

Aayurprakaas'a

Santhigiri Ayurveda Medical College Newsletter

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Tattvapraakaas'a

Gurucharanam Saranam

Heartfelt greetings and the best wishes from the family of Santhigiri Ayurveda Medical College, Palakkad, Kerala on this auspicious occasion of Dhanvantari jayanti and also the festival of lamps, Deepaavali. Since 2016 we have been celebrating this day as National Ayurveda Day, thanks to our Honourable Prime Minister S'ree Narendra Modiji for his noble initiation and all his efforts in reviving our ancient, yet the ever latest, Indian thoughts for the benefit of humankind globally.

It is an occasion for all of us to celebrate by lightening lamps of hope, health and bliss in hearts of all beings and in fields of science & research. We have to fulfill and live up to the aspirations of common people who are eagerly looking at us for solutions for their sufferings.

Challenges in health care system are stepping stones of aayurveda which is evident in its journey of evolution and reaching the needy. Its a matter of coincidence that this day i.e., 13th November is also celebrated as "World Kindness Day", which is very apt for Aayurveda, origin and base of which is embedded in universal Kindness, the Bhootadayaa.

If we go into the depths of past of Aayurveda, it is very clear that it has the potential to deal with present situation for better tomorrow. For nearly last one year we have been suffering from Covid - 19 pandemic. Its wide spread effects resulted in difficulties in health, social, financial and even in political spheres globally. So far the available data is not sufficient and is also changing day by day. What ever is available is analyzed in terms of modern medical system. It is now need of hour that we have to understand it in applied aspects of aayurveda in depth. So theme of celebrations of 5th National Aayurveda Day i.e. "Aayurveda for Covid -19 Pandemic" is very apt and gives a road map for our immediate and future course.

In spite of many hardships caused by Covid - 19, it also made us to realize the importance of research in aayurveda for its global

acceptance. The data from CTRI says that 61% of clinical trails registered in CTRI on Covid -19 are from AYUSH systems. Though it is an opportunity, we have to be careful in adopting apt research protocol and interpretation of the results. Because theories and concepts of modern sciences are in evolution and changing every day. That's why IMA asked last month to stakeholders of AYUSH whether Covid - 19 is a Hyper immune state or Immune deficiency state.

Our experience in last six months proved that Aayurveda has its own role in containing Covid - 19 in prevention and prophylaxis, treatment and post Covid - 19 syndrome. National Clinical Management Protocol based on Aayurveda and Yoga for Management of Covid - 19 is the proof for such a claim. The principles laid down in Jvaranidaana - cikitsaa particularly Vishama jvara and Punaraavartaka jvara, Vaataraktsa, S'vaasa, Kaasa and other relevant clinical contexts are to be properly applied while dealing with individual patients and concepts laid down in contexts of Aupasargikaroga, Janapadodhvamsa are to be understood and applied in preventive aspects at social level.

For last six years Central Govt has been extending support for development of aayurveda and Indian thought. Dedication of Institute of Teaching & Research in Aayurveda, Jamnagar as the institute of National Importance & NIA Jaipur as Deemed to be University by our Honorable Prime Minister S'ree Narendra Modiji on this special National Ayurveda Day indicates the possible future opportunities for AYUSH systems. Announcement of Tedros Adhanom Ghebreyesus, the Director General, WHO on this National Aayurveda Day to set up a Global Centre for Traditional Medicine in our country indicates the global importance of our traditional indigenous Health care system, Aayurveda. It should be our duty that with our dedications and selfless efforts we have to make Aayurveda the mainstream health care system as Honorable Prime



Minister indicated in his speech.

*Deerghan'jeevitamaarogyam dharmamartham sukhamyas'ab/
Paat'haavabodhaanusht'haanairadbigacchatyatho dbruvam//*
(As.Hr. U.40)

Once again prostrating at the lotus feet of Lord Dhanvantari
for shower of blessings on all beings,
Sarvesantu niraamayaab/

Dr. G. Nagabhushanam
Chief Editor

National Ayurveda Day 2020

Inaugural Session - A Brief Note

The inaugural session of the National Aayurveda Day Celebrations commenced with the prayer invoking the almighty for the success of the event and the well being of the whole world in this tense Pandemic situation.

Dr. Janani Remyaprabha Jnana thapaswini, Vice Principal, Santhigiri Ayurveda Medical College, Palakkad delivered the welcome address welcoming all the esteemed guests for the inaugural session as well as the scientific sessions. In her address, Janani emphasised the importance of Karma and highlighted the concepts of Janapadodhvamsa and sadvr'tta.



Dr. G Nagabhushanam, Principal, Santhigiri Ayurveda Medical college presided over the session and in his address he highlighted the potential and role of Aayurveda in the management of the pandemic. He also thanked the efforts of the Govt of India in boosting the AYUSH systems.



The celebration was inaugurated by Vaidya Vinod kumar T G, Member, Board of Governors, CCIM and Senior scientist, Ethnomedicine and Ethnopharmacology division,



Keynote Address - Dr. Shibu

Dr. Shibu DMO(ISM)Palakkad who has been invited as a guest speaker on the occasion of National Aayurveda Day 2020, delivered the key note address. He emphasized the importance of immunity and its role in the management of covid-19 and its post covid syndrome. Like how we say our health is our responsibility, same way our immunity is our responsibility. Aayurveda believes the health depends upon what we eat and what we do. Aahaara and vihaara has a pivotal role in maintenance of good health and in turn it reflects one's own immunity too. Speaker explained about the Amr'tam project- the preventive protocol



INTBGRI, Palode. He spoke about the advances made by the central govt in raising the AYUSH Systems, and the importance of restructuring the syllabus, improving the quality and streamlining Aayurveda into authentic aayurvedic systems.

The occasion was blessed by the benedictory address of Janani Kalpana Jnana Thapaswini, Head (administration, Area office, Santhigiri Ashram, Palakkad.



