



सर्वभारत सरकार
Government of India



GOVERNMENT AYURVEDA RESEARCH CENTRE

K.R.S. ROAD

MYSORE



AYUR-MANTHANA

Compendium on Covid-19 Project Protocols Based On

Literary Review

GOVT. OF KARNATAKA

DEPT. OF AYUSH

आयुर्वेदोऽमृतानां
COVID-19 जनपदोऽध्वंस एकविंशतिरात्रेण
विषं शाम्भ्यति सर्वथा ।
21 DAYS LOCKDOWN

उपसर्गजा इति उपसृज्यन्त इत्युपसर्गाः
प्रसङ्गाद्वात्रसंस्पर्शति
निश्वासात्सहभोजनात् ।
सहशय्यासनाच्चापि
वस्त्रमाल्यानुलेपनात् ॥

STAY HOME
STAY SAFE

तस्य मूलमधर्मः
TRADITION + TECHNOLOGY = INNOVATION
नगरी नगरस्येव रथस्येव रथीयशा । स्वशरीरस्य मेधावी कृत्येष्वतहितो भवेत् ॥ (चरक)
BE A RESPONSIBLE CITIZEN...

QUARANTINE
वादास्य शब्देन हि यान्ति
नाशं विषाणि घोरान्यपि
यानि सान्ति ॥

NOTIFICATION OF INFECTION
पृथक्करण - ISOLATION
विसंक्रमण - DISINFECTION

GOVT. AYUSH RESEARCH CENTER, MYSURU

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FROM CHAIRMAN'S DESK

1.COVID 19 IS A MILD TO SEVERE RESPIRATORY ILLNESS , CAUSED BY A CORONA VIRUS (THIS VIRUS AND OTHER PATHOGENIC ORGANISMS TO BE DISCOVERD IN FUTURE ARE COVERED UNDER *BHOOTA* OF *CHARAKOKTA JWARA CHIKITSA*). IT IS TRANMITTED BY CONTACT WITH INFECTIOUS MATERIAL (CONCEPT OF *OU PASARGIKA ROGA*).SO AS PER THE CONCEPT OF " *SANKSHEPATAH KRIYAYOGO NIDANAPARIVARJANAM*" , WE OUGHT TO MAINTAIN THE SOCIAL DISTANCE.

2.THIS DISEASE HAS *ADHARMA, PRAGNYAPARADHA, VATA-JALA DUSHTI* AS PER THE *JANPADODHWANSA* ONCEPTS. IT CAN BE TACKLED BY SUITABLE *PANCHAKARMA* (BIO-PURIFIATION), *RASAYANAS* (WHICH GIVE BLANKET-IMMUNITY), FOLLOWING PRINCIPLES OF *ACHARA RASAYANA*. THE *RASAYANAS* FOLLOWED AS PER *YUKTI DO IMMUNO-MODULATION*, BEGET *PRASHASTA RASA RAKTADI DHATUS*, GIVE *VYADHI BALA VIRODHITWA* EFFECT (RETARD THE PROGRESS OF DISEASE).*PANCHAKARMAS* IN THE MODIFIED FORM ELIMINATE UNWANTED MATERIAL FROM THE BODY. *RASAYANAS*, AS SUCH ARE INDICATED, BY CLASSICS IN 3 CONDITIONS:-

a. BEFORE THE ONSET OF THE DISEASE(FOR PREVENTION PURPOSE)

b. DURING THE DISEASE CONDITION WITH NECESSARY SUPPORT FROM ALL THE SYSTEMS OF MEDICINES USED IN SYNERGISTIC AND COMPLIMENTARY MANNER. HERE THE RESEARCHES OF B.H.U. , WHEN *CHYAVANPRASHA* WAS USED WITH ANTI TUBARCULAR DRUGS CAN BE REMEMBERED. TOXICITY OF ALLOPATHIC DRUGS IS REDUCED.PATIENTS RESISTANT TO ALLOPATHIC DRUGS RESPONDED BETTER. HERE *POTTALLI KALPAS* CAN BE SERIOUSLY THOUGHT.

c. AFTER THE RECOVERY FROM DISEASE FOR IMPROVING *AGNI, DHATU* AND *BALA* ETC.

3. IN QUARANTINE PERIOD, *DAIVA VYAPASHRAYA, YUKTI VYAPASHRAYA*, AND *SATWAVAJAYA* FOLLOWED AS PER THE PATIENT'S FAITH ARE GOOD. *AMAPACHANA* AND *RASAYANA DRAVYAS* INCREASE *VIKARA VIGHATKARA BHAVA*. A PLANNED DIET LIKE *MUDGA-AMALAKA YUSHA* WITH SUFFICIENT *DADIMA* IS GOOD. OTHER *DEEPANIYA YUSHAS, YAVAGU, DHANYAKA SIDDHA JALA* FOR *PAANA*. FOLLOWING PRINCIPLES OF *USHNODAKA PANA* AS TOLD IN *JWARA PRAKARANA* WILL AMELIORATE THE SYMPTOMS AND REDUCE THE INTENSITY OF THE DISEASE. FOR GIVING *DRAVA DRAVYAS* TO THE SUBJECT, VESSELS INDICATED IN "*TODARA SOUKHYA*" CAN BE FOLLOWED.


4. *PRANAVAHA SROTAS* IS MAINLY INVOLVED IN MANY SYMPTOMATIC PATIENTS. WHEN *PRANAVAHA SROTAS* IS INVOLVED WE SHOULD FOLLOW "*SHWASKI KRIYA*". STRICT FOLLOWING OF RASAYANA RULES WILL GIVE SYMPTOMATIC RELIEF AND QUICK RESTORATION OF HEALTH.

5. TWO DECADES AGO, DURING OUTBREAK OF *ROMANTIKA* IN METAGALLI AN EXTENSION OF MYSORE, "*AMRUTA VATT*" PREPARED FROM *SHUNTHI* AND *JAMBIRA RASA* HAS GIVEN GOOD RESULTS. THIS WAS APPRECIATED BY ALL THE DOCTORS. IN THE PRESENT SCENARIO ALSO *ARKA* PREPARATION/ALKALINE WATERS LIKE *KANGAN WATER* MAY BE IDEAL.

THIS IS A GLOBAL EMERGENCY." *VAIDYASAMUHO NIHSAMSHAYAKARANAM*". HERE MOST FAMOUS, "WHO-IS-WHO" IN THE FIELD OF *AYURVEDA* HAVE WORKED SYNERGISTICALLY AND HAVE COME OUT WITH MAXIMUM EFFECTIVE REMEDIES FROM REPUTED CLASSICAL TEXTS LIKE "*SIDDHA BHAIASHAJYA MANIMALA*". THERE ARE EQUALLY EFFECTIVE OTHER MEDICINES WHICH HAVE BEEN EXPOUNDED IN LOGICAL MANNER. SO I HOPE AND SEE A GOLDEN-DAWN IN THE HEALTH SCENARIO BY THE COLLECTIVE EFFORTS OF *PRANABHISARA VAIDYAS*.

MY SALUTATIONS AT THE FEET OF ALL *APTAS*




Dr. ANJANEYA MURTHY N.
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(Former Joint Director, Dept. of AYUSH,
Chairperson, COVID-19 Protocol Review Committee)

APPROACH TO COVID 19 COMPENDIUM

It's a great opportunity bestowed on us to prepare a protocol based on literary review. For this an expert committee is formed to review the Ayurvedic literature and to design a protocol for COVID-19 which is practically viable and effective in COVID-19. We have received 10 protocols from the experts with their inputs and all the experts have shared their experiences and designed their own protocol as there is no direct reference for COVID-19 in Ayurveda. All the experts reviewed in an analytical and logical way. When we review all the protocols, each protocol is a unique presentation with justification and their no valid data to justify the protocol. Hence it is not possible for the expert committee to deny and comment any inputs, because all are literally valid. Hence we decided to pick up practically oriented, literally supporting, economically viable, and most importantly accepted by the community. Inputs were gathered systematically from the experts' protocols and present in the form of a compendium in a scientific way. This compendium will be a master book for future reference and it will be a mile stone for all our future endeavours for COVID-19, the compendium is just a collection of inputs from expert committee on literary review and compiled scientifically on the basis of Trisutra Ayurveda. For the purpose of future reference and citations a bibliography section is also included. It's only a being war against COVID-19 and really a master step forward to understand disease COVID-19 within the frame of Ayurvedic concepts.

I thank our chairman Dr. Anjaneya Murthy for his inputs involvement and dedication to complete this herculean task for framing a compendium in time, my heartfelt think to all honourable members who have presented their wonderful inputs in the form of practically viable designed protocol and also thank Dr. Vasudev Chate associate Prof GAMC Mysore and Dr. Bhagesh Pangam PG scholar from KLE Belgum for designing the front page of compendium

, I thank PG scholars of GAMC Mysore Dr. Shriram Murtugudde , Dr Sindhuja Kavya, Dr. Ashwini Hutgi , Dr. Dhanwantari Saste on their support, commitment and dedication to complete this task in time. My sincere thanks to Smt.Mecnakshi Negi madam commissioner dept of Ayush or guiding and blessing us to design this compendium and I seek her blessing in future too, I think this compendium definitely useful to all treating physicians to successfully design their for covid 19 because Ayurveda Ambrutanam.



Dr. Lakshmi Narayana Shenoy.

Asst. Director, Govt. Ayurveda Reseach Center
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VISION STATEMENT OF THE PROTOCOL

Vision Of The Protocol

The protocol is vision to develop a whole integrated holistic Uniform knowledge management principle for covid 19 based on literary review to scatters the kneed of stake holders

Mission of the protocol

- 1.to design a frame work of the protocol on covid d 19based on Ayurvedic literature
2. to identify a management concept of covid 19 which is based on literary review
- 3.to design a integrated holistic approach for covid 19 which is authentic baited and uniform can be practised by any stake holder without diluting the concepts and principles laid down in Ayurvedic principles
4. to do a literary review for the diseases which are hanging similar symptoms on covid 19 and understand the mananagment of such diseases and design integrated module for covi19 .

Objective

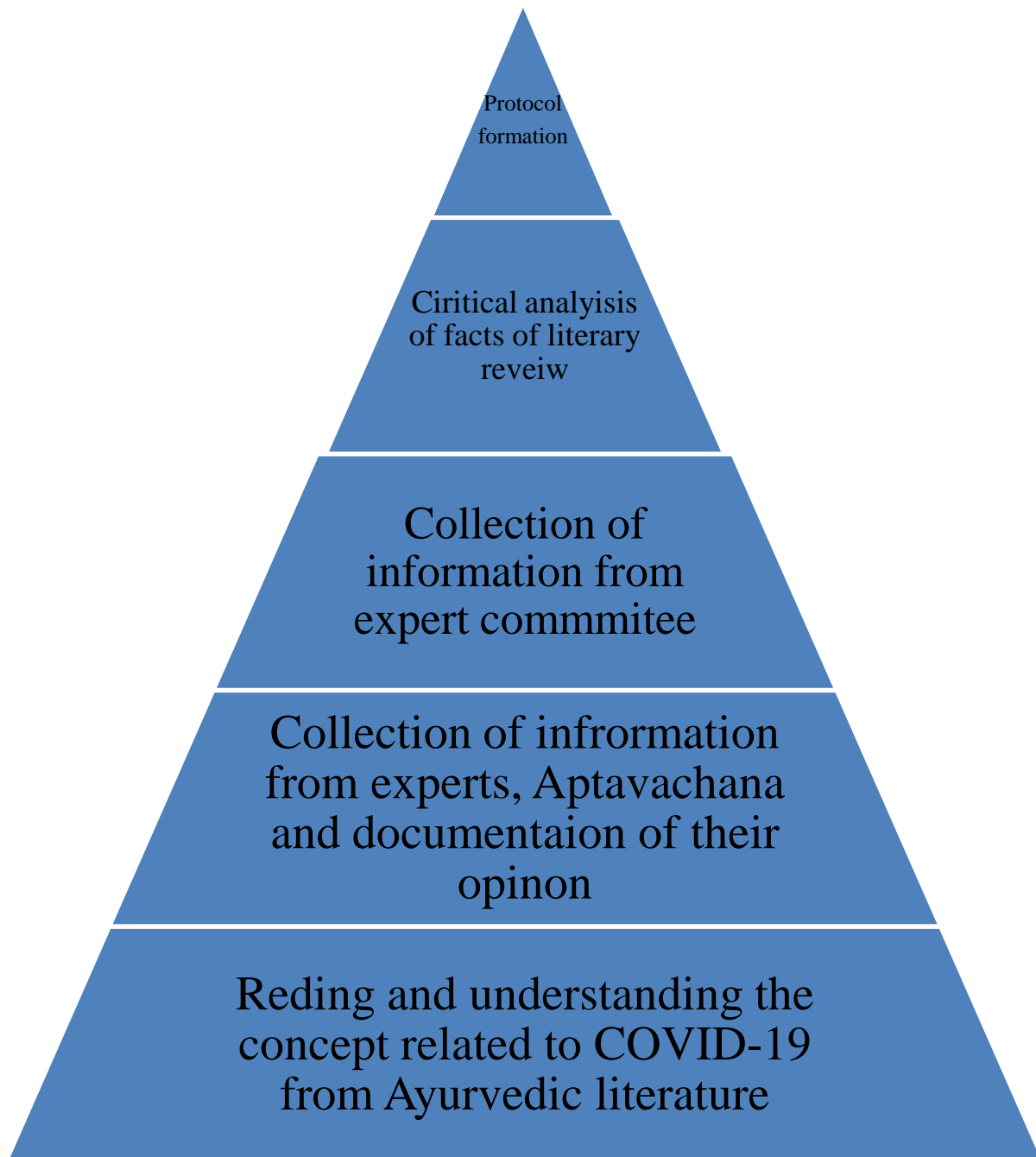
The objective of this protocol is to find out a validated remedy for covid 19 based on literary review within the prescribed within the time limit.

Methodology

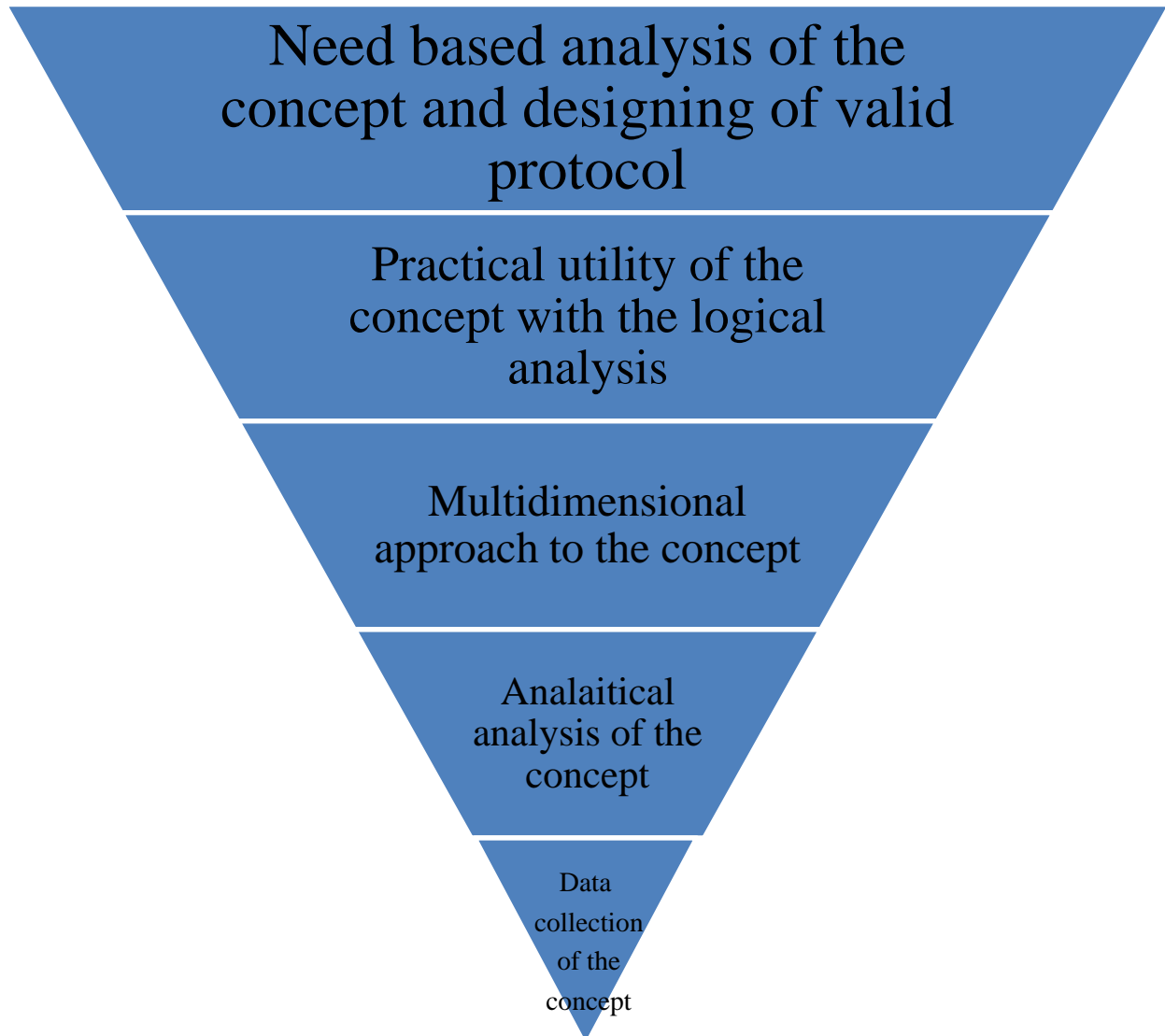
1. Collecting opinion of committee members formed by committee members.
2. Group discussion with the stake holders .
3. Collecting opinion from stakeholders.
4. Collection of Expert opinion from Ayurvedic experts all over the world.

