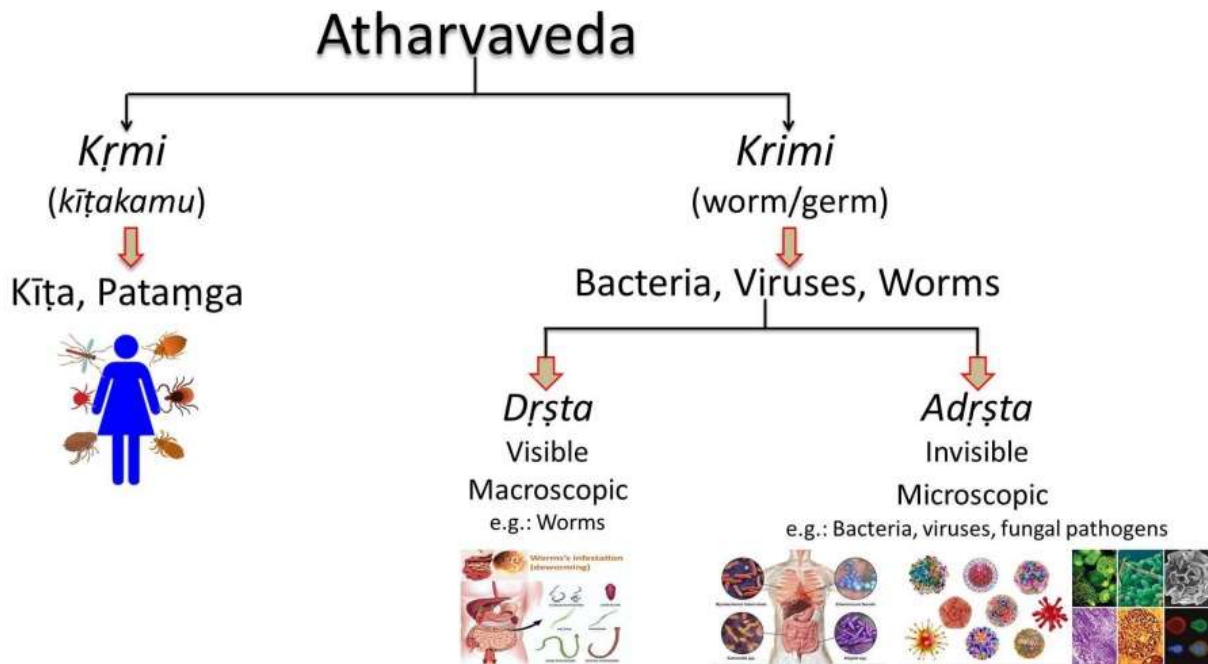


Table 1: The 12 deadliest Viruses - Disease Symptoms and Vaccine Development

S. No.	Virus Name	Year of outbreak & Origin	Disease symptoms	Vaccine Name	Brands
1	Marburg	1967 - Monkeys and Bats	Hemorrhagic fever	Marburg vaccine (GEO-EM05) OTCQB: GOVX	GeoVax Labs., Atlanta, U.S.A.
2	Ebola	1976 - Animals	Ebola haemorrhagic fever. It spreads through contact with blood or other body fluids, or tissue from infected people or animals.	1. cAd3-EBO, 2. ZVSV-EBOV or rVSV-ZEBOV 3. Ebola GP vaccine 4. Ad5-EBOV 5. GamEvac-Combi	1. GSK & NIAID 2. Ervebo 3. Novavax Inc. 4. CanSino Biologics 5. Gamaleya Research Institute of Epidemiology and Microbiology
3	Rabies	Epizootic - Animal population and Bats	Fever, fear of water, confusion, salivation and destroys brain.	Rabies vaccine	Imovax, RabAvert, Rabipur, Abhayrab, Speeda, Verorab, Rabivax
4	HIV	Early 1980s	Infectious disease	1. AIDSVAX B/E 2. HVTN 702/"Uhambo" 3. ALVAC/gp120/MF59 (preventive or therapeutic vaccine)	Currently there is no licensed HIV vaccine on the market.
5	Smallpox	1520 - African rodents	Variola lesions on body, fever, pain, deep, permanent scars and often blindness.	Edward Jenner was an English physician and scientist who pioneered the concept of vaccines including creating the smallpox vaccine, the world's first vaccine.	Cowpox vaccine in 1798 against smallpox
6	Hantavirus	Early 1950s - Mice (First gained wide attention in the U.S.A. in 1993)	Shortness of breath, Hantavirus pulmonary syndrome (HPS).	No effective hantavirus vaccines have been developed and, while the viruses causing HFRS respond to antiviral therapy with ribavarin. Currently there is no effective antiviral drug therapy for HPS.	--

S. No.	Virus Name	Year of outbreak & Origin	Disease symptoms	Vaccine Name	Brands
7	Influenza	1918 - Spanish Flu	Flu, fever. Influenza A (H1N1) virus, an influenza A (H3N2) virus, and one influenza B virus	Influenza vaccines, also known as flu shots or flu jabs, are vaccines that protect against infection by influenza viruses.	FluMist, Fluzone, Influvac, Vaxigrip, Fluarix, Fluvirin, FluLaval, Agriflu, Flubio
8	Dengue	1950- Philippines and Thailand Mosquito	Dengue fever	Dengue vaccine	Dengvaxia - Sanofi Pasteur
9	Rotavirus	1973	Severe diarrheal illness among babies and young children	Rotavirus vaccine	Rotateq, Rotarix RotaShield, by Wyeth
10	SARS-CoV	2002 - Guangdong province of southern China. The virus likely emerged in bats	Fever, chills and body aches, and often progresses to pneumonia, a severe condition in which the lungs become inflamed and fill with pus.	--	--
11	MERS-CoV	2012 - Saudi Arabia in and another in South Korea in 2015. Likely originated in bats, also infected camels	Chest pain, fatigue, fever, chills, loss of appetite, body ache, diarrhoea, nausea, vomiting, congestion, severe pneumonia.	--	--
12	SARS-CoV-2*	First identified in November 2019 in Wuhan, China. The virus likely originated in bats.	Fever, dry cough, body/muscle aches, difficulty in breathing, chills, tiredness, respiratory infection, no taste, loss of appetite.	Sputnik V Adenovirus vectors (rAd26 and rAd5)	Gamaleya National Center of Epidemiology and Microbiology (Moscow, Russia)

* at the time of preparation of this manuscript