Dr. Shibu, DMO (ISM) Palakkad delivered the key note address and video release which was followed by the scientific sessions by Dr. V C Deep, Assistant Director-in -charge(Ay) of Regional Ayurveda Research Institute in Urinary Disorders, Jammu; Dr. Parvathy Devi, Superintendent, Govt Aayurveda Research Institute for Mental Diseases kottakkal; and by the faculties of various departments of SAMC.

Mr. Jayarajan, PTA President SAMC and Mr. Ashok PJ, Sr Manager, Area office, Santhigiri Ashram, Palakkad delivered the felicitations and Ms. Harshita P S, Chairperson, Students Union SAMC delivered the vote of thanks.



against covid -19. It was utilized by thousands of people who were at quarantine then. He expressed his sincere thanks to the students and faculties of Santhigiri Ayurveda Medical College for being with them during the implementation of the same project in Palakkad District. He highlighted the role of Aayurveda in treating post covid syndrome which consists of odema, multiple joint pain, breathlessness, cardiac ailments. He also added the project called Punarjani developed by the ISM department is now focusing the management of post covid syndrome. He advised the students to believe aayurveda and quoted the golden era of Aayurveda is yet to come. He concluded his key note address by video releasing done by the students of Santhigiri Ayurveda Medical college.



S'aastraprakaas'a

Management Of Covid – 19 Through Aayurveda – AYUSH Guidelines

Dr. V C Deep

Assistant Director - in -charge (Ay.)

Regional Ayurveda Research Institute for Urinary Disorders
Jammu

Background of AYUSH Activities

To contain the impact of the pandemic COVID-19, Ministry of AYUSH has taken a variety of steps to



tap into the potential of AYUSH based practices since its onset. Promoting awareness about the situation of disease in the country, informing the public regarding the methods to keep oneself healthy to mitigate the impact of the disease and providing support to AYUSH stakeholders.

AYUSH Activities

Ministry of AYUSH issued an advisory containing guidance to protect oneself from COVID and to stay healthy on 29-01-2020 ie, at the very beginning of the pandemic in India. In addition to the advice on hygiene practices like hand wash, use of mask etc, the advisory also listed simple home remedies easily accessible to common people.

On 06-03-2020 a letter was sent from the Ministry to Chief Secretaries of all States / Union territories with more specific suggestions on augmentation of general immunity of people. The letter also discussed possible AYUSH interventions that could be taken up in coordination with health departments of the States / Union Territories.

Another advisory from the Ministry recommended self care guidelines duly vetted by eminent personalities across the country from all streams of AYUSH for preventive health measures and enhancing immunity with special reference to respiratory health. This advisory was then endorsed by the Hon'ble Prime Minister of India through a tweet. It was further translated into French, German, Portuguese, Spanish, Japanese, Russian, Arabic and Chinese languages and sent to all Indian Missions in various countries, various embassies in New Delhi and to MoU partners which indicates the global acceptance of AYUSH streams in the management of the disease as well as its complications.

Another endorsement from the Hono'ble Prime Minister came on 14-04-2020, in his address to the nation regarding combating Covid-19. In this address he mentioned seven steps which came to be known as saptapadi, among which one step was to follow the guidelines issued by Ministry of AYUSH for improving the

immunity was again a recognition for the traditional sciences like Aayurveda.

On further discussions, Ministry of AYUSH launched AYUSH Covid -19 Dashboard for the benefit of public furnishing the details of AYUSH immunity guidelines, various communications, research on COVID-19, AYUSH drugs and medicines etc. This helped in monitoring the progress of various activities along the right direction, in the fluid situation of the pandemic.

On 28-03-2020, Hon'ble Prime Minister addressed AYUSH stake holders through a video conference, and called upon them to provide their services whenever needed by State Governments. The Prime Minister also invited for suggestions from the AYUSH systems to combat the epidemic. One of the follow up actions initiated by the Ministry of AYUSH on the Prime Minister's call to work for scientific evidence based solutions from the AYUSH systems is to set up an online mechanism on its website for crowd – sourcing of ideas. Through this channel, suggestions based on scientific explanations and proposals on therapies and procedures prepared based on standard scientific guidelines that could restrain the spread of the Covid-19 pandemic, or to manage the disease, were invited.

Around 8.5 lakhs AYUSH doctors, students, and paramedical staff enlisted themselves on 'covidwarriors.gov.in', offering their services for clinical management, surveillance and management of Covid isolation centres and quarantine wards. Details of trained AYUSH personnel are available at state/ district administration and they are being utilized in fight against Covid-19 as and when required. AYUSH personnel are also obtaining training at 'igot.gov.in' platform on continuous basis.

The Ministry of AYUSH also formed an interdisciplinary AYUSH R & D Task Force chaired by Prof. Bhushan Patwardhan, Vice chairman, UGC and having representation from scientists including those from ICMR, DBT, CSIR, AIIMS and premier AYUSH institutions. Thi interdisciplinary AYUSH R & D Task Force formulated and designed clinical research protocols for prophylactic studies and add on interventions in COVID-19 positive cases. These were arrived at through thorough review and consultative process of experts of high repute from different organizations across the country. Four different interventions were selected for the study, namely ashvagandha, yashtimadhu, gudoooci & pippali and AYUSH 64 (a poly herbal formulation). This task force has taken up the proposals received from screening committees of Councils and proactively explored possibilities based on available leads.



As a result of the above protocol development, AYUSH ministry has launched interdisciplinary studies involving AYUSH interventions for COVID-19 based on the recommendation of the task force. Under various research organisations and National institutes under Ministry of AYUSH, 66 clinical studies duly registered on CTRI have been undertaken at 104 centres in the country. Clinical research studies are being conducted on AYUSH interventions as prophylactic interventions in high risk population targeting approximately 05 lakhs population and as an add on to standard care to COVID-19 management.

Another initiative Ayush Sanjivani mobile app was developed and launched by Ministry of AYUSH to generate data on acceptance and usage of AYUSH advocacies and measures among the population and its impact in prevention of COVID-19 targeting 5 million populations.