5. Discussion with stake holders and committee members.
6. Collecting relevant data from the electronic gadgets .
7. Collecting status report from the above diseases
8. Gap analysis
9. Outcome analysis.

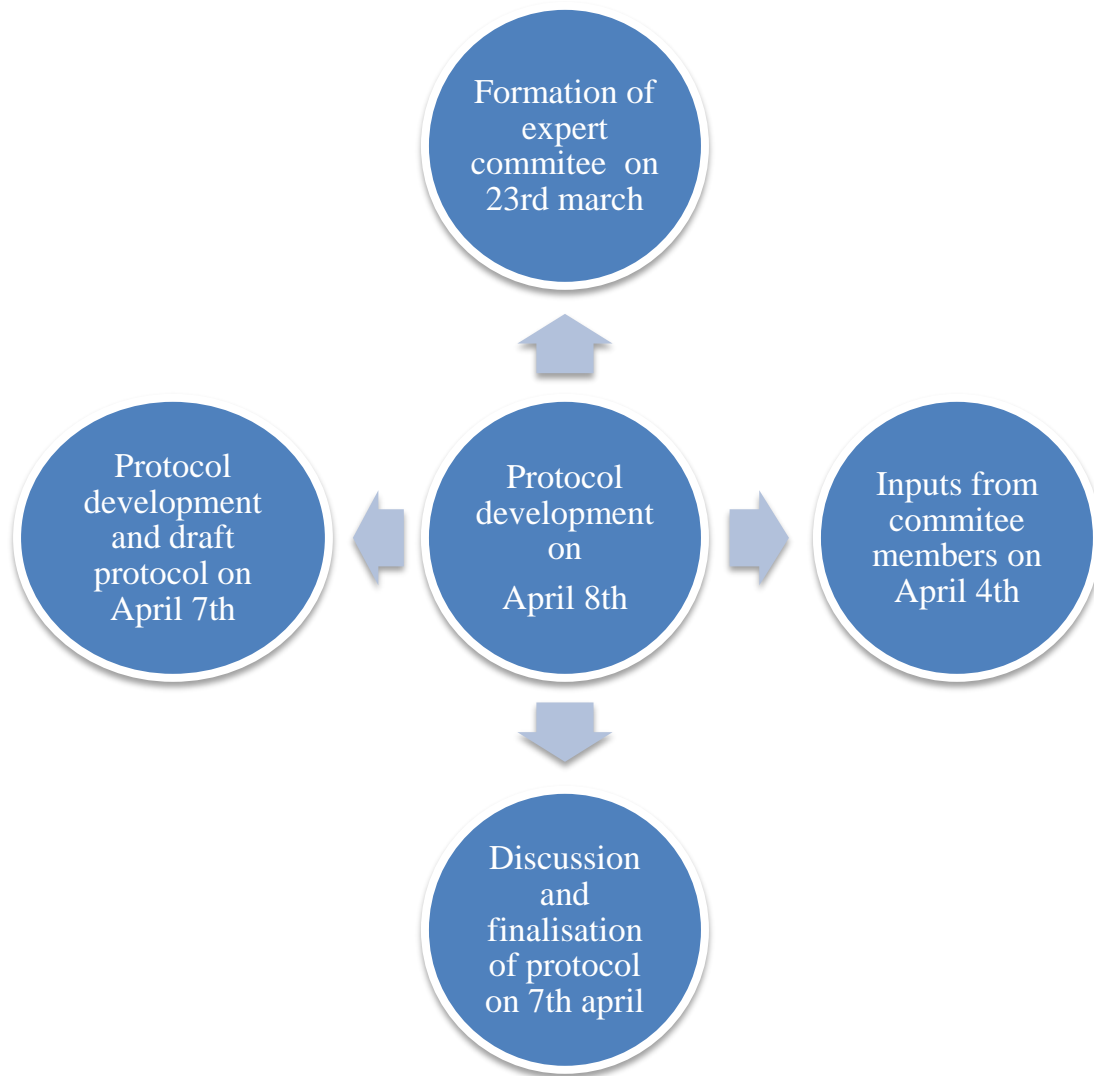
PROCESS PYRAMID



OUTCOME ANALYSIS PYRAMID



MILE STONES IN PROTOCOL FORMATION



INTRODUCTION

Corona virus disease (COVID -19) is an infectious disease caused by Severe Acute Respiratory Syndrome Corona virus 2 (SARS-COV-2). Corona viruses are a large family of viruses that causes illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome(MERS-CoV) and severe acute respiratory syndrome(SARS-CoV).A novel coronavirus (nCoV) is a new strain that has not previously been identified in humans. Coronaviruses are zoonotic , meaning they are transmitted between animals and people.

Common symptoms include fever, cough and shortness of breath. Other symptoms may include muscle pain, sputum production, and diarrhoea, sore throat, loss of smell and abdominal pain. While the majority of cases are resulting in mild symptoms, some progress to pneumonia and multiple organ failure.

Lungs are the organs most affected by COVID -19, because the virus access host cells via the enzyme ACE-2,which is most abundant in the type II alveolar cells of the lungs.The virus also affects gastrointestinal organs .

COVID – 19 disease was first identified in November 2019 in Wuhan, the capital of China’s Hubai provinence, and has since spread globally resulting in the ongoing 2019 -20 Coronavirus pandemic.

The risk factors include travelling,viral exposure.The virus is spread mainly through close contact and via respiratory droplets may be produced during breathing but the spread is not generally airborne.

On 30th January 2020, the World Health Organization declared the 2019 -20 Corona virus outbreak a Public Health Emergency of International Concern (PHEIC) and pandemic on 11th March 2020.

WHO has published several testing protocols for the disease. The standard method of testing is “real time reverse transcription polymerase chain reaction”. No Medications are approved to treat the disease by the WHO, although some are recommended by individual medical authorities. Research into potential treatments started in January 2020.

WHO in march 2020 ,in Severe Acute Respiratory infections treatment centre manual has given strategies to Infection prevention and control during health care when COVID -19 is suspected,

1. Early recognition and source control.
2. Application of Standard precautions for all patients, regardless of suspected or know infection.
3. Implimentation of empirical additional precautions (Droplet, Contact, Airborne precautions) for people suspected of being infected.
4. Administrative control.
5. Environmental and engineering controls.

WHO intrim guidance on critical care preparedness, readiness and response actions for COVID -19, published on 22 March 2020.Stratergies include,

1. Slow and stop transmission, prevent out breaks and delay spread.
2. Provide optimized care for all patients, especially the seriously ill.
3. Minimize the impact of epidemic on health system, social services and economic activities.

WHO has also defined four transmission scenarios for COVID -19

1. No cases
2. Sporadic cases – contries with 1 or more cases, imported or locally detected.

3. Cluster of cases – Countries experiencing cases clusters in time, geographical location or common exposure.

4. Community transmission – Countries experiencing larger outbreaks of local transmission.

How to understand the COVID – 19 In Ayurveda?

In Ayurveda the origin of Disease in ancient India was by Adharma (Sinful Acts) resulted in deviation in codes and conducts with respect to physical, psychological and social activities. This resulted in unusual changes in the maintenance of equilibrium of tissue, Agni, Vata by which all living body got afflicted with the Disease Jvara.

Though the reason for outbreak of novel corona virus 2 resulting in COVID – 19 is unknown, the presentation starts with fever due to impairment in Dhatu, Agni and Vata.

As there is no direct reference in Ayurveda for COVID-19 one has to understand the disease through protocol given by the Acharyas for Anukta Vyadhi.

नास्ति रोगो विना दोषैर्यस्मात्तस्माद्विचक्षणः ।

अनुक्तमपि दोषाणां लिङ्गैर्व्याधिमुपाचरेत् ॥

Su. Su.35.19

Hetu – Cause, Linga – Symptoms, Aushadha – Management Hetu, Linga and Aushadha jnana of Swastha and Atura are the 3 basic principles needed to treat any particular Vyadhi in Ayurveda.

There is no Roga without the involvement of Dosha. In case of Anuktha vyadhi the Doshas should be analyzed based on the presentation (Linga) in a given patient and it should be treated on same basis. In case of COVID-19, Virus is the cause. That means Rakthaja Krimi. In Janapadodhwamsa adhyaya - it is told that the whole population gets Ksheena bala(Decreased

immunity) due to consumption of polluted air, water and food by which Virus enters to the body to produce different symptoms.

These two tools explained by our Acharyas gives us treatment principles to treat Anukta Vyadhi and also gives us freedom to treat any forth coming disease based on principle like Dosha Dushya Vyadhi Samutthana, Agni Bala etc and our Acharyas are not at all worried about naming the disease but they are worried about treating the disease and thus serving the society because their principle is Sarva Janaaya Sarva Hitaaya- leading to Sarve Santu Niraamaya.

PRESENT STRATEGY OF WHO:

The purpose of this note is to outline public health and social measures useful for slowing or stopping the spread of COVID-19 at national or community level. Guidance for case finding and management, personal and environmental measures, travel measures, and mass gatherings is available on the WHO website available here. Public health and social measures are measures or actions by individuals, institutions, communities, local and national governments and international bodies to slow or stop the spread of COVID-19. These measures to reduce transmission of COVID-19 include individual and environmental measures, detecting and isolating cases, contact tracing and quarantine, social and physical distancing measures including for mass gatherings, international travel measures, and vaccines and treatments. While vaccines and specific medications are not yet available for COVID-19, other public health and social measures play an essential role in reducing the number of infections and saving lives.

Social and physical distancing measures aim to slow the spread of disease by stopping chains of transmission of COVID-19 and preventing new ones from appearing. These measures secure physical distance between people (of atleast one metre), and reduce contact with contaminated surfaces, while encouraging and sustaining virtual social connection within families and

communities. Measures for the general public include introducing flexible work arrangements such as teleworking, distance learning, reducing and avoiding crowding, closure of non-essential facilities and services, shielding and protection for vulnerable groups, local or national movement restrictions and staying-at home measures, and coordinated reorganization of health care and social services networks to protect hospitals. The measures are used in conjunction with individual protective measures against COVID-19 such as frequent hand washing and cough etiquette. All public health measures to stop disease spread can be balanced with adaptive strategies to encourage community resilience and social connection, protect incomes and secure the food supply. Countries should balance the possible benefits and negative consequences of each intervention and deploy strategies to encourage community engagement, gain trust and limit social or economic harm. There are many strategies that can support community resilience and mental health, protect access to essential goods and services, and limit the economic impact of stay-at-home measures where these are deemed necessary. For example, organizing work-sites to ensure physical distance between persons, such as staggering shifts over time, or converting on-site service to home delivery may help to keep more businesses open. Tele-working and tele-schooling strategies in different contexts demonstrate innovation and the role of technology in supporting business continuity and sustaining social connection within families and communities. In general, implementation of distancing measures should also aim to sustain personal and professional community connections by virtual means and technology, including widely accessible means such as radio and mobile phones.

Alongside all these measures remains there is the critical to test all suspected cases of COVID-19 wherever possible, promptly isolate cases, trace contacts to the widest extent possible, and ensure quarantine of contacts for the duration of the incubation period. This goes for any context or

level of spread of the pandemic in a country, in order to deepen the benefits of social measures. Social measures should make the task of contact tracing much easier as the number of contacts rapidly dwindles and eventually the number of cases declines as well. As social measures are lifted, it is essential to continue to strengthen case-finding, isolation for COVID-19 cases and quarantine of contacts, in order to respond to resurgent or imported cases. Coordinated reorganization of health and social services is essential to assess and test persons rapidly, treat patients effectively, and protect hospitals and health personnel. WHO has described four levels of COVID-19 transmission. These are countries or local areas with: 1. No cases reported. 2. Sporadic cases. 3. Clusters of cases (grouped in place and time), or 4. Community transmission. Countries are putting in place a range of public health and social measures in different combinations and at varying times in the local evolution of the COVID-19 pandemic. The alignment of public health measures to levels of transmission in a community is not fixed in stone. Countries may wish to specify which measures are to be taken at each level and review the situation regularly. A package of measures may be applied at local, regional or national level and adjusted as needed, considering aspects such as culture, living environments, terrain and access to needed resources. Essential services should remain operational and governments should put in place social and economic policies to limit the longer term economic impact, support community resilience and enable rapid recovery. Most importantly, the ultimate aim is to ‘walk back’ community transmission to clusters, sporadic cases, and down to no cases at all, and to begin gradually lifting social measures as soon as it is safe to do so. Guidance for lifting measures is being developed. To be effective, public health measures must be implemented with the full engagement of all members of society, including communities and professional groups. All measures should be accompanied

with clear, accessible and regular risk communication to explain the response strategy and enable people to make informed decisions to protect themselves and help achieve the public health goal of ending the outbreak.

Coronaviruses are a group of viruses belonging to the family of Coronaviridae, which infect both animals and humans. Human coronaviruses can cause mild disease similar to a common cold, while others cause more severe disease (such as MERS - Middle East Respiratory Syndrome and SARS – Severe Acute Respiratory Syndrome). A new coronavirus that previously has not been identified in humans emerged in Wuhan, China in December 2019.¹

1. SIGNS AND SYMPTOMS

According to WHO, the most common symptoms of COVID-19 are fever, tiredness, and dry cough. Some patients may have aches and pains, nasal congestion, runny nose, sore throat or diarrhea. These symptoms are usually mild and begin gradually. Some people become infected but don't develop any symptoms and don't feel unwell. Most people (about 80%) recover from the disease without needing special treatment. Around 1 out of every 6 people who gets COVID-19 becomes seriously ill and develops difficulty breathing. Older people, and those with underlying medical problems like high blood pressure, heart problems or diabetes, are more likely to develop serious illness.²

WHO Guidelines (Preventive)

WHO recommends following precautionary measures to prevent infection and to slow transmission of COVID-19, do the following:

- Wash your hands regularly with soap and water, or clean them with alcohol-based hand rub.

- Maintain at least 1 metre distance between you and people coughing or sneezing.
- Avoid touching your face.
- Cover your mouth and nose when coughing or sneezing.
- Stay home if you feel unwell.
- Refrain from smoking and other activities that weaken the lungs.
- Practice physical distancing by avoiding unnecessary travel and staying away from large groups of people.

A. MODERN MANGEMENT

Ministry of Health & Family Welfare Directorate General of Health Services (EMR Division) published some Guidelines on Clinical Management of COVID – 19. This document provides guidelines for implementation of infection prevention and control measures for patients with suspected or confirmed COVID - 19 infection, Early supportive therapy and monitoring, Management of hypoxemic respiratory failure and ARDS, septic shock etc.

There is no current evidence from RCTs to recommend any specific treatment for suspected or confirmed patients with COVID - 19. No specific anti-virals are recommended for treatment of COVID – 19 due to lack of adequate evidence from literature. The use of Lopinavir/ Ritonavir in PEP regimens for HIV (4 weeks) is also associated with significant adverse events which many a times leads to discontinuation of therapy. In light of the above, Lopinavir/ Ritonavir should ONLY be used with proper informed expressed consent to case basis for severe cases, within the under-mentioned framework along with supportive treatment as per need.⁶

LACUNAE IN PRESENT STRATEGY:

a) In present strategy

- Up to April 5th 2020 out of 600 Crores population globally 13 lakhs people were affected by Corona virus, out of this up to date 60 thousand deaths occurred. First time in the history more than 198 Countries are affected by this dreaded disease.

- In India up to April 5th 2020, 3600 people were affected by COVID-19 out of which 118 deaths occurred due to complications of COVID. In Karnataka up to April, 151 patients have been found out – out of which 4 deaths occurred. All these data shows the life threatening magnitude of Pandemic COVID-19 all over world.

- There is no proven treatment for COVID-19 and researches are going on to find out remedies for this dreadful malady and some of the countries are claiming that they are finding vaccines for the above disease.

- From all these data, it is known that 85% of sufferers are getting cured because in them the disease is very mild and within 14days they have managed to come out of the disease, where as another 15% having more severity because of risk factors like age, gender, region and associated illness. Out of this 15%, 4% of people are critical because of respiratory failure. For them ICU and ventilation are needed to resuscitate them. Out of these 4%, less than 1% of patients died due to respiratory failure even though quality medical cure had been provided.

- For all the above conditions like mild severe and critical medical field don't have any medications which are proven across the globe, even though there is good positive response because of symptomatic Anti Viral, Anti malarial and Anti Retroviral drugs which are used for AIDS and SARS.

- This is the scenario where the allied sciences following a methodology of trial and error to formulate the positive response for COVID-19.
- There is no management strategy in allied science to prevent it from moving the condition from mild to severe, or severe to critical, if these prevention principles of occurrence of severe and critical conditions in patients are known, it is possible to drastically reduce the death rate in COVID-19.
- To fill the loopholes of present status of COVID-19 there is need of a drug to combat COVID-19 effectively without any adverse effects. The strategy for the mild severe and critical conditions is needed where there s no clinically evident protocol.
- The present preventive strategy is only emphasized on isolation principle for which there is a need to make it more efficient by adding few factors like holistic diet, the strategy of boosting immune system to restore and reduce the mental agony. When we look at the COVID-19 from physical, mental, social, environmental, economical and philosophical perspective, the strategy which works on both the mental, physical, social and environmental health is needed.
- Most of the loopholes in present strategy can be reversed with the holistic integrated health care delivery. As this approach has human touch, the concept of “Sarve Santu Niramaya” can be a dream come true. Thus the combat against the dreadful disease COVID-19 can be achieved without a hitch.
- To achieve this, integrated holistic approach can be thought with the help of Ayurveda and other systems of medicine in which all faculty of Health care can be amalgamated in a healthy way.

2. **GAP ANALYSIS:**

Objectives:

The objective of gap analysis is to find out lacunas in the present strategy with the analysis of facts and analysis of experience of the treating physician, where there is a need of higher knowledge to combat the dreadful disease.

- a. Review of literature from experts to identify present strategy for COVID-19.
- b. To create a platform of knowledge pool from the available literature and present it to the stake holders.
- c. Analysis of the gap in the present methodology and to formulate some strategy to fill the gap which is validated by literary review and which can be easily practiced by the mass, such as;
 1. Preventive strategy
 2. Promotive Strategy
 3. Community strategy
 4. Social Strategy.
- d. To develop a protocol based on literary review and give an option to the treating physician to look into the vast knowledge available in the literature and the protocol is developed based on a principle 'Learn Ayurveda and Practice Ayurveda'.

WHY AYURVEDA PROTOCOL???

COVID-19 is a new disease identified in WUHAN Dist. of china in november 2019, earlier it was thought that it is simple flu infections, which can be tolerable as like other respiratory disease , when it became pandemic in china, new terminologies like complete isolation in the form of lockdown and a different isolation protocol developed in the name of social distancing

inspite of all these it has spread all over world covering more than 198 countries effecting more than 8 lakh population with the death rate of 40 thousand .

The spread of disease is not controllable and principle of isolation is giving good results in china, Philippines, Malaysia, Taiwan the newer mantra for disease is not at all curative and experts in who are worried about social distancing in the form of quarantine for 14days and this methodology is said to be effective as per statistics to prevent the spreading infection to the population.

When we look back at this new mantra in the eyes of Ayurveda the quarantine mantra and social distancing mantra are most valuable treatment principles in Ayurveda when disease become pandemic, all these principles of isolation have been told with quarantine protocol with measurable parameters, along with social distance, many other things which are practiced and time tested have been told in Ayurveda 5000yeras back with more sophisticated techniques of social distancing which is easy to practice to a layman.

The principles of social distancing in the pandemic are different and the preventive principles to protect the induival in the non pandemic times are different so there is a clear cut line between the above two as per ayurveda classics and there protocol try to put a light on such principles told in Ayurveda and bringing back the glory of Ayurveda with its practical utility to the needy with a scientific researched inputs which may be usefull to the community to combact corona pandemic infuture and the attempt is only a literary review practical input and more importance is given for preventive than curative stratergies. snakara still it has a adhistana in Paraná vahasrtotas adhistana and more prominence is given to pranavaha srotats to formulate treatment protocaol.

The protocol has widely upon its eyes on all possible diseases for which covid 19 can be related with the help of different scholars and come to an conclusion to go along with the lines of

charaka Acharya's Dictum where the naming of diseases is not important and treatment the disease of Dosha vignaniya should be observed.

विकारनामाकुशलो न जिहीयात् कदाचन।
न हि सर्वविकाराणां नामतोऽस्ति ध्रुवा स्थितिः॥
स एव कुपितो दोषः समुत्थानविशेषतः।
स्थानान्तरगतश्चैव जनयत्यामयान् बहून् ^[3] ॥
तस्माद्विकारप्रकृतीरधिष्ठानान्तराणि च।
समुत्थानविशेषांश्च बुद्ध्वा कर्म समाचरेत्॥
यो ह्येतत्त्रितयं ज्ञात्वा कर्माण्यारभते भिषक्।
ज्ञानपूर्वं यथान्यायं स कर्मसु न मुह्यति॥

Ca Su 18/44-47.

When the committee look into literary review the following important features are identified. To name avuktha vyadhis as there is no direct reference to COVID-19 in any of the Samhiths and there is a difference of opinion among the scholars to name the disease in such situation the school of thought of charaka Acharya treating the disease based on vikara prakruti i.e nature of disease , adhistana i.e affected site of disease and samuthana vishesha causative factor and committee decided to frame the treatment protocol based on the above parameters set by Charaka Acharya. Same school of thought is also opined by Sushruta Acharya in different style

नास्ति रोगो विना दोषैर्यस्मात्तस्माद्विचक्षणः ।
अनुक्तमपि दोषाणां लिङ्गैर्व्याधिमुपाचरेत् ॥

Su . Su 35/19

When there is a confusion in naming the disease a wise physician strictly adheres to dosha lakshanas and is based on this he has to plan the treatment for betterment of patient and the above 2 dictoms of Aharaya showed the path as not to name the disease or can be called directly as COVID 19 and formulate the treatment.

Road Map To Treatment Protocol.

1. Comitee has decided not to give tailor made prescription for COVID 19, the treatennt also suggested to give list of drugs wich can be used for COVID 19 based on literary review because of other Acharya have clearly given a dictum.

पुरुषं पुरुषं वीक्ष्य स ज्ञेयो भिषगुत्तमः॥ Ca Su 1/12

2. Comitee also observed that there are many variations in signs and symptoms because of age region chronicity and other many associated diseases like hypertension diabetes mellitus, renal complications, hence rather than giving a chikithsa sutra committee suggested to go for lakshanika chikithsa and a possible phase wise treatment protocol i.e avasthika chikithsa. Comitee also opine to give a holistic protocol based review on literary, hence along with medication affective treatment should include Pathya and Apathya Ahara nidana and also though of include the drugs which can be brumhana, rasyana medcation according to Avastha of patient.

3. as it is pandemic graded infection even though shodhana karma indicatied in this condition still comitee decided not to go for shodhana therapy to control the spreading of the disease and to promote the concept of personal distracting and social distancing

LIMITATIONS OF THE PROTOCOL.

This protocol is developed based upon literary review done by committee members, Ayurvedic preceptors and project is prepared based on the inputs of committee members

There is no clinical evidence for this protocol, however care has been taken to a clinical approach according to Ayurvedic clinical practice and justification is given for each input in the form of research update.

Most of the preparations are classical only; more importance is given to preventive aspect then curative because data's are not available with us to prove the curative protocol.

The protocol is designed in such a way that it should be user friendly with the least or no side effects, still the preventive aspects are easy to practice and efficacious.

This protocol does not contain a tailor made prescription for covi19 because Ayurveda advocates prescriptions by the treating physicians based o his yukthi, so to promote this concept a great pool of information bank has been created by collective and untiring efforts from the length and breadth of our country by tale conferencing meeting. And stake holders are requested to act like hamsa khseera nyaya.

Protocol I designed according to trisutra Ayurveda concept based on the literary revise from the experts more importance is given to the preventive aspects . curative aspects are based on the application s of the literary input and experience of the honourable compete members in covid 19 like diseases in their clinical practice .

Most of the interventions are based on classical literature hoe ever some of them are experiences of experts for which there is no ref in the bibliography...

The protocol is developed in such way that it will a hand book of reference for covid 19 in all future of research activates and designed to scatter the need of pg and PhD scholars.

As it is a public document based on literary review any one can add their inputs to the knowledge bank and can give clinical validity with the help of inputs prescribed in the text book.

STAKE HOLDERS OF THE PROTOCOL:

1. All practicing physicians.
2. All teaching institutions of Ayurveda.
3. Medical Officers of Dept. of AYUSH.
4. All Post Graduate scholars of Ayurveda.
5. The industry people of Ayurveda Manufacturing units.
6. All AYUSH research centers across India.
7. Policy Makers of the AYUSH.
8. The admirers' of Ayurveda.

NIDANA VIVECHANA

‘Nidana’ – the causative factors of diseases, have been classified in various ways in texts.

Among them, the one which classifies nidana into Sadharana and Asadharana¹ is relevant in this context. The current pandemic and its causative agent comes under the purview of Asadharanahetu as it causes similar symptomatology in a large group of population through vayu dushti.

Diseases in Ayurveda are also broadly classified into – Nija and Agantuja. Covid-19 may be considered as an Agantuja vikara.

While explaining Agantuja jwara, Charaka classifies it into four types. Among them, the one which is caused by Vishavruksha and Anilaspasha is Abhishangaja jwara². Further, ‘bhutabhishanga’ has been identified as one among the causes of Vishamajvara along with other nija karana³. Here, the word ‘bhuta’ can be understood as that which is not visible or microscopic, and thus all microorganisms may be included under the purview of this term.

The term ‘Abhishanga’ is interpreted as abhisparsha, alingana or being in contact with. Thus, Abhishangaja vyadhi can be understood as a condition which is caused by contact with microorganisms. Since the present condition is mainly characterized by fever, it can be understood as ‘Abhishangaja Jwara⁴’.

In the context of Kushta in nidanasthana⁵, Acharya Sushruta explains the concept of Oupasargika roga which are characterized by sankramana i.e., spread from person to person . The modes of spread of such diseases have been enlisted as- Prasanga – direct contact as in sexual contact, Gatrasamspasha – touch, Nishwasa – Inhalation of infected air or air with infected droplets, Sahabhojana – eating foods together, Saha asana shayana – sitting or sleeping together, Sahavastra mala anulepana – using same clothes and other materials. These concepts

are very much relevant even today and modern texts of communicable disease epidemiology also describe similar modes of disease transmission. All these modes of transmission described may be broadly classified into two as explained in modern texts as- direct mode of spread and by respiratory route through droplets. The diseases which are mentioned as Oupasargika by Sushruta are Jwara, Kushta, Shosha and Netrabhishyanda. COVID-19 can be understood as a type of Jwara, fever being the predominant clinical manifestation.

Acharya Charaka discusses various aspects of epidemics and pandemics in a whole chapter in vimanasthana entitled ‘Janapadodhwamsa’⁶, where four factors are held responsible for such diseases, one among which is ‘Vayu’. Droplet spread through air is one of the important modes of transmission of all the contagious diseases, as in this disease.

Among the nidana of Sannipataja jwara, Acharya Charaka mentions vishamashana and anna parivartana⁷ –i.e; irregular or untimely food intake and changes in food habits as a cause. This aspect also can be considered as the probable cause of mutation at the original epicentre of the COVID-19 outbreak.

LINGA VIVECHANA

The disease COVID-19 is coded as RA01.0 for a confirmed diagnosis and as RA01.1 for a suspected or probable case⁸ in ICD. The clinical spectrum of COVID-19 varies from asymptomatic or pauci symptomatic forms to clinical conditions characterized by respiratory failure to multi organ and systemic manifestations and MODS⁹. Commonly, the condition has an onset with symptoms of URTI like fever, cough, myalgia or fatigue with other less common symptoms such as sputum production, headache, haemoptysis and diarrhea. As the disease course develops, dyspnea sets in and condition progresses into pneumonia. Complications include ARDS, Acute cardiac injury, secondary infections, multi organ failure¹⁰.

Considering the above symptomatology, this disease can be understood under 'Jwara', while the specific diagnosis of Ekadoshaja or Samsargaja or Sannipataja jwara will vary among patients according to variable individual presentations.

All diseases pass through different stages as they progress in the Kriyakala¹¹, and clear symptoms are exhibited at the stage of Vyaktaavastha. If the patient is not treated even in this stage, the disease progresses to Bhedaavastha where multiple dosha and dhatu are involved, ultimately leading to Upadrava.

Thus, the early stages of clinical features of COVID-19 which usually begins with myalgia, headache and symptoms of common cold may be considered as the stage of Purvarupa. The phase of fever with cough may be considered as the Vyakta stage and the stage with Pneumonia, ARDS, MODS, Sepsis and other complications in the condition may be understood as the stage of Bhedaavastha or Upadrava along with dhatu paka. Dhatu paka, Abhyantara vidradhi are stages which indicate gambheera dhatugatatwa.

The varied presentations observed in vyaktavastha of the disease as described above have similarities with the descriptions of Vataja, Pittaja and Kaphaja Ekadoshajajwara, Vata kapha samsargaja jwara and Vatolbana madhyapitta mandakapha Sannipata jwara.

On analyzing the dosha involved in the COVID-19 infection, Jwara presenting along with shareerabedha and shushkakasa may be considered as Vataja jwara, Teevrajwara with Annadvesha, chardi, atisara can be considered as Pittaja jwara, whereas Jwara associated with kasa, shwasa, chardi is considered as a Kapha pradhana Jwara. Vata kapha jwara presents with Shirograha, Pratishyaya, Kasa, Swedaapravartana, Madhyama jwara¹² and Vatolbana madhyapitta mandakapha jwara presents with Swasa, Kasa, Pratishyaya, mukhashosha, parshwa ruja¹³.

Further, with respect to involvement of doshas, considering the fast progress into further stages, it definitely has a prominent involvement of Vata. The involvement of Pranavaha srotas is evident from dushti lakshana of Pranavaha srotas in the disease, hence, involvement of Kapha, which is the sthanika dosha should also be considered. Finally, as ‘no jwara can occur without Pitta¹⁴’ and Jwara being the major clinical feature, there is obvious involvement of Pittadosha. Hence, there is definite involvement of all the three doshas and the condition may be considered Sannipataja. Some of the clinical documentation of COVID-19 cases resembles progression of Vataja Jwara to Sannipatajwara during disease progression.

FACTORS CONTRIBUTING TO SEVERITY OF THE DISEASE

The major factors that contribute to the variations in severity of a disease are Time (seasons), Dosha bala, Chetas or manobala and Artha i.e Purvajanma kritha Shubha- ashubha karma¹⁵.

The impact of an epidemic disease depends on:

- Infectivity and virulence of the agent
- Susceptibility of the host
- Environmental favourability of the agent

The same can be understood in Ayurvedic terms under the following headings –

- Roga bala
- Rogibala / Dehabala/Vyadhikshamatwa
- Kala
- Manobala
- Vikaravighata bhava-abhava¹⁶

ROGA BALA – Considering the infectivity and virulence of the causative agent- the Novel Corona virus, the bala of the disease causing agent seems to be essentially high which is resulting in such huge number of cases and the high mortality rates.

ROGI BALA – It may be observed that in the current pandemic 80-85% of cases do not exhibit much symptoms or may exhibit only milder forms of symptoms¹⁷. Such mild presentation of disease is commonly observed in younger and middle age group who are supposed to have better dehabala and vyadhikshamatwa¹⁸.

Based on rogibala, individuals are of two types-

- Vyadhi saha
- Vyadhi asaha

The individuals with good Sara, samhanana, Agni, dhatu samatwa, vyayami, and who follows charyas like dinacharya, rutucharya, ratricharya are usually considered as Vyadhi saha and the individuals with features opposite to these are considered as Vyadhi asaha.

Symptomatology and disease severity are influenced by the rogibala and so is reflected accordingly in Vyadhi saha and Vyadhi asaha. Disease tends to be of milder form in vyadhi saha, who may or may not have the clinical symptomatology and recovers from the illness easily, whereas the disease usually presents in a severe form in Vyadhi asaha (alpa rogibala) who are usually aged or suffer from co-morbidities like prameha, shonitabhishtyanda, etc. In such patients, due to involvement of multiple srotas the disease enters Upadrava stage which can end up in bad prognosis and death¹⁹.

KALA – Here Kala refers to both age and season. As seen, the virus is causing havoc among the old aged. Old age is characterised by dhatu kshaya and thus bala kshaya, whereas the younger age is considered to be endowed with better bala due to better states of agni, dhatu, etc. Seasonal variations like high temperature and high relative humidity significantly reduces the spread of the Covid-19 virus²⁰.

MANA-The clinical variations in onset, severity and recurrence also depends on satvabala. The weak state of mind i.e; anxiety or depression are also identified as the triggering factors of Jvara by Acharya Charaka^{21,22}.

ARTHA- Here, the term 'artha' refers to Karma, which is classified into Iaihika (Purushakara) i.e; present and Purvajanma (Daivakara) i.e; past deeds. It includes all types of Ahara, Achara, Prayaschitta etc. According to bala- abala, the shubha- ashubha karma which were practiced in past life also affect the samprapti and severity of illness of the current Nija or Agantuja vyadhi²³. The clinical diagnosis between Karmaja (Purvajanmakrita Ashubha karma) or Doshakarmaja is

based on process of exclusion i.e in the absence of demonstrable modifying factors in current life, the disease may be considered Karmaja.^{24,25} This can be a possible explanation for the ongoing unexplained variations in clinical presentations, therapeutic responses and unexpected outcomes of the disease in different individuals.

VIKARA VIGHATA BHAVA ABHAVA²⁶ – Acharya Charaka explains all the above aspects like susceptibility, virulence and host factors under the concept of Vikaravighatabhava abhava in Prameha nidana adhyaya. Here vikara means the disease, vighata means the factors that hinder/ obstruct/ stop the pathogenesis and bhava-abhava means absence of this conjunction or its presence. Host and its interaction with the pathogen and the resultant effect leads to disease or remission. If the nidana, dosha and dushya are all supportive to each other, then the condition becomes more severe, whereas when the three contradict each other, the disease may be sub clinical/ less severe/ with fewer symptoms or takes a longer time to show its clinical features.