Guidelines for Registered Practitioners of respective system of AYUSH were prepared by Director General of Research councils and Directors of National Institutes with their team of experts, to support the seven lakhs registered AYUSH practitioners in the management of COVID-19 pandemic. The guidelines were vetted by the interdisciplinary AYUSH Research and Development Task Force of Ministry of AYUSH and after obtaining approval of the Cabinet Secretariat, these guidelines are made available in public domain. The guidelines have helped considerably in bringing in a degree of uniformity in the management of Covid-19 through AYUSH solutions.

Some of the States / Union Territories have allowed management of Covid-19 patients with AYUSH guidelines. Immunity enhancing Ayurvedic preparations are being distributed regularly to the public in the states of Arunachal Pradesh, Chattisgarh, Goa, Gujarat, Haryana, Madhya Pradesh, Punjab, Rajasthan, Sikkim, Tamil Nadu and Uttar Pradesh as reported by the respective states. In the state of Chattisgarh immunity enhancing Kaad'ha is being distributed to the patients admitted in various Covid Care Centres, Quarantine Centres and Covid Hospitals. AYUSH doctors have been given responsibilities as in-charge of Covid Care Centres and daily monitoring of home quarantine patients.

In Gujarat state Ayurvedic drugs were given to 7000 quarantine persons and among them only 25 become COVID-19 positive. Further, Government of Gujarat has passed an order regarding posting of 51 Ayurvedic doctors in 08 COVID-19 civil hospitals for treatment with ayurvedic drug. Institute for post graduate Teaching & Research in Ayurveda (I.P.G.T & R.A), Jamnagar, Gujarat under the Ministry of AYUSH has launched the services of 'Dhanvantari Rath' in collaboration with Jamnagar Municipal

Corporation (JMC) and Shri Gulab Kunverba College, Jamnagar on 8th June 2020. 'Dhanvantari Rath' will go to all the areas the Jamnagar to provide health care services through Aayurveda at the doorsteps of residents.

In the state of Haryana, Ayurvedic treatment protocol has also been started with Covid-19 patients admitted at SHKM, Government Medical College, Nalhar, Nuh.

In the state of Tamil Nadu, "AAROKYAM" Special programme with AYUSH Intervention for Covid -19 has been proposed to be implemented. Nearly, 1.78 crores individual were provided with Kabasura Kudineer in Chennai. In other districts 11,08,875 home quarantined and 20,52,892 containment zone and 1.3 crores public population were supplied with Kaba Sura Kudineer in Chennai and Nilavembu kudineer so far.

In Uttar Pradesh, the state government has launched a new application called Ayush Kavach for using it as a medium to provide health-related information amid Covid-19. State has also distributed 1000 packets of Unani medicine consisting Arka Ajeeb and Unani Joshanda (Kaad'ha) to frontline workers of Municipal Corporation based on the guidelines issued by AYUSH Department for prevention of Covid-19.

Then the Ministry of AYUSH launched a 3 months campaign on 'Ayush for immunity' through webinar and more than 50 thousand people participated in this webinar. The Ministry also published a campaign bulletin on 'Ayush for immunity' to take the health promotion messages far and wide emphasizing the importance of following Dinacarya concept of Aayurveda.

National Clinical Management Protocol: Covid-19

The Ministry also taken an initiative for the integration of Aayurveda and Yoga interventions in the 'National Clinical Management Protocol: Covid-19', with different protocols in different stages of the disease. While preparing this protocol, three aspects considered were

- Knowledge from Aayurveda Classics and experience from clinical practices
- Empirical evidences and biological plausibility
- Emerging trends of ongoing clinical studies

The protocol was approved by the Chairman, Interdisciplinary Committee for inclusion of Aayurveda and Yoga in the management of mild Covid-19 and approved by the empowered committee of the interdisciplinary AYUSH Research and Development Task Force on Covid-19, both constituted by the Ministry of AYUSH and released on October 2020.

General and Physical Measures included in the protocol

- Follow physical distancing, respiratory and hand hygiene,



wear mask

- Gargle with warm water added with a pinch of turmeric and salt or water boiled with triphala or yasht'imadhu

- Nasal instillation / application of medicated oil (An'utaila / Shad'bindu taila) or plain oil (sesame oil or coconut oil) or cow's ghee once or twice in a day, especially before going out and after coming back to home.

- Steam inhalation with Ajwain or pudina or eucalyptus oil once a day

- Adequate sleep of 6 to 8 hours

- Moderate physical exercises

- Follow Yoga protocol for primary prevention of COVID-19

Dietary Measures in the protocol

- Use warm water or with herbs like ginger or coriander or tulsi or cumin for drinking purpose.

- Fresh, warm, balanced diet in correct time.

- Drink golden milk (half tea spoon haldi powder in 150ml hot milk) once at night

- Drink Ayush kvaatha once a day

Specific measures as prophylactic care for high risk population and primary contacts

- Ashvagandha

- Gud'ooci ghana vat'i (Sams'amani vat'i or Gud'ooci sattva) or the powder of Tinospora cordifolia

- Cyavanapraas'a

Asymptomatic COVID-19 positive cases

- For prevention of disease progression to symptomatic and severe form and to improve recovery rate

- Gud'ooci ghana vat'i or gud'ooci sattva

- Gud'ooci kvaatha and pippali

- AYUSH 64

Mild COVID-19 positive cases

- Symptomatic management of fever, head ache, tiredness,

dry cough, sore throat, nasal congestion without evidence of breathlessness or hypoxia

- Gud'ooci kvaatha and pippali

- AYUSH 64

Post COVID Management

- Prevention of Post COVID lung complications like fibrosis, fatigue, mental health

- Ashvagandha coorn'a

- Cyavanapraas'a

- Rasaayana voorn'a (Gud'ooci, Aamalaki, Gokshura)

- Jvara cikitsa concept should be utilized here by analysing the nija jvara lakshan'a as well as santataadi vishama jvara and rasaadi dhaatu aas'rita vishama jvara concepts such as