When there is conglomeration of all of these three factors and when all the three are assisting each other in the pathogenesis, then the disease becomes more severe which may also be influenced by the factors like alparogibala, agni, dhatu samatwa, alpasara, alpa samhanana thus ending up in Sannipataja vyadhi and Upadravas. When a single dosha is highly vitiated leading to its predominant influence in the disease process and aided by other factors influencing it, the condition becomes that particular dosha pradhana sannipata.

The infection is mild and manageable if the impact of jwara in the body is limited to rasadhatu, which manifests as samanya jawara which is bahirvegi^{27,28}. But, if the host is weak or when proper care is not taken in the initial stages of the infection, the disease can progress further leading to dhatugatatva and vishamajwara^{29,30,31}.

Most of the COVID-19 cases present with continuous remittent fever as in santatajvara. Prognosis depends on doshapaka or dhatu paka which occurs during 7 or 10 or 12 days depending upon the dosha predominance of Vata, Pitta or Kapha respectively^{32,33}.

SAMPRAPTI VIVECHANA

1. **Dosha** –Vata Kapha pradhana along with Pitta.

Usually begins as ekadoshaja, then involvement of other doshas depending on dehabala, agnibala, chetobala and vikaravighatabhava abhava vishesha.

2. **Dhatu** – Rasa at first, later all dhatus, even Ojas.

Involvement of dushyas predict the outcome of the disease. If all 7 dhatu, upadhatu and mala are involved, then the prognosis becomes difficult.

3. **Srotas** – Rasa, Prana, Maha srotas at first, later others also.

Major involvement at first will be in Rasa vaha srotas. As doshas undergo sarva Shareera sanchara, they get confined to Pranavaha srotas and produce majority of the symptoms there.

4. **Sroto dushti** – Sanga, Vimargagamana

5. **Agni** – Agni mandyata- at first Jatharagni, later dhatwagni

6. **Ama** – Jatharagnimandya janya, Later dhatwagnimandya janya aama

7. **Udbhava sthana** – Amashaya

8. **Sanchara sthana** – Sarva Shareera

9. **Vyakta sthana** – Kantha, Uras, Pranavaha srotas

10. **Adhithana** – Pranavaha srotas

11. **Rogamarga** – Abhyantara – in early stages, Trividha – in advanced stages.

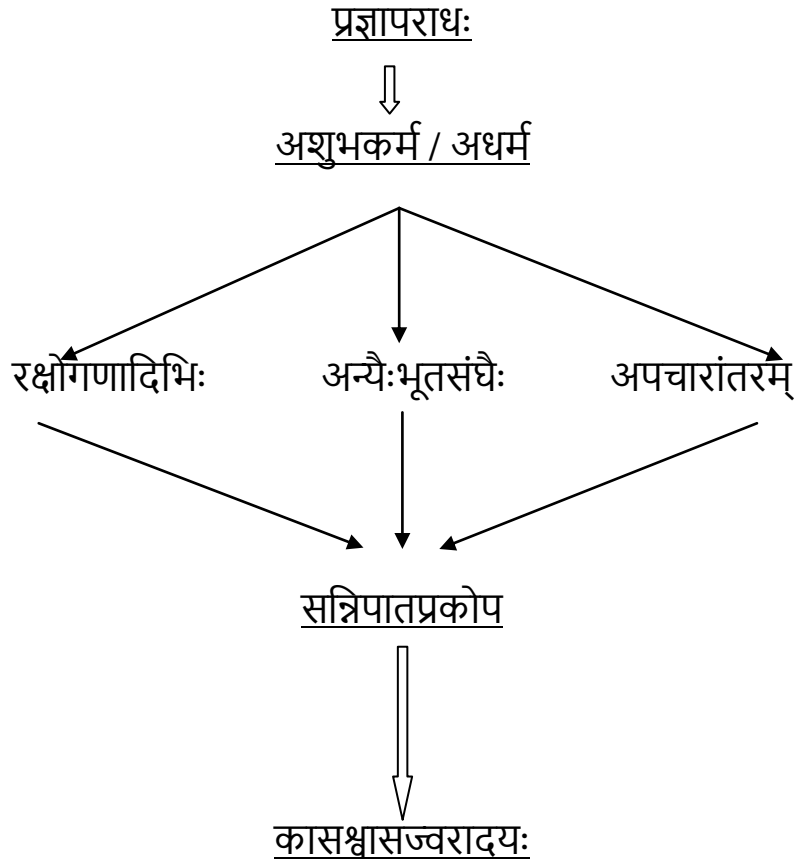
12. **Roga swabhava** –Mrudu or Daruna depending on Rogibala.

13. **Sadhyaasadyata** – Sadhya in most, Kruchra in few, Asadhya in very few.

Few Possible Samprapti

In this COVID 19, according to the survey, has got many presentations with many variable lakshanas and the spread of the disease is varied according to reion, age, gender, occupation and contact history. The chronicity of disease is also varied with many complications which are severe in some of the population and critical in some other population. Hence we cannot stick on to one smaprapti. Hence we have given few possible samprapti from which pathophysiology of the disease can be thought of and the management

SAMPRAPTI 01: BASED ON PRAJNAAPARADHA:



SAMPRAPTI 2: WITH REFERENCE TO JANAPADODWAMSA VIMANA ADYAYA OF CHARAKA.

Vikruti in Ritu dharma(Akala varshadi darshana) will lead to anutpatti of Oshadi i.e. Aprakruta rasa veeryadi in dravya; that will lead to dosha vikruti in Deha when person consumes it. This vikriti can also be analysed with loka(universe) i.e. Vayu, udaka, desha and kala vikruti. By considering Loka purisha Samya Sidhanta: Vayu as Vatadi Dosha ; Udaka as Rasadi Drava Dhatu ; Desha as Anga Pratyanga and avayava; Kala as Dosha dushya sammurchanat arabhya vayadhi utpanna paryanta i.e. Kala Samprapti.

Paraspara upahata Vayu Uadaka etc. will lead to abnormal or asamyak gandha bashpa dhuma rasa kleda vikruti. Desha vikruti leads to vikrutaguna karma of bhumistha jeevi such as Sarisripa., Vyala, pakshi, mooashaka, ulooka and Sthavara Dravyas also. Kala influences all these and produces Aprakruta laxanas, Thus vitiated Vayu, Udaka, Desha, Kala are inter-related. They tend to produce dushpariharya vikaras by swabhava; Collectively known as kasta sadhya vyadhi. By above explanation these turning to Kasta sadhya vayadis is due to single cause known as adharma(not following dinacharya, ritucharya, sadvritta, kalika shodhana and involving in asatmya indriyardha samyoga and pranjaaparadha).

SAMPRAPTI 3: WITH SPECIAL REFERENCE TO NIJA AND AGANTU KARANA AS PER CHARAKA SUTRA STHANA

It is said that “*Sarva eva nija vikaraha na anyatra vata pitta kaphebhyo nivarthante*” and “*Dosha evahi sarvesham vyadhinam eka kaaranam*”. Here the word sarva eva vikara and sarvesham vyadhinam give the information that no disease (may be nija /Agantuja) can origin without vatadi dosha. The vikruta doshas lead to swadhatu vaishamya where dhatu means Vatadayaha, rasadayaha and Raja prabhridayaha i.e. every component of the body gets vitiated

and lead to bahuvikaras in Sharira. These Nija and Agantu have linked with each other i.e. Aganturanveti nijam vikaram....lead to anubhandha karana janya kasta sadhya vyadi utpatti.

“Aganturihi vyadha poorvam samutpanno vatapitta sleshmanam vaishamyam apaatayadi II”

i.e. Due to four types of Agantu Karanas as explained in Jwara prakarana will lead to teevra peedam in deha (Achaya poorvaka dosha prakopa) which in turn leading to Dosha swasthana chaya and prakopa. Prakrupita dosha attaining prasara leads to Sroto vikruti and dhatu dusti by sanga, Vimarga gamana etc. leading to Sthana samsraya when lodged in Pranavaha srotas produces Pratishtyaya → Kasa → Swasa → Kshaya (tri-roopa, shadroopa and ekkadasha roopa).

In Maha srotas produces vikruta rasa dhatu utpatti producing Jwara Anga marda and Atisara laxanas. Here the possibility of krimi utpatti (jwara) in Agantu and Vishama jwara laxanas will explain the present Pandemic Disease **COVID 19**.

SAMPRAPTI AND CLINICAL STAGES

Bhutabhishanga (Jangama Visha) (Portal Entry- Oro pharynx, Naso-Pharynx)

- ▼ **Stage 1-** Sanchaya and Prakopa Avastha Tridosha involvement in Pranavaha Srotas – (Naso-pharynx, Paranasal Sinuses), Upper Respiratory Tract [with Marked Symptoms like Sneezing, Cough, Fever, Malaise]
- ▼ **Stage 2-** Prasara and Sthanasamsraya Avastha (All the Doshas affect the Entire Pranavaha Srotas) [Manifestation of Fever, onset of cough and with aggravated symptoms]
- ▼ **Stage 3-** Vyakta Avastha in Pranavaha Srotas and later Sarvasharira (Jwara, Kasa, Angamarda, Tandra lakshana, Dhatu paaka, Dhatugata Jwara Lakshana etc.,)
- ▼ **Stage 4-** Bheda Avastha All the Doshas affecting Sarva Shareera (Upadrava Laskhanas- Shwasa, Moha, Sanja naasha, atisaara)

*As the disease is Agantuja, the pathogenesis may not involve the progression as seen in a Nija Vyadhi.

Clinical Stages

Stage 1- Patients having travel history with Marked Symptoms like Sneezing, Cough, Fever, Malaise- Kahapa- vata Sannipata Jwara

Stage 2- Aggravated symptoms

Stage 3- Dhatupaaka lakshana and Dhatu gata Jwara lakshana

Stage 4- Upadrava like Shwasa- Acute respiratory syndrome

SAPEKSHA NIDANA FOR COVID 19 IN AYURVEDA:

As the COVID-19 is newly emerged disease condition, it is very difficult to understand the clinical presentation in a single context mentioned in classical texts. In the context of Rutucharya⁶, Acharya Susrutha mentioned about the Janapadhodhwamsa, Pandemic diseases with symptoms like Cough, Breathlessness, Vomiting, Cold, Headache and Fever spreads by means of polluted air. He also advises for Sthana parityaga (Social Distance) by means of breakdown of chain in community spreading

Clinical presentation of COVID-19 can be understood in terms of Sannipataja jwara (with Heena Kapha, Pitta Madhya, Vata Adhika), Pachyamana jwara, Vataja & Kshataja kasa.

The symptoms of the COVID 19 are similar with the one of the Sannipataja Jwara³, where Kapha is mild, Pitta is moderate and Vata is aggressive –

- Shwasa- Difficulty in breathing
- Kasa – Cough
- Pratishyaya – Cold & Running nose

- Mukhashosha- Dry mouth
- Ati Parshwa ruk- Severe pain in flanks.

Pachyamana Jwara Lakshana³⁴: (Once the Ama stage of Jwara ends)

- Adhika Jwara Vega – High grade fever
- Trushna- Thirst
- Pralapa- Delirium, irrelevant talk
- Shwasa – Dyspnoea
- Bhrama- Giddiness
- Mala and Shleshma pravrutthi- Elimination of Feces as well as Phlegm

Kshataja kasa³⁵:-

- Excessive pain in the throat and feeling of cracking pain in the chest
- Pricking type of pain as if pricked by sharp needles
- Excruciating pain and discomfort by touch on chest, miserable appearance.
- Pain in joints and fingers, fever, labored breath, thirst and altered voice
- While coughing, sounds humming like pigeon.

Aupasargika rogas spread through sexual intercourse or by touch or breath, or through partaking of the same bed, and eating and drinking out of the same vessel with infected person , or through using the wearing apparel, unguents and garlands of flowers previously used by a person afflicted with an infective disease.

- संभवः पुनरेतेषां कर्मणः सामुदायिकात् ।(अ.सं.९/७३)

Sannipata Jwara Ca.Ci.3:

Considering all these factors, COVID-19 illness can be considered as a Sannipata jwara with predominance of Kapha and Pitta. Meanwhile the signs and symptoms seen in this condition are

quite similar to the Jangama Visha Lakshana of Kita visha originating from yoni of Jatuka (Bat), Sarpa (Snake), Shallaka (pangolin).

The lakshanas of Tikshna Kita Visha- Jwara, Angamarda, Murcha, Chardi, Atisara, Trishna, Daha, Murcha, Jhrumbha, Vepathu, Shwasa, Hikka, Daha, Atishita, Shopha etc.

Considering the above facts, we can draw a conclusion or can be hypothetically said that the cause of the disease is Jangama Visha producing the pathology of Bhutabhishanga Sannipata Jwara

A HANDS ON APPROACH TO UNDERSTAND COVID 19 IN AYURVEDA:

The clinical presentation can be understood based on the observation the two cases.

Patient 1 reported having no underlying chronic medical conditions but reported fever (temperature, 37°C to 38°C) and cough with chest discomfort on December 23, 2019. Four days after the onset of illness, her cough and chest discomfort worsened, but the fever was reduced; a diagnosis of pneumonia was based on computed tomographic (CT) scan.

Patient 2 initially reported fever and cough on December 20, 2019; respiratory distress developed 7 days after the onset of illness and worsened over the next 2 days at which time mechanical ventilation was started. The worsening of the illness which culminates in death is mostly seen in the geriatric age group as well as those with co-morbidities. The case fatality rates of those above 60 years increases with co-morbidities are as follows Cardio vascular diseases, Diabetes mellitus, Respiratory diseases, hypertension, malignancies etc.

Incubation period - It is presumed to be between 2 to 14 days after exposure, with most cases occurring within 5 days after exposure.

Clinical Presentation In a study describing 1099 patients with COVID-19 pneumonia in Wuhan, the most common clinical features at the onset of illness were:

Fever in 88%

Dry cough in 67%

Fatigue in 38%

Myalgia in 14.9%

Dyspnea in 18.7%

Pneumonia appears to be the most common and severe manifestation of infection. In this group of patients breathing difficulty developed after a minimum of five days of illness. Acute respiratory distress syndrome developed in 3.4% of patients.

Other symptoms

Headache

Sore throat

Rhinorrhea

Gastrointestinal symptoms

About 80% of confirmed COVID-19 cases suffer from only mild to moderate disease and nearly 13% have severe disease (dyspnea, respiratory frequency ≥ 30 /minute, blood oxygen saturation $\leq 93\%$, PaO₂/FiO₂ ratio 50% of the lung field within 24-48 hours). Critical illness (respiratory failure, septic shock, and/or multiple organ dysfunction/failure) is noted in only in less than 6% of cases

The guidelines for understanding a disease which is not explained in Ayurveda can be comprehended based on the Vikara Prakruti (Nature of the diseases – dosha), Adhisthana (Srotas – Dushya- Site of manifestation) and Samuthana (nidana – etiological factors)

The day wise symptoms of the COVID 19 can be analyzed as follows

	COVID – 19	As per AYURVEDA	Adhistana
Day 1-4- Fever or feeling of fatigue	<ul style="list-style-type: none"> •Fever or the feeling of fatigue with a headache. •Feeling of nausea. •Dry cough and light 	Mild Rise in temperature through out body, feeling of nausea – Hrullasa - Kaphaja Jvara Lakshana, Shuska Kasa, fatigue -	Rasa and Svedavaha Srotas

	diarrhoea.	lakshana Vataja Jvara Manda Atisara - Pitta Jwara Lakshana	
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<p>Day 5-6- Difficulty in breathing along with sore throat</p>	<ul style="list-style-type: none"> • Difficulty in breathing • Dry cough might increase • Sore Throat • * might affect members of 65 years or above or someone who already suffers from a breathing disorder 	<p>Shotha in Kantha Pradesha Shvasa Krucrata. Shuska Kasa</p>	<p>In srotas Vigunatva, one srotas does Dusti of other Srotas like Pranavaha Srotas Dusti Lakshana</p>
<p>Day 7- The patient must be admitted</p>	<ul style="list-style-type: none"> • chest pain or pressure in the lungs, shortness of breath 	<p>Marma chedavat Ruk, Vicchinna Shvasa, Vivarnata</p>	<p>Pranavaha Srotas</p>
<p>Day 8 to Day 10- The patient develops ARDS</p>	<ul style="list-style-type: none"> • Acute Respiratory Distress Syndrome (ARDS) 	<p>Teevra Shvasa which is Pranahara where Ashukari chikitsa need to be advised</p>	<p>Pranavaha Srotas involvement of Mula i.e Hrudaya</p>
<p>Day 12- Fever will go down, but other symptoms stay</p>	<p>Same</p>	<p>Same If not Possible refer to the higher centre</p>	<p>Involvement of Marma – Hrudaya</p>

Other than these approach of the COVID – 19 can be understood based on the Rajayakshma. All the symptoms mentioned under Ekadasha rupa are same as that of the COVID – 19. Also the Jvara and Rajayakshma Vyadhi are inter linked with each other. Both the Vyadhi can be manifested due to Agantu Karana.

AUSHADHA VIVECHANA FOR COVID-19

Prevention Strategy For Covid-19

From the preventive management guidelines in **Ca. Su.7/51**

1. Prevention from contact of Bhoota Vayu. (Vayu with COVID 19 virus).
2. Prevention from contact of Visha Vayu (Vayu with Droplets).
3. Practice of Sadvrutta.

All these are to be done before the onset as preventive measures. (Praageva Praajnyah) **Ca. Su.7/54**

MANAGEMENT:

1. Maintaining the hygiene- Shoucha.
2. Frequent cleaning of Hasta Paada.
3. Frequent cleaning of Malaayana. (Malaayaneshu abheekshnah)- Hands and external orifices to be washed frequently i.e hand wash with soaps, sanitiser etc.
4. From the concept of Chatri Dandi Mouli (Ca.Su. 8). Mouli can be interpreted and borrowed as wearing Mask.
5. Avoiding exposure to Visha vayu (Vishaninah Purovata- Ca. Su. 8.19)
6. Surroundings to be fumigated (Dhoopana).
7. Nirmalaambara Dhaarana- wearing washed sun dried clothes.
8. Ushnodaka Pana.
9. Vihara- Vyaayama and Brahmacharya. (Ca.Vi.4)
10. Ksheera and Grutha Prayoga as Rasayana. Rasayana is indicated in Janapadodhwamsa Chikitsa also.

11. Regular dinacharya with special emphasis on Danta Dhaavana, Nasya, anjana and Abhyanga.
12. Strictly following Medical/Health and Govt Advisories.
(na niyamam Bhindyaat- Ca. Su. 8. 25)

FROM JANAPADODWAMSA CONTEXT:

1. Pancha Vidha Karma is indicated: Among the pancha karma, many experts opine nasya should be performed. Pratimarsha nasya cannot only prevent but also arrest the growth and multiplication of virus in the patients. (lipid virus interaction is the base for this opinion).
2. Rasayana: Along with Ksheera Prayoga, Gritha Prayoga, Chyavanprasha Prayoga, Amalaki Prayoga can be proposed.
Achara Rasayana also should be practiced.
3. Brahmacharya- Sexual abstinence is mandatory
4. Strictly practicing the below mentioned Sadvrutta
 - a) Using masks- Anaavruta Mukha Jhrubha Kshavatu Haasya (Ca.Su.8), one should cover the mouth while cough, sneeze, yawn and laughter.
 - b) Not to touch nose – Na Nasikaam Krushniyaat. (Ca. Su. 8)
 - c) Not to spit in social places- Shleshma Singhhanaka na Munchet- Ca.Su.8.12.

DIET & YOGA PROTOCOL FOR COVID 19

Diet & Yoga protocol for COVID 19(or any other epidemic) can be formulated based on the principles like this

Sutra Supporting Importance Of Kala/Ritu & Seasonal Cleansing

कालो हि नाम (भगवान्) स्वयम्भुरनादिमध्यनिधनः ।

अत्र रसव्यापत्सम्पत्ती जीवितमरणे च मनुष्याणामायत्ते ।Su. Su. 6/3

ता एवौषधयः कालपरिणामात् परिणतवीर्या बलवत्यो हेमन्ते भवन्त्यापश्च प्रशान्ताः स्निग्धा अत्यर्थं गुर्व्याश्च,

ता उपयुज्यमाना मन्दकिरणत्वाद्भानोः सतुषारपवनोपस्तम्भितदेहानां देहिनामविदग्धाः

स्नेहाच्छैत्याद्गौरवादुपलेपाच्च श्लेष्मसञ्चयमापादयन्ति; स सञ्चयो वसन्तेऽर्करश्मिप्रविलायित

ईषस्तब्धदेहानां देहिनां श्लैष्मिकान् व्याधीञ्जनयति ।Su. Su. 6/11

तत्र वर्षहिमन्तग्रीष्मेषु सञ्चितानां दोषाणां शरद्वसन्तप्रावृत्सु च प्रकुपितानां निर्हरणं कर्तव्यम् ॥ Su. Su.

6/12

Sutra Supporting Vyapanna Ritu

तेषां पुनर्व्यापदोऽदृष्टकारिताः, शीतोष्णवातवर्षाणि खलु विपरीतान्योषधीर्व्यापादयन्त्यपश्च ॥Su. Su. 6/16

तासामुपयोगाद्विविधरोगप्रादुर्भावो मरको वा भवेदिति ॥ Su. Su. 6/16

तत्र, अव्यापन्नानामोषधीनामपां चोपयोगः ॥ Su. Su. 6/18

कदाचिदव्यापन्नेष्वपि ऋतुषु कृत्याभिशापरक्षःक्रोधाधर्मैरुपध्वस्यन्ते जनपदाः, विषौषधिपुष्पगन्धेन वा

वायुनोपनीतेनाक्रम्यते यो देशस्तत्र दोषप्रकृत्यविशेषेण कासश्वासवमथुप्रतिश्यायशिरोरुग्ज्वरैरुपतप्यन्ते,

ग्रहनक्षत्रचरितैर्वा, गृहदारशयनासनयानवाहनमणिरत्नोपकरणगर्हितलक्षणनिमित्तप्रादुर्भावैर्वा ॥ Su. Su.

6/19

दृश्यन्ते हि खलु सौम्य! नक्षत्रग्रहगणचन्द्रसूर्यानिलानलानां दिशां चाप्रकृतिभूतानामृतुवैकारिका [१] भावाः, अचिरादितो भूरपि च न यथावद्रसवीर्यविपाकप्रभावमोषधीनां प्रतिविधास्यति, तद्वियोगाच्चातङ्कप्रायता नियता। तस्मात् प्रागुद्ध्वंसात् प्राक् च भूमेर्विरसीभावादुद्धरध्वं सौम्य! भैषज्यानि यावन्नोपहतरसवीर्यविपाकप्रभावाणि भवन्ति। वयं चैषां रसवीर्यविपाकप्रभावानुपयोक्ष्यामहे ये चास्माननुकाङ्क्षन्ति, यांश्च वयमनुकाङ्क्षामः। न हि सम्यगुद्धृतेषु सौम्य! भैषज्येषु सम्यग्विहितेषु सम्यक् चावचारितेषु जनपदोद्ध्वंसकराणां विकाराणां किञ्चित् प्रतीकारगौरवं भवति॥Ch. Vi. 3/4

Sutra Supporting Quarantine

तत्र, स्थानपरित्याग शान्तिकर्म प्रायश्चित्त मङ्गल जप होमोपहारेज्याञ्जलिनमस्कारतपोनियम दयादानदीक्षाभ्युपगमदेवताब्राह्मणगुरुपरैर्भवितव्यम्, एवं साधु भवति ॥ Su. Su. 6/20

Causes for Janapadodhwamsa

द्विविधो हेतुर्व्याधिजनकः प्राणिनां भवति- साधारणः, असाधारणश्च; तत्रासाधारणं प्रतिपुरुषनियतं वातादिजनकमाहाराद्यभिधाय बहुजनसाधारणं वातजलदेशकालरूपं साधारणरोगकारणमभिधातुं जनपदोद्ध्वंसनीयोऽभिधीयते॥Cakrapani on Cha. Vi. 3/1

प्रकृत्यादिभिर्भवैर्मुष्याणां येऽन्ये भावाः सामान्यास्तद्वैगुण्यात् समानकालाः समानलिङ्गाश्च व्याधयोऽभिनिर्वर्तमाना जनपदमुद्ध्वंसयन्ति।

ते तु खल्विमे भावाः सामान्या जनपदेषु भवन्ति; तद्यथा- वायुः, उदकं, देशः, काल इति॥ Ch. Vi. 3/6

वाखादीनां यद्वैगुण्यमुत्पद्यते तस्य मूलमधर्मः, तन्मूलं वाऽसत्कर्म [१] पूर्वकृतं; तयोर्योनिः प्रज्ञापराध एव।

तद्यथा- यदा वै देशनगरनिगमजनपदप्रधाना [२] धर्ममुत्क्रम्याधर्मेण प्रजां वर्तयन्ति, तदाश्रितोपाश्रिताः

पौरजनपदा व्यवहारोपजीविनश्च तमधर्ममभिवर्धयन्ति, ततः सोऽधर्मः प्रसभं धर्ममन्तर्धत्ते,

ततस्तेऽन्तर्हितधर्माणो देवताभिरपि त्यज्यन्ते; तेषां

तथाऽन्तर्हितधर्मणामधर्मप्रधानानामपक्रान्तदेवतानामृतवो व्यापद्यन्ते; तेन नापो यथाकालं देवो वर्षति न वा

वर्षति विकृतं वा वर्षति, वाता न सम्यगभिवान्ति, क्षितिव्यापद्यते, सलिलान्युपशुष्यन्ति, ओषधयः स्वभावं परिहायापद्यन्ते विकृतिं; तत उद्ध्वंसन्ते जनपदाः स्पृश्याभ्यवहार्यदोषात् [३] || Ch. Vi. 3/20

Lakshnas of dooshita janapadodwamskara bhava

तत्र वातमेवंविधमनारोग्यकरं विद्यात्; तद्यथा-यथर्तुविषम मतिस्तिमितमतिचलमतिपरुष -

मतिशीतमत्युष्णमतिरूक्षमत्यभिष्यन्दिनमतिभैरवारावमतिप्रतिहत-

परस्परगतिमतिकुण्डलिनमसात्यगन्धबाष्पसिकतापांशुधूमोपहतमिति (१);

उदकं तु खल्वत्यर्थविकृतगन्धवर्णरसस्पर्श

क्लेदबहुलमपक्रान्तजलचरविहङ्गमुपक्षीणजलेशयमप्रीतिकरमपगतगुणं [१] विद्यात् (२);

देशं पुनः प्रकृतिविकृतवर्णगन्धरसस्पर्श क्लेदबहुलमुपसृष्टं

सरीसृपव्यालमशकशलभमक्षिकामूषकोलूकश्माशानिकशकुनिजम्बूकादिभिस्तृणोलूपोपवनवन्तं

प्रतानादिबहुलमपूर्ववदवपतितशुष्कनष्टशस्यं धूम्रपवनं

प्रध्मातपतत्रिगणमुत्कुष्टश्वगणमुद्भ्रान्तव्यथितविविधमृगपक्षिसङ्घमुत्सृष्टनष्टधर्मसत्यलज्जाचारशीलगुणजन

पदं शश्वत्क्षुभितोदीर्णसलिलाशयं [२] प्रततोल्कापातनिर्घातभूमिकम्पमतिभयारावरूपं [३]

रूक्षताम्राणसिताभ्रजालसंवृतार्कचन्द्रतारकमभीक्षणं ससम्भ्रमोद्वेगमिव सत्रासरुदितमिव सतमस्कमिव

गुह्यकाचरितमिवाक्रन्दितशब्दबहुलं चाहितं विद्यात् (३);

कालं तु खलु यथर्तुलिङ्गाद्विपरीतलिङ्गमतिलिङ्गं हीनलिङ्गं चाहितं व्यवस्येत् (४);

इमानेवन्दोषयुक्तांश्चतुरो भावाञ्जनपदोद्ध्वंसकरान् वदन्ति कुशलाः; अतोऽन्यथाभूतांस्तु हितानाचक्षते॥७॥

विगुणेष्वपि खल्वेतेषु जनपदोद्ध्वंसकरेषु भावेषु भेषजेनोपपाद्यमानानामभयं भवति रोगेभ्य इति॥८॥ Ch.

Vi. 3/7 & 8;

Line of treatment of Janapadodwamsa

चतुर्ष्वपि तु दुष्टेषु कालान्तेषु यदा नराः।

भेषजेनोपपाद्यन्ते न भवन्त्यातुरास्तदा॥१२॥

येषां न मृत्युसामान्यं सामान्यं न च कर्मणाम्।

कर्म पञ्चविधं तेषां भेषजं परमुच्यते॥१३॥

रसायनानां विधिवच्चोपयोगः प्रशस्यते।

शस्यते देहवृत्तिश्च भेषजैः पूर्वमुद्धृतैः॥१४॥

सत्यं भूते दया दानं बलयो देवतार्चनम्।

सद्धृत्तस्यानुवृत्तिश्च प्रशमो गुप्तिरात्मनः॥१५॥

हितं जनपदानां च शिवानामुपसेवनम्।

सेवनं ब्रह्मचर्यस्य तथैव ब्रह्मचारिणाम्॥१६॥

सङ्कथा धर्मशास्त्राणां महर्षीणां जितात्मनाम्।

धार्मिकैः सात्त्विकैर्नित्यं सहास्या वृद्धसम्मतैः॥१७॥

इत्येतद्भेषजं प्रोक्तमायुषः परिपालनम्।

येषामनियतो मृत्युस्तस्मिन् काले सुदारुणे॥१८॥ Ch. Vi. 3/12-18

The first case of the 2019–20 corona virus pandemic in India was reported on 30 January 2020, originating from China. As of 2 April 2020, the Ministry of Health and Family Welfare have confirmed a total of 2,069 cases, 156 recoveries (including 1 migration) and 53 deaths in the country. Experts suggest the number of infections could be a substantial underestimate, as India's testing rates are among the lowest in the world. The infection rate of COVID-19 in India is reported to be 1.7, significantly lower than in the worst affected countries.

This is the junction period (Ritu sandhi) of two seasons. Strength (Immunity?) is less at such point of time. The dietary regimen should be based on the principle of Ritu sandhi kala.

For easy understanding the diet & yoga plan can be classified in 2 stages

1. Diet & Yoga during Quarantine
2. Diet & Yoga during active infection state

1. Diet & Yoga during Quarantine

Dinacarya

1. Waking up at 5.30 AM –

Bowel & Bladder clearance

Brushing

Asana & Pranayama Practice: Loosening exercises

Surya Namaskara 6 rounds

Tādāsana

Vriksāsana

Pāda-Hastāsana

Ardha Cakrāsana

Trikonāsana

Bhadrāsana

Vajrāsana

Ardha Ustrāsana

Ustrāsana

Śaśakāsana

Uttāna Mandūkāsana

Vakrāsana

Makarāsana

Bhujangāsana

Śalabhāsana

Setubandhāsana

Uttāna Pādāsana

Ardha Halāsana

Pavana MuktāsanaŚavāsana

Nadīśodhana or Anuloma viloma prānāyāma

Bhastrika

Morning 7 AM: Kashaya Prepared from Dhanya+ Jeeraka 100ml

Bath & Prayer: 8.30 AM

Sankalpa during prayer: I commit myself to remain in a balanced state of mind all the time.

It is in this state that my development reaches its greatest possibility. I commit to do my duty to self, family, at work, to society, and to the world, for the promotion of health and harmony.

Breakfast: 9.00 AM for breakfast any easily digestible rice items can be given for example, Akki Rave Uppittu, Pongal, Rice Ganji etc.

For hydrating the body instead of plain water seasonal drinks like Shunthi jala, Vijayasara jala, Musta jala, Madhoodaka, Dhanyaka jala, Sariva jala etc. depending on the seasonal variation can be selected.

After breakfast: News paper reading/watching TV/ Book reading/ Novel reading/ Watching Motivational talks/ Listening to spiritual discourses/ Movies or any other individual activity can be planned.

Lunch: 1.30 to 2.00 PM Depending on the dietary habits of the individual easily digestible vegetarian diet can be considered.

Post lunch: No day sleep if he is young. Aged persons & Children are allowed on the need basis.

The activities which are planned in before lunch session can be advocated here with modification on need basis.

Evening 5.00 to 7.00 PM A session of Dhyana can be advised, (Audio command dhyana are available in the market/internet/online)

Dinner 8.30 PM: Depending on the dietary habits of the individual easily light vegetarian diet can be considered.

Post Dinner 9.00 to 10.00 PM: Spiritual reading

Going to bed at 10.00 PM

Sadvritta(Good Conducts) to be practiced during quarantine:

Person should be; Truthful, free from anger, avoidance of alcohol & sex, do not indulging in violence & exhaustion, practicing some sacred chants, cleanliness, giving respect to elders, peaceful, pleasing in their speech, compassionate, free from ego, no narrow-mindedness.

Practicing of Sadvritta will help the stimulation of Psycho-neuro-immunological response of the body, their by protecting the individual against the chance of getting infection.

Grains & Pulses that can be used in diet: Rice, Wheat, Barley, Jowar, Ragi, Greengram dal, Tuar dal. (selection of the grain & pulses should be dependent on the habits & habitat of the individual)

Vegetables: Ridge gourd, Snake gourd, Bottle gourd, Bitter gourd, Beans, Carrot, Onion

Greens: Coriander, Pudeena and other leafy vegetables

Note: All Vegetables & greens should be baked with sufficient quantity of water, decant the water & then fry the vegetables in Ghee or oil before adding it to diet.

Dairy products: Milk in diluted form(1:1 dilution), Butter & Ghee in appropriate quantity, Properly churned butter milk can be used.

Fruits: Pomegranate, Papaya, Citrus fruits in limited quantity.

To be avoided: Black gram, Bengal gram, All types of sprouts, All types of tubers, Green chilli, Tomato, Oil fried items, Curds, NonVeg foods, Fish, Egg

Other beneficial practices include:

Gandoosha / Kavala (mouth rinsing and gargling)

With warm Salt water / Turmeric water / Triphala Kashaya / Yashti Kashaya - Need Basis

Dhoomapaana (Medicated smoke inhalation / fumigation) :

Haridra +/- Vacha, Lashuna - Need Basis

Steam inhalation :

Dashamoola Kashaya / Tulasi boiled water - Need Basis

Quarantine Environmental cleansing: Sushutokta Post operative fumigation or Kapa sthanokta environmental cleansing methods can be adopted

2. Diet & Yoga During Active Infection State

Day 1 & 2:

- Signs and Symptoms: Will be asymptomatic or patients will be having mild fever; with fatigue, muscle pain, dry cough; Very few people may have diarrhea or nausea (1-2 days earlier)

Diet & Activities

Diet

Do's * Light food (Ganji / rice, rasam (prepared with pepper, avoid tomato).