- Kr's'aanaam vyaadhimuktaanaam mithyaahaaraadi sevinaam

- Alpejpi dosho dooshyaaderlabdhvaa anyatamo balam

- Savipaksho jvaram kuryaat vishamam kshaya vr'ddhibhaak

- Doshaa pravartate tesaam sve kaale jvarayan balee

- Nivartate punas'caiva pratyaneeka balaabala

Santataadi vishama jvara cikitsa

- Santata (always) – Rasa dhaatu – Kalin~gakaa: pat'olasya patram kat'urohin'ee

- Satata (twice in Ahoraatram) – Rakta dhaatu – pat'olam s'ariba musta paat'haa kat'urohin'ee

- Anyedyu: (once in ahoratra) – Maamsa dhaatu – Pat'ola nimba triphalaa musta mridweekaa vatsakaa:

- Tr'teeyaka (alternate days) – Medo dhaatu – Kiraatatiktam amr'taa candanam visvabheshajam

- Caturthaka (once in 3 days) – Asthi – Dhaatree mustaa amr'taa kshaudra

Thus by repeated reading and discussions of Aayurveda classics especially jvara nidaana & jvara cikitsa, can sharpen the knowledge to understand different stages of the disease and can get ready to treat COVID all over the world.

Psychological Problems In Covid -19 And Aayurvedic Management

Dr. Parvathy Devi
Superintendent
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Kottakkal

COVID-19 is considered as an extraordinary crisis unfamiliar to current generation. It demands adjusting the lifestyle amidst the fear



of the disease. The psychological impact of COVID -19 had been studied in various countries. Studies in China suggest that more than half of the participants have psychological impact. Studies in Denmark also suggest that psychological health is affected and American psychiatric Association says that more than half the population are affected.

Social distancing can make people feel isolated which increases stress and anxiety. Other aspects like business, financial constraints, family, health, education, job security, life events also contribute to stress. Stress is a type of psychological pain, feeling of



emotional strain and pressure. It can be defined as the degree to which you feel overwhelmed or unable to cope in an unmanageable pressure. Stress also includes our body's response to pressures from a situation or life event. It is characterized by increased sweating, palpitations, and tremor.

Based on the nature, stress can be classified as eustress (beneficial which stimulates to work) and distress (ill being where happiness and comfort have been surrendered). Based on duration it can be acute or chronic and based on the cause it can be external or internal. In acute stress there is always a flight or fright response. The system, the heart rate, blood pressure returns to normal immediately. But chronic stress affects gut brain axis and the normal intestine biota. It results in psychological disorders like abnormal behaviour, anxiety, cognition deficits, autism etc. Apart from that it affects neuroendocrine system, neuroimmune system, autonomic nervous system, enteric nervous system. Functional GI disorders, IBS, Crohns disease, ulcerative colitis are common.

Some of the common causes for stress include death of spouse, marital separation, loss of job, health issues among members, foreclosure of loans, work pressure, trouble with in laws, troublesome past memories. COVID stress syndrome is characterized by five related facets danger and contamination fears, socioeconomic concerns, xenophobia, traumatic stress and compulsive checking and reassurance seeking. People with more severe COVID stress syndrome are more likely to be anxious or depressed, experience distress during voluntary self isolation and avoid public places or transportation. About 16 percentage of adults in general population have severe COVID stress syndrome.

Psychological symptoms secondary to COVID stress include irritability, increased thoughts, anger, anxiety, depressed mood, insomnia, emotional exhaustion, substance abuse, panic attacks, poor attention and concentration and increased use of mobile phones. Major psychiatric diseases include neurotic and psychotic diseases. Neurotic stress related disorders include phobia, pain attacks, anxiety disorders, OCD, acute stress reaction, adjustment disorder, somatoform disorder and hypochondriacal diseases. Psychotic diseases include acute psychosis, delusional disorders, mood disorders, depressive disorders and bipolar affective disorders.

Phobia, anxiety and panic attacks present with fear even with no objective of danger. They are usually associated with symptoms like palpitation, dyspnoea, tremor, insomnia, dizziness and GI symptoms. OCD is excessive concern about hygiene and possible infection. There is repeated intrusion of unwanted

thoughts and present with irritational fear, increased cleanliness and use of sanitizer. Acute stress is seen among corona identified or quarantined individuals

Somatoform disorders present with a persistent preoccupation with the presence of COVID 19. Adjustment disorders are inability not cope with significant life change or new stressful situation and is presented by depressed mood, anxiety, worry, disability to perform daily routine, outburst or violence. Acute psychosis has an abrupt onset followed by a stressful event. Depressive disorder is manifested by reduced self esteem and self confidence, ideas of guilt, self harm or suicide disturbed sleep reduced appetite.

Ayurvedic view

COVID- 19 can be considered as a janapadodhvamsa vikaara. Adharma is considered as the cause. Prajnaaparaadha has got a role in the causation. Satvabala is seen to be affected. Acute manifestations of bhaya, s'oka etc contribute to the aagantu or external factors. Persons with avara satva are unable to bear less stressful situations. Rogee pareeksha and satva pareeksha has to be done in detail. Dars'ana and pras'na pareeksha of mano vibhrama, buddhi vibhrama, smr'ti vibhrama, bhakti vibhrama, s'eela vibhrama, cesht'ha vibhrama and aacaara vibhrama, samjnaa jnaana has to be carried out.

Avaraavastha, unexpected crisis, adjourned life events and loss of job are considered as the nidana of COVID related stress. Lakshanas denote the involvement of rajas and tamas and is characterized by krodha, s'oka, bhaya, moha, vishaada, eershya. Loss of money, death of relatives, excessive fear etc lead to alpasatva. It leads to the vitiation of manovaha srotas and imbalance of dosha which results in manasaroga. Rajas and tamas are the manodosha involved.

Aayurveda management includes satvaavajaya, yuktivyapaas'raya and prevention. Satvaavajaya includes psychological approach which helps the patient to control mind and sense organs, making the person capable to face the situation. Yukti vyapaas'raya means the pharmacological approach by the judicious administration of internal drugs. Prevention include proper advice on sadvr'tta, aacaara rasaayana and pathya aahaara.

Increase the satvabala of the person through talk therapy. Jnaana, vijnaana, dhairya, smr'ti, and samaadhi can be employed.