*Thin gruel prepared with Laaja + dry ginger + Coriander seeds + Long pepper (may add Pomegranate juice or ginger).

Avoid Heavy food intake, Astringent food

Drinking water Musta jala, Dhanyaka jala, Sarivajala, Shunthi jala, Shadanga Pana – Need basis

Activities

Do's Complete rest (Physical as well as Psychological)

Avoid Day sleep, Oil application / massage, Sex, Exposure to wind, Exercise, Anger

Day 3 & 4

- Signs and symptoms: Low grade Fever which gradually increases. Itchy throat & Cough – mostly dry; gets more severe over time Shortness of Breath & breathing difficulties

Diet & Activities

Diet

Do's * Light food (Ganji / rice, rasam (prepared with pepper, avoid tomato).

*Thin gruel prepared with Laaja + dry ginger + Coriander seeds + Long pepper (may add Pomegranate juice or ginger).

Avoid Heavy food intake, Astringent food

Drinking water Musta jala, Dhanyaka jala, Sarivajala, Shunthi jala, Shadanga Pana – Need basis

Activities

Do's Complete rest (Physical as well as Psychological)

Avoid Day sleep, Oil application / massage, Sex, Exposure to wind, Exercise, Anger

Day 5

Signs and Symptoms: Gastro-intestinal symptoms like Diarrhea / cramps, head ache and fever might become normal or it may increase

Diet & Activities

Diet

Do's * Light food (Ganji / rice, rasam (prepared with pepper, avoid tomato).

*Thin gruel prepared with Laaja + dry ginger + Coriander seeds + Long pepper (may add Pomegranate juice or ginger).

Avoid Heavy food intake, Astringent food

Drinking water Musta jala, Dhanyaka jala, Sarivajala, Shunthi jala, Shadanga Pana – Need basis

Activities

Do's Complete rest (Physical as well as Psychological)

Avoid Day sleep, Oil application / massage, Sex, Exposure to wind, Exercise, Anger

Day 6-7

Signs and Symptoms: More body pain, head ache will reduce; diarrhea might increase / might reduce but stomach upset

Diet & Activities

Diet

Do's * Light food (Ganji / rice, rasam (prepared with pepper, avoid tomato).

*Thin gruel prepared with Laaja + dry ginger + Coriander seeds + Long pepper (may add Pomegranate juice or ginger).

Avoid Heavy food intake, Astringent food

Drinking water Musta jala, Dhanyaka jala, Sarivajala, Shunthi jala, Shadanga Pana – Need basis

Activities

Do's Complete rest (Physical as well as Psychological)

Avoid Day sleep, Oil application / massage, Sex, Exposure to wind, Exercise, Anger

Day 8 & 9

Symptoms start reducing, Keep watching if Lower fever, lower body pain, energy level will increase, Cough will be persisting with running nose.

Once the patient is totally out of fever, appetite is improved; one can be prescribed with hunger increasing diet.

Diet & Activities

Diet

Do's * Light food (Ganji / rice, rasam (prepared with pepper, avoid tomato).

*If required, Rice prepared with Shunthy (ginger) water.

*Thin gruel prepared with Laaja + dry ginger + Coriander seeds + Long pepper (may add Pomegranate juice or ginger).

*Yoosha with Mudga

Avoid Heavy food intake, Astringent food

Drinking water Musta jala, Dhanyaka jala, Sarivajala, Shunthi jala, Shadanga Pana – Need basis

Activities

Do's Complete rest (Physical as well as Psychological)

Avoid Day sleep, Oil application / massage, Sex, Exposure to wind, Exercise, Anger

Note:

- During the phase of active infection NO YOGASANA IS PRACTICED
- Breathing observation is done to maintain the psychological balance
- All the Asana, Pranayama & Diet can be customised on need basis

1 CHYAVANA PRASHA³⁶

Key ingredients: Amalaki, Dashamoola, Draksha, Jeevanti, Guduchi, Pippali, Go ghruta, Tilataila

Dosha / Rogagnata: Kasa, Shwasa, Kshata, Ksheena, Hrudroga, especially in Aged and Children

Dose: 25-50gms acc. to Agnibala

Frequency: OD

Specific Anupana: UshnaJala, Ksheera

2 PIPPALI RASAYANA^{37,38}

Key ingredients: Pippali

Dosha / Rogagnata :Kasa, Shwasa, Peenasa, Gala roga, Kshaya, Hikka, Vishama jwara,

Dose: 5-10 per day acc. to Deha bala

Frequency:OD

Specific Anupana: Madhu, Ghruta

3 LASHUNA KSHEERA/ RASAYANA^{39,40}

Key ingredients Lashuna

Dosha / Rogagnata Vishamajwara, Hrudroga, Vidradhi, Shotha

Dose 50ml

Frequency OD, in morning

Specific Anupana Ksheera,Ghrita PREVENTIVE CARE-

Cases - Not tested positive, High risk, or Low risk under Quarantine-

Rasayana modalities are the basic line of treatment in the preventive management of Janapadoshwamsa or Pandemic disorders. Here both Achararasayana and Aushadha Rasayana have important roles. Rasayana drugs improves the host defence system by its Urjaskara properties i.e; by enhancing dehabala.

Both asymptomatic cases and unexposed cases also require Swasthasya urjaskara Chikitsa.

Non pharmacological methods which may be followed –

1. **Achararasayana:**

Regular practice of personal, social ethics of general health to promote the physical, mental, emotional and Social health. It includes practice of general guidelines of daily and seasonal dietetics and balanced diet as per individual constitution and specific guidelines of Janapadodhwamsa^{41,42,43,44,45}.

2. **Sthana parityaga**⁴⁶ – As mentioned in classics, if the cases are found to be high in number in a particular place or region, to avoid further spread, it is better to leave that place and go to safer places which are supposedly free from infection. This method is known to stop the spread of infection.

3. Other non-pharmacological methods may include

- Maintaining safe social distancing
- Keeping oneself warm
- Avoiding contact with infected persons
- Avoiding travel
- Avoiding eating viruddha, sheeta, asatmya ahara

PROBABLE CURATIVE PROTOCOL FOR COVID-19

Protocol 1:

1. STAGewise MANAGEMENT

Prophylactic Management-Non Infected Cases

As the reason for disease is due to Janapadodhvamsa, preventive guidelines mentioned for the same can be followed.

Avoid

- प्रसंग- Close interaction with a person
- गात्र संस्पर्श – Physical contact with the diseased individual
- निश्वास – Maintining distance to prevent transmission through inhalation or droplet infection
- सहभोजन- close contact such as sharing food
- सह शय्या – sleeping together
- सह आसन- using same sitting arrangements
- वस्त्रमाल्यानुलेपन- using same cloths, cosmetics etc.

Follow

- Regular practice of Nasya, Dhumapana is beneficial.
- Intake of Laghu ahara (Diet which is light to digest)
- Regular intake of Ushnodaka (Hot water)
- Disinfecting the environment with Dhoopana (Fumigation) by using different dhoopana Dravya Like Aparajita Dhoopa, Rakshoghna Dhoopa, Nimba, Haridra, Vidanga, Guggulu Etc.

Management Of High Risk Group

According to WHO, People who have underlying medical conditions and those over 60 years old have a higher risk of developing severe disease and death. Older people, and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness.

Separate management guidelines for these High risk groups along with treatment protocols for existing co-morbid conditions are necessary.

Management Of Subjects Exposed To Risk

- Administration of Deepana Pachana dravya (To activate immune system)
- Drugs/formulations for Dhatugata Ama pachana.- After this stage only Balya rasayana drugs can be administered
- Vishama jvarahara kashaya
- Langhana/Laghu Ahara sevana
- Abhyanga with taila like Brahat saindhavadya taila (For dhatugata ama pachana)

Diet

Peya prepared from Kanthakari, Gokshura etc.

श्वदंष्ट्रा कंठकारिभ्यां सिद्धां ज्वरहरी पिबेत् || Bhavaprakasha

Yavagu prepared from Ushna veerya dravya

Intake of vegetables like Patola, Karavellaka, Patha, Punarnava etc indicated in Jvara chikitsa

Management Of Active Cases

- Symptomatic management (Based on symptoms and involvement of Dosha)
- Jvara- Amrutottara kashaya, AYUSH-64, Mrityunjaya rasa, tribhuvana kirti rasa, Pippalyadi gana kashaya, Amritarishta, sanjivini vati etc

- Jvara with Kasa- Talisadi churna, sitopaladi churna, yashtimadhu churna, Dashamula kwatha, Kanthakari kwatha, Samirapannaga rasa etc
- Jvara with pratishyaya- Laxmivilasa rasa, Dashamula katutraya kwatha
- Jvara with Shvasa- In addition to the above, Shvasahara drugs can be added (Kanakasava, Shvasa kuthara rasa etc)

Management Of Complicated Cases

Stage of Upadrava. Multi organ involvement or multi organ failure leading to asadhya stage.

Needs emergency management and modern intervention.

STAGE WISE PROBABLE MANAGEMNT OF COVID-19

1. Avastha (STAGE): 0

Patient with positive travel history/ contact with suspected or diagnosed cases/ home quarantine/ isolation with no or very mild symptoms. Consider the patient having Amavastha of Jwara with Vata and Pitta predominance

- Panchakola Phanta – Amapachanartha yatha yogya
- Shadangapaneeya: Subject should start taking Shadangapaneeya frequently in warm condition. 50 ml every hourly Cha. Chi.1/145, A.H.Chi.1, Bai.Rat.
- Decoction prepared out of Ardraka, Tulasi, Maricha, Amruta, Guda (Jaggry) can be taken three to four times in a day.
- Tab-Sudharshana Ghanavati Itid as a prophylactic.
- Gandoosha with Yastimadhu and Triphala siddha Kashaya

2. PrathamaAvastha (STAGE): 1

Shleshmika Sannipata Jwara (Alasya, Aruchi, Hrillasa, Daha, Vamana, Bhrama, Tandra and Kasa) Pathologic hallmark

Principles: Amapachana, Jwara shamana, Kaphashodha and Vatanulomana Kashaya:

- Shadanga paneeya - 50 ml every hourly Cha. Chi.1/145, A.H.Chi.1, Bai.Rat. Jwaraprakarana(Jwara, Daha, Trishna, Atisara,)
- Amruthothara kashaya -before food 15 ml bid with warm water Sahasrayoga Kashyaprakarana (Tridoshahara, Pratishyaya, Sarvajwarahara, Ama and Ajeerna Rasadhatu dhustihara).
- Bharangyadi kashaya – 15ml twice daily with warm water Sahasrayoga Kashayaprakarana (Pachana, Kasa, Swasa, Sannipatajwara, Tridoshahara, Hritshoola, and Agnimandhya)
- Bhoonimbadi kashaya - 15ml twice daily with warm water Bai.Rat, Jwaraprakarana (Swasa, Kasa and Raktapitta, Deepana)

Gutika:

- Tab Sanjeevani vati- 1-2 tab before meals, with warm water Sha.Sam.M.Kha.7 (Deepana, Ama pachana, Krimihara, Kaphahara and Sannipatajwara)
- Tribhuvana keerti rasa -125mg twice in a day, with Ardraka swarasa as Anupana Rasamrita Rasayoga, Y.R, Jwara (all types of Jwara)
- Tab Jayamangala rasa 125mg twice daily with Madhu as Anupana Bai.Rat. Jwara (Santata Sarvajwara)
- Jwarghnagnigutika: 125mg twice daily with Madhu with Guduchiswarasa all types of Jwara **Yogartnakara Jwara.**

Churna:

Taleesadi churna: Dose: 3-5gram bd with Madu Phala: Kasa, Swasa, Jwarahara, Atisara and Chardi. Yogaratnakara Jwara

Sitopaladichurna: Dose: 3-5gram bd with Madu or Ghrita Phala: Swasa, Kasa, Hastapada daha, Mandagni and Jwara. **Yogaratnakara Jwara**

Triphala Pippali: Dose: 3-5gram bd with Madu or Ghrita Agnivardhaka, Saraka Swasa, Kasa and Jwarahara **Yogaratnakara Jwara**

Khatphaladichurna: Dose: 3-5gram bd with Madu Phala: Jwara, Kantya, Kasa, Swasa, Kshaya and Aruchi Yogaratnakara Jwara Drakshadichurna: Dose: 3-5gram bd with Madu Phala: Jeernajwara, Aruchi, Swasa, Kasa and Shotha **Yogaratnakara Jwara**

Shringyadichurna: Hikka, Swasa, Urdvavata, Kasa, Aruchi and Peenasa Dose: 3-5gram bd with Ushnodaka

Shuntyadichurna : Mandagni, Kantaroga, Swasa and Hridroga **Yogaratnakara Swasa**

Dose: 3-5gram bd with Ushnodaka

Samasharkarachurna: Mandagni, Aruchi, Swasa, Kanta and Hrudayaroga **Yogaratnakara Kasa**

Shuskakasa: Ropyabhasma + Pravalapishti along with Vasavalehya

Ayurvedasarasangraha Gandoosha • Sukhoshna lavana Jala with Hingu and Yashtimadhu

Dwitiya Avastha (STAGE): 2

Vata Shleshma pradhana Sannipata Jwara with Swasa Upadrava (Sthaimitya, Parvabheda, Shirograha, Pratishyaya, Kasa and Swedabhada)

Kashaya-

Nayopayam kashaya - before food 15 ml bid with warm water

SahasrayogaKashayaprakarana (Kasa, Swasa, Hikka, Deepana, Pachana)

• **Panchatiktaka kashaya** - before food 15 ml bid with warm water **Chakradatta/ Jwara** (Sarvajwara and Balya) Asava/Arista-

- **Amritarishta** – 10ml twice daily with warm water after food **Bai. Rat. Jwara**
(Jwara, Agnimandhya, Kasa, Pratishyaya)
- **Kanakasava** – 10ml twice daily with warm water after food **Bai. Rat. Swasa**
(Jeernajwara, Swasa, Kasa and Kaphachedaka)
- **Vasakarista** – 10ml twice daily with warm water after food **Gadanigraha Asavadhikara**
(Tridosahara, Deepanapachana, Kasa, Swasa, Shotha Raktapitta, Balya, Hrudhya and Raktadushtihara)

Gutika –

- **Lakshmilasarasa** – 200 mg bid Kasa, Peenasa, Yaksma, Prameha, Galashosha

Bai.Rat.Rasayana

- **Tribhuvanakeertirasa** – 125 mg thrice daily with Ardraka swarasa as Anupana
Sannipatajwara, Vatakaphajwara **Rasamrita 9/80**
- **Chintamanirasa** – 125 mg bid Kasa, Pratishyaya and Balya
- **Brihat Kasturibhairava rasa** – 125mg bid with Dashamularishta **Bai.Rat. Jwara**
(Vatakaphashamaka and Sarvajwarahara)
- **Siddha Aswakanchuki rasa*** ½ ratti pramana with Ardraka swarasa **Rasatantrasara va Siddha Pryoga Samgraha** (Kasa, Swasa, Jwara and Pranavahasrotovikara)
- **Mrutyunjayarasa** – 125-200 mg thrice daily Sarvajwara, **Yogaratanakara Jwara**

Churna

- **Sudarshana churna** – 3grams twice daily with warm water Jeernajwara and Vishamajwara
Sha. Sam. M.K.6/134

• **Taleesadichurna:** Dose: 3-5gram bd with Madu Phala: Kasa, Swasa, Jwarahara, Atisara and Chardi. **Yogaratnakara Jwara**

Gandoosha – Continue same

* This particular yoga is Anubhuti yoga explained by author in the context of Jwaraprakarna and it was used by siddhayogi in the year 1921 when there is crisis of Plague pandemic. This yoga has 20 ingredients; shuddha parada, Tankana bhasma, Shuddha gandhaka, Vatsanabha, Shunthi, Maricha, Pippali, Hareetaki, Vibhitaki, Amalaki, Chitraka moola, Hingu, Shuddha Hingula, Revalachinni, Musta, Shuddha haratala, Vacha, Shuddha Somala, Shuddha Jayapala, Gokshura 10gms of fine powder of each and Bhringaraja Swaras(qs).

4. **Tritiya Avastha (STAGE): 3**

Dhathupakavastha-Pitta prakopa-Vatakaphanubandhi Sannipata (Shaitya, Kasa, Aruchi, Tandra, Pipasa, Daha and Hruidivyatha)

Jwara shamana, Dhatuposhaka, Dhatupaka nivarana, Kasa, Swasahara and Rogibalasthirakara

Kashaya-

• **Bharangyadi Kwatha Dwitiya** – before food 15 ml bid with warm water **Yogaratnakara Vishamajwara** (Upadravayukta Jwara, Mrityuhara, Krimi, Hritvikra, Chittabhrama and Swasashoola)

• **Darvyadi kashaya** – before food 15 ml bid with warm water **Yogaratnakara Vishamajwara** (Vishamajwara, Ekahika, Dwahika, Tritiyakajwara, Chaturtaka Jwara and Bhutajwara,)

• **Patolamooladi kashaya** – before food 15 ml bid with warm water

• **Parpataka kashaya** – before food 15 ml bid with warm water Rasa-

• **Brihat kastoorighairavarasa** – 125mg bid with Dashamularishta **Bai.Rat. Jwara**
(Vatakaphashamaka and Sarvajwarahara)

• **Swarnamalini vasanta rasa** – 125mg bid with Madhu / Pippalichurna **Yogartatnakara**
Jwara Sarvajwara

• **Mruthyunjaya rasa** – 125-250mg bid **Bai.Rat. Jwara Sarvajwara**

• Swasa kasa chinthamani rasa – 125mg bid with Madhu as Anupana **Bai.Rat. Hikkswasadikara** (Kasa, Swasa and Pratishtyaya)

Asava/Arishta

• **Dashamoolarista**-10ml bid with ushnodaka after food **Sha.Sam.M.K** (Pranavasrotovikara Kasa, Balya)

• **Vasakasava** - 12ml-24ml bid with Ushnodaka after food **Gadanigraha Asavadikara/152**
Kasa, Swasa and Kashaya.

Chaturtha Avastha(stage 4)

Samasannipatavastha (Hikka, Kasa, Shaitya, Vamana, Antardaha, Mahashwasa and Marma chheda)

Majjadhatugata, Swasavarodha, Needs Emergency Management

1. Poornachandra makaradwaja rasa 125mg i. + Brihat kasturibhairava rasa 125mg ii. + Jayamangala rasa 125 mg all to be administered frequently with honey
2. Potash alum red verity bhasma 2-4ratti with Madhu or Ghrita, Raktashodhaka, reduces Swasavega, Kasahara, Parshvashoolahara, Urashoolahara and acts as Amritasamana -

Ayurvedasarasangraha

3. Godhantibhasma 1ratti + Haratalabhasma 1ratti Shrungabhasma 1ratti with Betel leaf gives Swasavega, Kasahara, Parshvashoolahara, Urashoolahara and acts as Amritasamana - **Ayurvedasarasangraha**
4. Anandabairavarasa+ Sitopaladichurna+ Yastimadhuchurna+ and Abhrakabhasama Swasavega, Kasahara, Parshvashoolahara, Urashoolahara and acts as Amritasamana **Ayurvedasarasangraha**

STAGE OF RESOLUTION:

Administration of Rasayanas:

1. Chyavanaprasha Rasayana:

Phala : Visheshata Kasa, Swasa, Ksheena, Kshata Swarakshyaya, angavrudhi in Bala Uroroga, Hrudroga, Vatarakta, Trishna, Shukrasambandhi Vatadi Doshavikarahara. Medha Smriti, Kantiarogya, Ayu, Indriyabala, Maithunashakti, Jatharagnivrudhi, Varnakantivrudhi Vatanulomanam and Navayavanaprapti. **Cha. Chi.1/1/70-74, A.H.U.39/33-41, A.S.U.49/25, Ha.Sam.** Dose: 6 – 12 grams with water

2. Agastya Haritaki Rasayana (Agastya Haritaki):

Phala: Hikka, Kasa, Swasa, Kshaya, Hrudroga, Vishamajwara, Sangrahani, Aruchi, Peenasa Valipalita, Varna ayu balakaram and acts as Rasayana.

A.H.Chi. 3/125-128, Bai. Rat. 15/ 173-178, A.F.I, Yogaratnakara p.n.414

Dose: 6 – 12 grams Warm water or Ksheera.

3. Vyagri Rasayana:

Phala: Peenasa, Swasa Sawarakshaya, Kshayaja, Kshataja, Vatika, Paittika, Kaphajanya, Dwidoshaja, Sannipataja, and Ekadasharupa upadravayukta Rajayakshma. This will acts as Rasayana. **Bai. Rat. 15/ 161-172, Yogaratnakara p.n.413**

Dose: 6 – 12 grams with Shritasheetajala or Mandhoshna dugdha

4. Kushmanda Khanda (Kushmanda Rasayana):

Matra:6 – 12 grams with Jala, Ksheera

Phala: Kasa, Swasa, Jwara, Urakshata, Kshaya, Swarabedha Puranajwara, Raktapitta, Chardi, Trishna, Shukra kshaya, Dourbalya Karshya, and Vaivarnya. It will acts as Rasayana. **Bai. Rat. 13/ 95-100, A.F.I**

5. Shivagutika :

Phala: Kshaya, Shosha, Peenasa, Hikka, Kasa, Swasa, Damstravisha and Garavisha, Mantroushadha Prayoga, Mukharoga, Netraroga, Shiroroga, Anaha, Atisaraprameha, Yakritroga. **A.S.U.49/156, C.D.Rasayanadhikara/190, Bai.Rat.**

Rasayanaprakarana/151175, Y. R. Rajayakshma

Matra: 6 grams Anupana: Ksheera, Mamsarasa, Dadimarasa, Sura, Asava, Madhu and Sheetalajala.

6. Pippali Rasayana:

Phala: Kasa, Kshaya, Shosha, Swasa, Hikka, Galaroga, Vishamajwara, Vaiswarya, Peenasa, Arshas, Grahani dosha, Panduroga, Shopha, Gulma and Vatabalajakajwara. **Cha. Chi.1/3/32-35, A.H.U. 39/96-97, A.S.U. 49/52-56, Ma. Chi. Rasayanatantra/11-12**

Dose: 10, 6, 3 Uttama, Madhyama and Avaramatra

7. Pippalipaka: Yogaratnakara Vishamajwara adhikara

8. Lashuna Rasayana:

Lashuna Matra: Avara matra-4 Pala, Madhyama matra- 6 Phala, Uttama matra-8 or 10 Pala, or 50 in number 60 in number and 100 in number Respectively.

Phala: Kasa, Swasa, Krimi, Jeernajwara, Agni and Bala vardhanartha Lashuna Rasayana is best. Asthichuti, Astibhagna, Astiviyadhi, All Vatarogas, Arthavasambandhi roga, Veeryasambandhi roga, Bhrama, Kusta, Gulma, Kilasa, Kandu, Visphota, Vaivarnyata, Timira, Naktandya, Ashmari, Mutrakrichra, Baghandhara, Pleeharoga, Shosha,Vatarakta it also enhances Medha. **A.H.U.39/129,A.S.U.49,82-111, Ka.Sam.** Lashunakalpana.

9. **Dashamoola Hareetaki Rasayana:** Dose: 12 grams with Jala, Phala: Jwara, Shotha, Karshya with Milk **A.H.Chi.17/14 10.**

10. **Kantakari Avaleha:** Dose: 12 grams with Jala, Phala: Kasa, Swasa, Hikka Sha.Sam.M.Kha.8/5

11. **Mahashatphalaghrita:** Dose: 12 ml Phala: Jwara, Swasa Yogartnakara Vishamajwara

12. **Sevantipaka:** Jeernajwara, Kshaya, Kasa all types of Mukharoga Yogartnakara Jwara. Dose 12gms

Protocol 02:

CLINICAL CARE- TESTED POSITIVE

ASYMPTOMATIC-

SL	NAME	SPECIFICATIONS	
1	BILWADI GULIKA ⁴⁷	Key ingredients	Bilva, Tulasi, Haridra, Ajamutra
		Dosha / Rogagnata	Specifically TridoshajaJvara derived different visha including Bhuta visha

		Dose	500mg
		Frequency	TID
		Specific Anupana	UshnaJala
2	SAMSHAMANI VATI ⁴⁸	Key ingredients	Guduchi Ghana Satva, Lohabhasma, Pippalichurna, Ativisha
		Dosha / Rogagnata	Specifically indicated in fever
		Dose	250mg
		Frequency	TID
		Specific Anupana	Madhu, Ardrakaswarasa, UshnaJala
3	AROGYAVARDHINI RASA ⁴⁹	Key ingredients	Kajjali, Lohabhasma, Katukarohini, Nimba, Tamra bhasma
		Dosha / Rogagnata	Specifically TridoshajaJvara
		Dose	25-300mg
		Frequency	TID
		Specific Anupana	Sukhoshnajala

Similarly Ashvagandha, Guduchi, Amalaki, Nimba, Tulasi, Lashuna, Haridra, Katuki, Bhumyamalaki etc. are some of the pharmacologically established Rasayana drugs known to have immunomodulatory, bactericidal and antimicrobial activities⁵⁰ which are worth considering as single drugs in the preventive and curative management of Covid 19.

SYMPTOMATIC – MILD TO MODERATE

Treatment guidelines of Amajvara described in Charaka samhita are useful in this conditions according to severity of Ama, Santhapa, Trishna, Glani etc. Different modalities like Ushnodhaka, Lajamanda, Manda, Peya, Vilepi, Yavagu, Aushadhasiddha yusha, Mudgayusha, Mamsarasa, Shadanganiya, Panchakola phanta, Karjuradi tarpana, Panchasara^{51,52} may be selected as per the associated features of Jwara.

On the basis of status of Deha, Agni and roga bala following aushadha kalpana may be selected.

The treatment protocol may vary in individual patient depending on associated features of Jwara.

SL	NAME	SPECIFICATIONS	EXPLANATIONS
1	SHADANGA PANEEYA ⁵³	Key ingredients	Musta, Parpata, Usheera, Chandana, Udeechya, Nagara
		Dosha / Rogagnata	Jwarahara, Dahashamaka, Pipasahara, Aamahara
		Dose	25-50ml
		Frequency	Repeatedly all through the day
		Specific Anupana	-
2	TULASI PATRA SWARASA ⁵⁴	Key ingredients	Fresh leaves of Tulasi
		Dosha / Rogagnata	Kapha pradhana, Vishamajwara
		Dose	15ml
		Frequency	BD
		Specific Anupana	3-6gms of Marichachurna
3	ARDRAKA SWARASA ⁵⁵	Key ingredients	Fresh tubers of Ardraka
		Dosha / Rogagnata	Vata kapha hara, Pratishyaya,

			Kasa, Jwara
		Dose	15ml
		Frequency	BD
		Specific Anupana	Honey
4	SANJEEVANI VATI ⁵⁶	Key ingredients	Vatsanabha, Bhallataka, Guduchi, Vacha, Vidanga, Gomutra
		Dosha / Rogagnata	Pitta pradhanasannipatajwara, Visha
		Dose	125mg
		Frequency	TID
		Specific Anupana	ArdrakaSwarasa or Ushnajala
5	DASHAMOOLA KWATHA ⁵⁷	Key ingredients	Dashamoola
		Dosha / Rogagnata	Vata kapha Jwara especially, Tridoshahara
		Dose	15ml
		Frequency	TID
		Specific Anupana	Sukhoshnasheetajala
6	DASHAMOOLA ARISHTA ⁵⁸	Key ingredients	Dashamoola
		Dosha / Rogagnata	Vata kapha Jwara especially, Tridoshahara, Balya
		Dose	15ml
		Frequency	TID
		Specific Anupana	Sukhoshnasheetajala

7	AMRUTASHTAKAM ⁵⁹	Key ingredients	Dashamoola
		Dosha /Rogagnata	Vata kapha Jwara especially, Tridosahara
		Dose	15ml
		Frequency	TID
		Specific Anupana	Sukhoshnasheetajala
8	AMRUTARISHTA ⁶⁰	Key ingredients	Amruta, Dashamoola, Parpata, Katuki, Saptaparna, Musta
		Dosha / Rogagnata	Vata kapha jwara
		Dose	15ml
		Frequency	TID
		Specific Anupana	Sukhoshnasheetajala
9	MAHA SUDARSHANA CHURNA / GHANA VATI ^{61,62}	Key ingredients	Kiratatikta, Haridra, guduchi, Katuki, Musta, Nimba, YAshti, Pushkaramula
		Dosha / Rogagnata	Sannipataja, dhatugata, Agantuja, Pitta kapha jwara
		Dose	1gm/125-250mgs
		Frequency	TID
		Specific Anupana	Shrutasheetajala
10	TRIBHUVANA KEERTI RASA ⁶³	Key ingredients	Hingula, Vatsanabha, Trikatu, Tankana, Tulsi, Shunti, Dattura
		Dosha / Rogagnata	Tridoshaja jwara

		Dose	125mg
		Frequency	TID
		Specific Anupana	Ardrakaswarasa, Ushnajala
11	MRUTYUNJAYA RASA ⁶⁴	Key ingredients	Kajjali, HIngula, Vatsanabha, Pippali, Maricha, Tankana
		Dosha / Rogagnata	VishamaJwara, Vata kapha jwara,
		Dose	250mg
		Frequency	TID
		Specific Anupana	Ardrakaswarasa, Madhu
12	VISHAMA JWARAHARA PANCHAKASHAYA ⁶⁵	Key ingredients	Kalingakadi, Patoladi, Nimbadi, Kiratatiktadi, Guduchyadi
		Dosha / Rogagnata	Vishamajwara and its variants
		Dose	15ml
		Frequency	TID
		Specific Anupana	Shrutasheetajala
13	SHWASA KUTHARA RASA ⁶⁶	Key ingredients	Kajjali, Vatsanabha, Gandhaka, Maricha
		Dosha / Rogagnata	Vata kaphajaKasa Shwasa
		Dose	62.5-125mg
		Frequency	BD
		Specific Anupana	Honey, Ardrakaswarasa, Sukhoshnajala
14	SHWASA KASA	Key ingredients	Kajjali, Mukta, Abhraka, Loha,

	CHINTAMANI RASA ⁶⁷		Kantakari, Ajaksheera
		Dosha / Rogagnata	Vata pittajaKasa, Shwasa
		Dose	62.5-125mg
		Frequency	BD
		Specific Anupana	Tulasiswarasa, Pippalichurna&Sukhoshnajala
15	ANANDA BHAIRAVA RASA ⁶⁸	Key ingredients	Hingula, Gandhaka, Vatsanabha
		Dosha / Rogagnata	Sannipatajwara, Kasa, Shwasa, Atisara
		Dose	125mg
		Frequency	BD
		Specific Anupana	Honey, Ardrakaswarasa
16	TALISADI CHURNA ⁶⁹	Key ingredients	Talisapatra, Maricha, Shunti, Pippali, Vamshalochana, Twak, Ela, Sharkara
		Dosha / Rogagnata	Kasa, Shwasa, Jwara, Chardi, Atisara, Kapha vata jwara
		Dose	4gms
		Frequency	TID
		Specific Anupana	Madhu, Ghruta
17	SITOPALADI CHURNA ⁷⁰	Key ingredients	Sita, Vamshalochana, Pippali, Ela, Twak
		Dosha / Rogagnata	Kapha Pitta kasa shwasa hara

		Dose	4gms
		Frequency	TID
		Specific Anupana	Madhu, Ghruta
18	VASAKARISHTA ⁷¹	Key ingredients	Vasa, Trikatu, Twak, Ela, Patra
		Dosha / Rogagnata	Shwasa, Kasa, Galaroga, Urakshata, Gala roga,
		Dose	15ml
		Frequency	TID
		Specific Anupana	Shrutasheetajala
19	KANAKASAVA ⁷²	Key ingredients	Dhattura, Vasa, Madhuka, Shunti, Bharangi, Talisapatra
		Dosha / Rogagnata	All types of Kasa, Shwasa, Yakshma, JeernaJwara, Kshataksheena
		Dose	15ml
		Frequency	TID
		Specific Anupana	Shrutasheetajala

Special attention should be given to protect the Deha, Agni and Chetobala which will be the key to check the further progress of the disease. The batteries of investigations like TLC, LFT, RFT, CRP, LDH, CXR which are helpful along with clinical signs to evaluate the therapeutic response and limitations of treatment should be aptly made use of.

SEVERE/ CRITICAL CASES

Supportive treatment along with Biomedicine if protocol permits.

SL	NAME	SPECIFICATIONS	EXPLANATIONS
1	JAYA MANGALA RASA ⁷³	Key ingredients	Swarna, Rajata, Hingula, Dashamoola, Kirata
		Dosha / Rogagnata	Tridoshaja, Dhatugata, Antarvegijwara
		Dose	62.5-125mg
		Frequency	BD
		Specific Anupana	Jeeraka kashaya
2	MAKARADHWAJA ⁷⁴	Key ingredients	Swarna bhasma, Kajjali, Kasturi, Abhraka
		Dosha / Rogagnata	Puranajwara, Kasa, Shwasa
		Dose	62.5-125mg
		Frequency	OD
		Specific Anupana	Madhu

Based on the clinical variations, the following may be utilized if need –

- Mahalakshmilasa Rasa
- Vasantamalati rasa
- Hemagarbhapottali Rasayana

REHABILITATION

Even after clinical recovery if persistently positive for Covid 19

SL	NAME	SPECIFICATIONS	EXPLANATIONS
1	TIKTA GHRUTA ⁷⁵	Key ingredients	Triphala, Haridra, Vasa, Parpata, Patola, Katuki, Nimba
		Dosha / Rogagnata	Vishamajwara
		Dose	125mg
		Frequency	BD
		Specific Anupana	Jeeraka kashaya
2	PUNARAVARTAKA JWARAHARA KASHAYA ⁷⁶	Key ingredients	Kiratatikta, Katuki, Musta, Parpata, Guduchi
		Dosha / Rogagnata	Punaravartakajwara
		Dose	15ml
		Frequency	TID
		Specific Anupana	Shrutasheetajala
4	SWARNA MALINI VASANTA RASA ⁷⁷	Key ingredients	Swarna bhasma, Hingula, Mukta, Pippali, Kharparasatwa
		Dosha / Rogagnata	Jeerna jwara, Vishamajvara, Kasa
		Dose	62.5-125mg
		Frequency	BD
		Specific Anupana	Madhu, Pippali churna

Clinical recovery with Negative for Covid 19 test-

SL	NAME	SPECIFICATIONS	EXPLANATIONS
1	INDUKANTA GHRUTA ⁷⁸	Key ingredients	Karanja, Devadaru, Dashamoola
		Dosha / Rogagnata	Vatahara Jwarahara, Balya
		Dose	20-40gm
		Frequency	OD-early morning
		Specific Anupana	Ushnajala
2	BRAHMA RASAYANA ⁷⁹	Key ingredients	Amalaki, Haritaki, Panchapanchamula
		Dosha / Rogagnata	Deerghayu&Arogyadayaka
		Dose	25-50gms
		Frequency	OD-Early morning
		Specific Anupana	UshnaJala, Ksheera

PROTOCOL-03

Stage 1

1. In the suspected individuals who are in quarantine with out Symptoms– Prevention of onset of the disease by advising the Ama Pachana and Rasayana Dravya to increase the Vikara Vighatakara Bhava.