Draakshaadi kashaayam, gud'oocyaadi kashaayam, kooshmaan'd'a svarasa ghr'ta tiktaka, mahaatiktaka, mahaakalyaan'aka and mis'raka sneha can be given internally.



Kriyaa krama include dhaara, talam, talapotichil(pan`ca gandha, puraana'a dhaatri), snehapaanam, vasti(ksheera, sneha), nasya with puraana'ghr'ta,ksheerabala.

Kaphaanubandha is usually seen in depression,

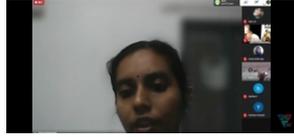
bipolar disorders, delusion and acute psychosis. S'amana yogaa include vaca , gokshura, pathyaadi Kashaaya indukaantam kashaayam, pan`cagavyam, las'oona ghr'tam. Kriyaakrama include vamaana , an`jana, nasya, doopana, kashaayadhaara.

Investigations in COVID -19

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Coronavirus disease 2019 (COVID-19) is an acute infectious respiratory disease caused by a novel coronavirus.



The clinical presentation is generally that of a respiratory infection with a symptom severity ranging from a mild common cold-like illness, to a severe viral pneumonia leading to acute respiratory distress syndrome that is potentially fatal. Characteristic symptoms include fever, cough, and dyspnea, although some patients may be asymptomatic. Complications of severe disease include, but are not limited to, multi-organ failure, septic shock, and venous thromboembolism.

Etiology

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a previously unknown Beta coronavirus that was discovered in bronchoalveolar lavage samples taken from clusters of patients who presented with pneumonia of unknown cause in Wuhan City, Hubei Province, China, in December 2019. SARS-CoV-2 belongs to the Sarbecovirus subgenus of Coronaviridae family, and is the seventh coronavirus known to infect humans.

Coronaviruses are large, enveloped, positive-stranded RNA viruses. They have the largest genome among all RNA viruses. The genome is packed inside a helical capsid formed by the nucleocapsid protein(N) and further surrounded by an envelope. Associated with the viral envelope are at least three structural proteins: The membrane protein (M) and the envelope protein (E) are involved in virus assembly, whereas the spike protein (S) mediates virus entry into host cells.

Diagnosis of COVID-19

Perform a physical examination. Avoid use of a stethoscope if possible due to risk of viral contamination. Patients may be febrile (with or without chills/rigors) and have obvious cough and/or difficulty breathing. Auscultation of the chest may reveal inspiratory crackles, rales, and/or bronchial breathing in patients with pneumonia or respiratory distress. Patients with respiratory distress may have tachycardia, tachypnoea, or cyanosis accompanying hypoxia. Bradycardia has been noted in a small cohort of patients

with mild to moderate disease

Pulse oximetry

Pulse oximetry may reveal low oxygen saturation ($SpO_2 < 90\%$). Clinicians should be aware that patients with COVID-19 can develop 'silent hypoxia': their oxygen saturations can drop to low levels and precipitate acute respiratory failure without the presence of obvious symptoms of respiratory distress.

Investigations

The investigations can be classified in to 4 categories.

- Initial laboratory investigations
- Molecular testing
- Serological investigations
- Rapid diagnostic tests

Initial laboratory investigations

- ABG
- CBC
- Comprehensive metabolic panel
- Blood glucose level
- Coagulation screen
- Inflammatory markers
- Cardiac biomarkers

ABG

It is the arterial blood gas test, which measures the amount of oxygen and carbon dioxide in blood. Also used to determine pH of blood or how acidic it is.

CBC

The complete blood count is used to determine the values of blood cells, that is red blood cells, white blood cells and platelets. In Covid-19, lymphopenia, leukocytosis, leukopenia, thrombocytopenia are very common.

Comprehensive metabolic panel

- A comprehensive metabolic panel is a test that measures 14 different substances in blood. It provides important information about body's chemical balance and metabolism. It includes the following tests

Glucose
Albumin
Calcium
ALP,ALT,AST
Sodium and potassium



Bilirubin

Blood urea nitrogen and creatinine

A CMP is used to check several body functions and processes, include

Liver and kidney health

Acid and base balance

Fluid and electrolyte balance

Blood sugar levels

Metabolism

Blood protein levels

In Covid-19, there will be altered liver and kidney functions and hypoalbuminemia.

Coagulation screening test

Coagulation screening tests measure the blood's ability to clot and how long it takes to clot.

Inflammatory markers

They are certain proteins released in to the blood stream during inflammation. Although there are many inflammatory markers, also known as acute phase reactants, those most commonly measured in clinical practice are C- reactive protein (CRP), Erythrocyte sedimentation rate (ESR), and procalcitonin (PCT). In covid-19, as there is inflammatory reaction, the inflammatory markers will be elevated.

Cardiac biomarkers

These are substances that are released in to the blood when heart is damaged or stressed. The cardiac biomarkers like troponin, creatine kinase and myoglobin will be elevated in case of covid-19, which indicate the damage to cardiac tissues.

Molecular testing

Molecular testing is required to confirm the diagnosis. Nucleic acid amplification test, such as real-time reverse-transcription polymerase chain reaction (RT-PCR), for SARS-CoV-2 in patients with suspected infection can be done.

Real time RT-PCR is a nuclear-derived method for detecting the presence of specific genetic material in any pathogen, including a virus. Originally, the method used radioactive isotope markers to detect targeted genetic materials, but subsequent refining has led to the replacement of isotopic labelling with special markers, most frequently fluorescent dyes.

A sample is collected from the parts of the body where the COVID-19 virus gathers, such as a person's nose or throat. The sample is treated with several chemical solutions that remove substances such as proteins and fats and that extract only the RNA present in the sample. This extracted RNA is a mix of the person's own genetic

material and, if present, the virus' RNA.

The RNA is reverse transcribed to DNA using a specific enzyme. Scientists then add additional short fragments of DNA that are complementary to specific parts of the transcribed viral DNA. If the virus is present in a sample, these fragments attach themselves to target sections of the viral DNA. Some of the added genetic fragments are used for building DNA strands during amplification, while the others are used for building the DNA and adding marker labels to the strands, which are then used to detect the virus.

The mixture is then placed in an RT-PCR machine. The machine cycles through temperatures that heat and cool the mixture to trigger specific chemical reactions that create new, identical copies of the target sections of viral DNA. The cycle is repeated over and over to continue copying the target sections of viral DNA. Each cycle doubles the previous number: two copies become four, four copies become eight, and so on. A standard real time RT-PCR set-up usually goes through 35 cycles, which means that, by the end of the process, around 35 billion new copies of the sections of viral DNA are created from each strand of the virus present in the sample.

As new copies of the viral DNA sections are built, the marker labels attach to the DNA strands and then release a fluorescent dye, which is measured by the machine's computer and presented in real time on the screen. The computer tracks the amount of fluorescence in the sample after each cycle. When a certain level of fluorescence is surpassed, this confirms that the virus is present. Scientists also monitor how many cycles it takes to reach this level in order to estimate the severity of the infection: the fewer the cycles, the more severe the viral infection is.

Specimens

The optimal specimen for testing depends on the clinical presentation and the time since symptom onset. The World Health Organization (WHO) recommends the following.

Upper respiratory specimens: recommended for early-stage infections, especially asymptomatic or mild cases. Nasopharyngeal swabs yield a more reliable result than oropharyngeal swabs; combined nasopharyngeal and oropharyngeal swabs further improve reliability.

Lower respiratory specimens: recommended for later-stage infections, or patients in whom there is a strong suspicion for infection and their upper respiratory tract specimen test was negative. Suitable specimens are sputum and/or endotracheal aspirate or bronchoalveolar lavage in patients with more severe respiratory disease. However, consider the high risk of aerosol transmission when collecting lower respiratory specimens – an



induced sputum specimen is not recommended as it may increase the risk of aerosol transmission.

Other respiratory specimens: studies on combined oropharyngeal and nares/nasal swabs, mid-turbinate or lower nasal or nares swabs, or tongue swabs have been conducted; however, further assessment and validation is required. Oral fluid collection may be suitable in some circumstances (e.g., young children, older patients with dementia). There is emerging evidence that saliva may be a reliable specimen for diagnosis

Serological testing

Serology cannot be used as a standalone diagnostic test for acute SARS-CoV-2 infections. However, it may be useful in various settings like

Negative molecular testing

Diagnosing patients with late presentation or prolonged symptoms

Serosurveillance studies

Rapid diagnostic tests

Antibody detection

While rapid antibody detection kits have been approved for the qualitative detection of SARS-CoV-2 IgG/IgM antibodies in serum, plasma, or whole blood.

Antigen detection

Antigen testing relies on direct detection of SARS-CoV-2 viral proteins in nasal swabs and other respiratory specimens using a lateral flow immunoassay. Results are usually available in less than 30 minutes. While antigen tests are substantially less sensitive than RT-PCR, they offer the possibility of rapid, inexpensive, and early detection of the most infectious cases in appropriate settings.

Conclusion:

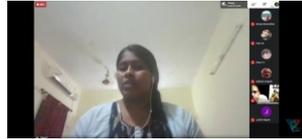
Despite the countless scientific advances and state of the art facilities and equipment at our disposal, researchers are somehow at a shortcoming for finding a permanent solution to this current crisis. It is hence invariably essential to promote research in this field of study and to find an appropriate solution to the virus so as to allow individuals all around the globe to lead a secure and healthy life in the future

Aayurvedic Concepts of Etiopathogenesis of Covid -19

**Dr. Divya P
Associate Professor**

Department of Roga vijnaana evum Vikr'ti vijnaana

The entire world is fighting against the pandemic COVID -19. In India, our health ministry has approved AYUSH systems for the treatment, prevention of COVID -19.



According to Aayurveda, naming a disease is not an important matter. A Vaidya need not be ashamed if he cannot name a disease. Rather understanding the sampraapti of the disease is the most important concern. Treatment is nothing but breaking the pathogenesis or progression of the disease.

COVID -19 can be considered as an aupasargiga vyaadhi. Acaarya Sus'ruta has detailed about the means of transmission of a disease like close contact, sharing the utensils and dress etc. The present scenario of wearing masks and using sanitizers by the whole population as a preventive measure reflects the importance of the sloka. It can also be considered as a janapadodhvamsa janya vikaara. In Caraka samhita Vimaana sthaana, an entire chapter is devoted to describe about the causation and transmission of epidemics. Adharma is mentioned as the main cause for janapadodhvamsa which leads to the vitiation of des'a, kaala, jala and vaayu. Covid 19 also comes under samsargaja vyaadhi which is a classification of

aadidaivika vyaadhi.

Beta corona virus is the causative organism of Covid -19. This can be considered as the praadhaanika hetu because of its potency to cause the disease. This can also be considered as a vyaadhi hetu because the virus is the specific cause for the disease. Since this is an external factor, we can classify the disease as agantuja.

The classical triad of the disease is Jvara, Svaasa and Kaasa. This clearly gives an idea that all the three dosha are involved in the sampraapti of this disease. For framing a sampraapti the analysis of the disease stage by stage is required.

About 15% of the cases are asymptomatic and 65% of the cases present with mild illness. This is characterized by sore throat, fever, headache, bronchitis and rhinitis. The features suggest the similarity with vaata jvara like kan't'hosht'ha paris'oshan'am, s'iruruja. Kapha jvara lakshan'a like kaasa, pratis'yaaya, taapa haani, aruci etc are also present. Vaatika jvara and kaphaja jvara lakshan'a are present at this stage of the disease.

About 15% of the cases progress to the stage of pneumonia. The respiratory rate goes beyond 24 per minute and oxygen saturation goes below 90. The symptomatology mimics vaata jvara, kapha jvara and sannipaata jvara. The bala of the patient goes down and the strength of the disease increases at this stage.