- a. Regular Diet
- b. Panchakola Phanta 100ml three time day before Food
- c. Rasyana – Pippali, Shunti or Triphala with Guda or Guduci,
- d. Tripha with honey night before bed
- e. Deppaneeya Gruta – Like Dhadimadya Gruta 1st with hot water early morning

Stage 2

2. Prevention of Progress in patients manifested with the symptom fever and Shushka Kasa

1. Diet –

Gruel of Green Gram – 8Am

Boiled Vegetable – 11.00 am

Kichdi – Dashamoola Yavagu – 1pm

Kichidi - Rice with Green Gram Dal – 7pm

Shadanga Paneeya Every Two Hour once

Triphala Churna with Honey or Draksha Kalka at Night time

2. Jwarahara Oushadha – Mostly Rasaoushadha like Mrutyunjaya Rasa

3. Rasyana – Pippali Amalaka with Guda or Shunti with Guda, Amruta Satva

4. Supta Jihva Aruchi- Sitopaladi Churna, yavani Shadhava Churna

5. Fumigation of quarantine room with Sarshapa, Guggulu, Nirgundi, Nimba etc

Stage 3

3. Diagnosed case of COVID – 19

Moderate Symptom – Mild Shvasa Lakshama

Shvasa Shamana Yoga and Rajayakshma – Symptomatic treatment can be started

1. Diet –

Gruel of Green Gram – 8Am

Boiled Vegetable – 11.00 am

Dashamoola Yavagu – 1pm

Kichidi - Rice with Green Gram Dal – 7pm

2. Shadanga Paneeya Every Two Hour once

3. Triphala Churna with Honey or Draksha Kalka at Night time
4. Supta Jihva Aruchi- Sitopaladi Churna, yavani Shadhava Churna,
5. Shirashula – Rasnadi Lepa,
6. Kasashvasa – Pippaliamalaka Guda, Talisadi Churna etc
7. Rasayana – Agastya Haritaki or Shivagutika

Sever Presentation – Symptomatic treatment as co medication with allopathic drug as enlisted before

Stage 4

After completion of treatment till the patient completes the 3 months after discharge to prevent reoccurrence

- a. Regular Diet – Light and less quantity
- b. Panchakola Phanta 100ml three time day before Food
- c. Rasyana – Pippali, Shunti or Triphala with Guda or Guduci,
- d. Triphala with honey night before bed
- e. Deppaneeya Gruta Tikta Gruta – Like Indukanta Gruta 1st with hot water early morning

CLASSICAL FORMULATIONS:

Aushadha Rasayana:

Both asymptomatic cases and unexposed cases also require Swasthasyaaurjaskara Chikitsa.⁵¹

Indhukanta Gritha – Preliminary studies in our laboratory showed IG to possess considerable immunomodulatory effects with a Th1 type of immune response

Ashtamangala Gritha – It increases both, Haemagglutinating antibody (HA) titre and Delayed type hypersensitivity (DTH) response which indicates that the polyherbal formulation potentiates humoral as well as cellular immunity.

- **Shatyadi Varga Kashaya:**

Shati, Puskaramula, Srungi, Duralabha, Guduchi, Ginger, Patha, Kirata, Katukarohini.

Cures: Sannipata Jwara along with Kasa (cough), Hrut graha (stiffness in cardiac region), Parshva arati (pain in the sides of the chest), Shvasa (Breathlessness) and Tandra (drowsiness).

- **Bruhatyadi gana Kashaya :**

Both the varieties of Brihati, Pauskara, Shati, Srungi, Duralabha, Seeds of Vatsaka, Patola and Katukarohini.

Cures: Sannipata Jwara, Kasa (cough) etc. and all types of complications.

LIST OF EKAMULIKA PRAYOGA

Pomegranate fruit is a good source of vitamin c, B55, polyphenols and potassium. It augments the digestive fire, loss of taste, and pittaja jwara. Also if the vit c level is maintained, it prevents viral diseases.

MATULUNGA

बीजपुरो मातुलुङ्गोः रुचकः फलपूरकः बीजपूरफलं स्वदु रसेअम्लं दीपनं लघु रक्तपपत्तहरं कण्टजजह्वाहृदयशोधनम् श्वासकासरुचहरं हृद्यं त्रष्णाहरं स्रतम् II(भा.नन)

In Malaya, a decoction of the fruit is taken to drive off evil spirits. In Panama, they are ground up and combined with other ingredients and given as an antidote for poison. The essential oil of the peel is regarded as an antibiotic.

Grapes are rich in water, sugar, sodium, potassium, citric acid, fluoride, potassium sulfate, magnesium and iron. Grapes are very useful for removing the weakness of the heart. The patient should eat grapes regularly. Consumption of grapes removes phlegm accumulated in the lungs, it also helps in cough. Grapes nausea, nervousness, It is also beneficial in dizziness diseases. Breathe Disease in and airways diseases is also beneficial to use the grapes.

SOMLATHA

Somalata or Moon plant (Sarcostemma acidum) existing in warmer regions in European and Asian countries like India, China, Pakistan, Srilanka, Iran has various religious and pharmacological significances. The main ingredient is Somalata .“The divine amrutham “Somarasam” is an extract of this herb”

Botanical name : Sarcostemma acidum

Somlata a member of family Asclepiadaceae is believed to be close to “Soma” a divine drink that confirms immortality, had ritual importance in Indian mythological system. The use of Soma by humans is mentioned in the Rig Veda, written more than 5000 year ago, which says that soma makes us immortal, lightened, and helps to find gods.

It has kashaya rasa,laghu, ruksha gunas,katu vipaka,ushna virya,kaphavata shamaka and indicated in shwasa,shosha,trishna

Parts used:Branch,fruit

Dosage:1-2g

Actions : Bronchodialator, Vasodialator, Anti-asthmatic, Diaphoretic.

Chemical composition:Ephedrine is the major content of the plant.

Ephedra, genus of 65 species of gymnosperm shrubs of the family Ephedraceae. Ephedra is an evolutionally isolated group and is the only genus in the order Ephedrales (division Gnetophyta). Species are distributed in dry regions in both the Eastern and Western hemispheres.In the Western Hemisphere, Ephedra occurs in desert areas in the southwestern United States, in parts of Mexico, and in a wide area in South America.

Plants of the genus Ephedra, including E. sinica and others, have traditionally been used by indigenous people for a variety of medicinal purposes, including treatment of asthma, hay fever and the common cold. The alkaloids ephedrine and pseudoephedrine are active constituents of E. sinica and other members of the genus. These compounds are sympathomimetics with stimulant and decongestant qualities and are chemically substituted amphetamines.

KASAMARDA

कासमर्ददलं रुच्यं वृष्यं कासविषास्त्रनुत ।

मधुरं कफवातघ्नं पाचनं कंठशोधनम् ।

विशेषतः कास हर पित्तघ्नं ग्राहकं लघु 11 भा प्र

Rasa-Tikta, Madhura

Vipak-Katu

Virya-ushna

Guna-Ruksha, laghu, Tikshna

Doshagnata :Kaphavatashamak, Pittasaraka

Karma-Ruchya,kantha shodhaka,kasa hara

KANTAKARI DWAYA

1.Brihati (Solanum indicum)

2.Kantakari (Solanum xanthocarpum)

are described as Brihatidwaya or Kantakari dwaya.

Brihati and Kantakari are considered together,in the name of Brihati Dwaya.Among these,Brihati is larger and kantakari is smaller.

Part used:Moola,phala

It has katu-tikta rasa,laghu,ruksha,teekshna guna,ushna virya,katu vipaka,kapha vata hara

And acts as deepana,pachana,kasahara,jwaraghna,krimihara.

KARPOORA

Botanical name: Cinnamomum camphora

Karpoora (Camphor) is a potent antimicrobial indicated in shwasa kasa, ama-jwara swarabheda,agnimandya galagraha etc.

It is an effective mukha dourgandhya hara dravya and in upper respiratory as well as in respiratory symptoms. Preparations of karpooa vis brihat karpooradi churna are widely indicated.

It may be a drug of recommendation.

AMRUTA (*Tinaspora cordifolia*): its potent antiviral activity is proved in HSV-1. It has immune stimulating properties. Samshamani vati, chinnaruha kashaya, Guduchi satwa, Amritarista, Amrutottara kashaya are available preparations.

HARIDRA (*curcuma longa*): it has proved antiviral and anti-inflammatory properties, it also improves immunity. It gives excellent results in fever, coryza, eosinophilia, and other upper respiratory conditions. For preventive purpose, 2-3 gms of turmeric can be taken with warm milk and jaggery. It can be used with hot water for gargling.

PIPPALI (*piper longum*):

It contains piperine which is having significant anti inflammatory activity. Cough, common cold, throat irritation, fever are the main indications. It gives relief in these conditions besides reduces the weakness or fatigue caused due to disease. It is one of the best immune modulator especially in conditions relating to upper and lower respiratory conditions. Amruta satwa 20gms+ choushasta prehari pippali 20gms+ brihat haridra kanda 100gms. This preparation when taken 1tsp twice daily with lukewarm water provides excellent immunity in conditions of respiratory system. The above combination can be mixed with 5gms of shataputi Abraka bhasma and given with honey in conditions of lower respiratory tract specially in breathlessness.

YASTIMADHU (*glycyrrhiza glabra*): it is a time tested and proven drug for its widespectrum action in respiratory disorders. One of its active ingredient Glycyrrhizin helps to prevent viral replication. Its decoction prevents viral proliferation in throat when used for gargling.

TULSI (*Ocimum sanctum*): it is a commonly used drug for its excellent action in upper respiratory disorders. Its extract along with leaf extract of *Acacia Arabica* has shown anti viral properties.

ARDRAKA(*Zingiber officinale*): fresh ginger is effective against human respiratory syncytial virus in human respiratory tract induced plaque formation on airway epithelium by blocking viral attachment and internalization.

KALAMEGHA(*Andrographis paniculata*): it has a potent antiviral activity.

BHUMYAMALAKI (*Phyllanthus niruri*): its bioactivity role is presented by elevated levels of antibacterials and antioxidants and also has immune activation potentials.

AMALAKI– Āmalaki possesses significant Immunostimulant activity and moderate cytoprotective activity. It is rich in Vitamin C which is a natural Antioxidant

ASHWAGANDHA – Withaferin⁸ A and 3-b-hydroxy-2,3-dihydrowithanolide F isolated from *Withania somnifera* show promising antibacterial, antitumoral, immunomodulating and anti-inflammatory properties Antiviral⁹ activity of *Withania somnifera* extract has been reported earlier on Herpes Simplex Virus Type-1. The inhibitory¹⁰ action of Withaferin A, a steroidal compound present in *Withania somnifera* against Herpes Simplex Virus has also been reported.

LIST OF POPULAR MEDICATIONS USEFUL FOR COVID-19:

DIET& REGIMEN

Food plays a major role during the diseased state as well as in the post convalescence stages. It is important to avoid doshas becoming leena in dhatus after the remission of disease, thus preventing punaravartana.

Usage of hot water is indicated in Jwara and many other disorders too as Ushnajala is Agni vardhaka, Vata anulomaka, Kapha shoshaka, and so can also be used as Anupana in most of the medicines described above.

Foods utilized should be laghu, easily digestible, ushna, should not cause obstruction in srotas, vata anulomana, agnivardhaka. Following may be the best choice based on the Prakruti and vikruti.

- Yavagu
- Yusha
- Peya
- Tarpaka
- Krushara

Diet should compose mostly of the following

- Shashtikashali
- Mudga
- Yava
- Saindhavalavana

- Ghruta
- Madhu
- Shuddhajala

Yavagu prepared or Vidanga, Pippali, Shigru, Maricha with Takra and Sauvarchala – is Krimighna. Cha. Su. 2/23.

- Yavagu prepared of Dashamoola cures Kasa, Hikka, Swasa and diseases due to kapha. Cha. Su. 2/27.

- Panchakolasiddha Yavagu – Deepana - pachana • Milk of Sheep and Goat: Kasa, Jwara, Hikka and Swasa. Cha.Su.27/ 222

- Yavagu prepared of laja saktu (powder of fried paddy) in Jwara. Cha. Chi.1/155

- Yavagu prepared of vidaryadi gana dravya when Jwara associated with Kasa, Swasa and Hikka. Cha. Chi.1/184

- Ahara: Puranashali, Sahstikashali, Patola, Mudga, Karkotaka, siddha Yusha. Saveera, Tushodaka, Shukti, Raga, Kambalika, Veshavara and Puranasarpi.

Medicated diet:

1. Medicated gruel:

Gruel prepared using monocots like rice, barley, sooji, etc and processed with pippali, dashamoola, ginger, rocksalt etc are helpful to maintain resistance and nutritional balance.

2. Laaja peya (Parched rice-khoi):

1 part of parched rice is boiled with 14 parts of water and reduced to half. The supernatant portion is added with medications like dashamoola, ginger and honey. This preparation helps in fever associated with cough, breathlessness and diarrhoea.

Peya prepared with pomegranate is also useful

3. **Yoosha :**

Yoosha is a preparation where 1part of dicot preferably greengram or horsegram is cooked with 18 parts of water and reduced to 1/4th part and used. This preparation is easily digested, it improves taste perception and promotes strength as it is rich in protein.

In conditions where fever is associated with diarrhoea, yoosha medicated with musta(*Cyperus rotundus*), Chirayata(*Swertia chirata*), Shunti(*Zingiber officinalis*), and Guduchi(*Tinospora cordifolia*) is useful.

When yoosha is prepared with greengram and is processed with pomegranate and gooseberry, it provides rich source of vit.c that acts as immunomodulator.

4. **Shadanga Paneeya:**

It is a wonderful combination of 6 drugs all taken in equal quantity in coarse powder form. Musta (*Cyperus rotundus*), parpata (*Fumeria Indica*), usheera (*Vetiveria zizanoides*), chandana (*Centella album*), udeechya (*Andropogan vetiveria*), nagara (*Zingiber officinale*). 15 gms of this powder is put in ½ lt of boiling water and allowed to cool. It is later filtered and used. The patient is told to take sips of this preparation repeatedly. These drugs mainly have antipyretic effect and also reduce the associated symptoms of fever.

A WORKABLE MODEL FOR COVID 19 – A PATH AHEAD USING AYURVEDIC INTERVENTIONS

SHORT TERM PLANS

1. Give health promotive tips to general public through various electronic media.

- A) Show animation films highlighting the physical distancing.
- B) Give rasayana like Amalaki rasayana.
- C) Promote herbal teas.

2. Follow Dinacharya in Quarantines.

- A) Avoid day sleep.
- B) No atiyoga of jalapana.
- C) Dhanyaka siddha jala pana.
- D) Tulasi etc indoor plants an karanja,nimba etc plants in surrounding areas of Quarantines.
- E) Practicing yoga,pranayama and dhyana.

3. Give supportive Ayurvedic treatment for co-morbid factors.

- A) Give rasayana.
 - B) Daiva vyapashraya and satvavajaya.
4. Give Arishta nivaraka swarasa - Amalaki prayoga,in terminally ill cases,after taking consent from patient's relations.
- 5.Hav war-room at Ayurveda Research Centre, Mysuru,for remaining doubts of Ayurvedic practitioners.
6. Study ASHTASTHANA in Quarantine and COVID19 afflicted people and publish the findings.

LONG TERM PLANS

- 1. Arrange Web-nairs to train Ayurvedic personnels.
- 2. Publish books.
- 3. Remove myths and misconceptions.
- 4. Give research grants to screened research scholars, through Ayurveda Research Centre.

RECOMMENDATIONS

- This protocol is based on literary review done by Expert committee of the Covid -19. And to do the final protocol brainstorming workshop of 2 day with policy makers can be organised.
- Integrated approach is the best approach for the benefit of the patients so that best treatment can be given utilizing the best available medications from the integrated system of medicines ,for this a policy making workshop can be organised with the stake holders.
- An capacity building activity can be organised based on literary review on Covid -19 ,to all stake holders like post graduate students so that enhancement of the knowledge about the disease can be framed.
- This is only the literary review on Covid, an practical approach can be obtained with the help of clinical trials, for all eight protocols, in the concerned institutes with the help of funding agencies.
- Verities of IEC materials can be published based on the inputs from the literary review to the common man and many preventive strategies can be framed to enhance the knowledge about the disease.
- Small research projects for the PG students can be funded by Dept.of AYUSH,both on literary ,clinical,drug,transitional research so the disease can be reviewed with multidimensional approach.
- An master training on Covid -19 may be arranged from the inputs on literary review on COVID-19 in the lines of master training ,conducted by Dept.of AYUSH,Govt. Of INDIA to all stake holders.

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