About 5% of the cases progress to ARDS. Dhaatu are in samaavastha. Agni of the patient will be very much reduced. The microvascular and macrovascular coagulopathy at this stage depicts



srotorodha which is due to the increased picchila gun'a. The progression of the disease continues in such a way that the dhaatu undergo paaka and gets depleted. The patient ultimately develops septic shock and multiple organ dysfunction. The condition is very much similar to sannipaata jvara. The features like tandra, moha, pralaapa suggests altered sensorium. The features like bhrama, tr'shn'a suggests hypotension. The features like kot'haanaam syaava raktaanaam man'd'alaanaam ca dars'anam suggests coagulopathy and malaanaam apravr'tti suggests MODS.

The following can be considered as the factors of sampraapti

Dosha - vaata, pitta, kapha

Dooshya - rasa, rakta

Agni- manda

Srotas - praan'a vaha, rasa vaha

Sthaana - uras

Rogamaarga - aabhyantara

All the symptoms of praan'avaha srotas are evident in COVID19. Aagantu nidaana (corona virus) leads to sroto vaigun'ya as well as the vitiation of dosha which ultimately leads to dosha dooshya sammoorcchana and sthaanasams'raya in the uras. If rogi bala is more when compared to roga bala dosha paaka happens and disease subsides. If roga bala is more, the disease progresses to dhaatu paaka.

Prognosis of the disease is very much similar to sannipaata jvara. If rogi is balavan with moderate or good digestive power, the disease is saadhya. If agni is manda, all the lakshan'a are present and the patient is weak, it is incurable. Sometimes the vitiated dosha remain dormant in dhaathu and is responsible for the recurrence or other complications. The concept of vishama jvara and punaraavartaka jvara has to be always remembered while dealing with COVID 19. Improving vyaadhikshamatva can prevent the severity of disease to a greater extend.

COVID-19: Prevention Through Aayurveda

Dr Deepthy Nair
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Department of Svastav'ita

The 5th National Aayurveda Day was observed on 13th November 2020. It was indeed a very special occasion, especially this year, as we were celebrating it amidst the COVID-19 pandemic. The first case of COVID-19, caused by the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) was officially reported in Wuhan, China in December 2019. In India, the first case was reported on 30th January 2020 in Kerala where a student studying at Wuhan University was tested positive after she travelled to her hometown in Thrissur. And currently India has the largest number of confirmed cases in Asia and second highest number of confirmed cases in the world, first being the United States.



In association with the 5th National Aayurveda Day various programs and discussions were conducted all over based on the focal theme "Ayurveda for COVID-19". However, in spite of the fact that Kerala is the homeland of Aayurveda, the age-old medical science, it was very unfortunate here that the Aayurveda fraternity had to face oppositions regarding its efficacy in the prevention, cure and rehabilitation of this global pandemic. Eventually the State Ayurveda COVID-19 Response Cell (SACRC) was constituted with its network spreading throughout the state through the Regional Ayurveda COVID-19 Response Cells (RACRC) and the

District Ayurveda COVID-19 Response Cells (DACRC) and services were delivered to the community with continuous monitoring through 4 projects namely Svaasthyam (health promotion measures for people aged below 60yrs), Sukhayushyam (Specialized health promotion geriatric care for above 60 age group), Amr'tam (preventive protocols for people under quarantine) and Punarjani (post COVID-19 rehabilitation). It was a blessing that I could be a part of the DACRC, Palakkad and joining hands with the ISM along with the faculty members and students from various Aayurveda Colleges across the state could create the database for Amr'tam scheme which was statistically analyzed by SACRC and reported that the incidence of COVID-19 among those registered for Amr'tam was as low as 0.342%. And finally, Aayurveda treatment has been approved for mild and uncomplicated cases of COVID -19 in Kerala by the verdict of the high court on 18th November 2020.

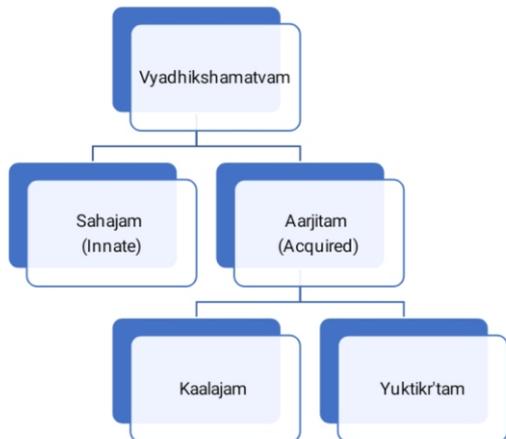
As the COVID-19 pandemic hit the human race, all expectations were laid on a feasible treatment plan which could not be effectively developed till date. And now as the clinical trials with the COVID-19 vaccine are reported to be almost 90% completed, the vaccination is being looked upon as the savior with great expectations.

However, the incidences of various Communicable diseases or the Aupasargika roga, as we call them in Aayurveda, has been reported from time to time. Rather than getting panicked each time with a new disease and thinking about the possible measures against it, it is wiser to strengthen the body's natural defense mechanism, the Vyaadhikshamatvam or Balam, which will minimize the vulnerability of an individual to the disease¹. Aayurveda also upholds

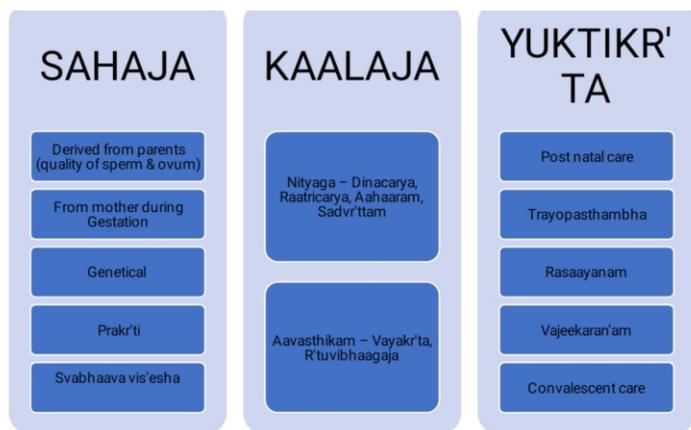


"Svasthasya Svaasthya Rakshan'am" as of prime importance and has advocated various measures to achieve this.

Vyaadhikshamatvam or Balam is classified as²:



Various factors contributing to the above said are classified as follows:



Thus, the Vyaadhikshamatvam of an individual is decided not only by his own personal factors, rather it is determined as early as he is conceived in the womb of the mother and right from the quality of S'ukra and S'onita contributing to it plays a role in framing the Vyaadhikshamatvam. In other words, the diet and regimes followed by an individual is detrimental for the health status of his progeny too. So, this is to be understood as a continuous process initiating from a pre-conceptional period, through the gestation, care of the new born and progressing through the lifestyle and regimes one adopts, and measures like Rasaayana etc which are advised to balance the effects of natural process of deterioration in the body.

On an individual basis, the adherence to the Dinacarya, Raatricarya, R'tucarya, Sadvr'ttam and Aahaaram as advised in Aayurveda can help strengthen the body's immune mechanism. Dinacarya, indicated for attaining Aayus, i.e., longevity³, including waking up in Braahma Muhoorta by modulating the neuro endocrine responses, S'areera cinta with reference to digestion, Ushn'ajala paanam,

regular bowel & micturition- due consideration to the Vega, Oral hygiene- Dantadhaavanam, Jihvaanirlekhanam, gan'd'oosham, the practice of An'janam, Nasyam, Dhoopanam, s'uddhikriyas along with Abhyan-gam, Udvartanam and abiding by the snaana-vidhi which will ensure keeping the natural orifices and the external body surfaces (which are the portals of entry for the disease causing microbes) clear, with adequate Vyaayamam- Yoga & Praan'aayama can help to build up a strong body, which can act as a potential first line of defense against any invading microbe. A regular diet and sleep pattern help to synchronize the body's physiological functioning⁴. Diet is probably the most exploited aspect of human life these days. Aayurveda suggests the food articles like cereals (rice, wheat), pulses like green gram, jaan-gala maamsa, leafy vegetables jeevanti & vaastukam, rasaayana like hareetaki & aamalaki, fruits like grapes, pomegranate etc to be included in the daily diet as they provide a positive nutrition to the body by getting easily digested and assimilated to support the dhatu poshan'am without disturbing the dos'a samatvam. On the contrary articles like dried meat and vegetables, paneer, curd, acidic foods etc have been enlisted under non-conductive one which can challenge the digestive machinery and pose threat to the dhatus⁵. The inclusion of condiments like ginger, garlic, turmeric, cumin seeds, asafoetida etc in the daily diet ensures an effective metabolism. All these principles form the basis of the COVID -19 preventive guidelines recommended by the AYUSH Ministry as well as the SACRC.

Likewise, adaptations according to the principles of R'tucarya and undergoing R'tus'odhana helps to nullify the effects of seasonal variations which on accumulation can adversely affect the health.

Any epidemic outbreak can be viewed in the frames of Janapadodhvamsa as explained in the Aayurveda classics caused by the vitiation of Water, Land, Air and Seasonal influences. The root cause for such outbreaks is explained to be the misdeeds of the humans violating the Sadvr'ttam or the moral codes and conducts⁶. Thus, in the incidence of an epidemic or pandemic, besides treatment the observance of such social conduct in particular is also of significance to control the pandemic. In the present COVID-19 scenario Soap/Sanitizer, Mask and Social Distancing (SMS) has been recommended as the standard preventive protocol. In Aayurveda the concept of "Aacamanam" discussed in the Dinacarya chapter in Asht'aan-ga San-graham advocates cleaning/ purifying the hands and the body after contact with impure or contaminated articles like body tissues, excretions, hair, nails etc and after travelling⁷. These can be potential sources of a disease and thus Aacamana was advocated. This very well coincides with the current day recommendation of frequently washing and disinfecting the



hands. Likewise, in Sadvr'ttam it has been advised never to sneeze, laugh or yawn without safely covering the mouth to prevent the transmission of microbes⁸. This forms the basis of the usage of masks. In the context of Janapadodhvamsa Aacaarya has advised "Sthaana tyagam", i.e., moving away from the place inflicted upon by the pandemic as the environment there would be unsafe for survival⁹. The message of "Social Distancing" can be inferred from this guideline. As evacuating the pandemic hit place may not always be practical so it is safe to stay away from crowded areas and other potentially risky areas to minimize contact transmission. Following all other guidelines recommended by the health authorities also falls under Sadvr'ttam.

As advised in the treatment of Janapadodhvamsa, purificatory therapies must be adopted in an advent of an epidemic followed by specific Rasaayana as indicated based on the clinical manifestation of the disease. Rasaayana like Cyavanapraas'am, Kooshmaan'd'a Rasaayana are of choice for COVID 19.

Thus, considering the fact that COVID-19 is neither the first pandemic outbreak being witnessed nor would it be the last one. The medical and socio-economic burden incurred upon due to such infectious diseases is a great concern besides the physical and psychological effects caused to the affected individuals. Developing a strong natural defense mechanism of the body is the most practical solution to tackle this problem. Aayurveda advocates the measures to be imbibed into day-to-day life for strengthening the immune system. Contributions of Aayurveda in communicable diseases have always been remarkable and COVID-19 is no exception to this.

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Management of COVID-19: An Aayurvedic Perspective

Dr. Uma Haimavathy.S
Associate Professor, Dept of Kaayacikitsa

On the occasion of 5th National Aayurveda Day, Dr Uma Haimavathy. S, Associate Professor, Department of Kaayacikitsa presented a paper on the topic, "Management of Covid- An Aayurvedic Perspective" in the program conducted by Santhigiri Ayurveda Medical College and Hospital on 13/11/2020.



Our s'aastra is based on the Principles of saamaanya vis'esha siddhaanta. New diseases need to be understood by assessing

the saamaanya (told already in our sastra) in all the vis'esha (new diseases in modern times) and thus assessing Lakshan'a saadrus'ya and sampraapti saadr's'ya, that is similarity in symptomatology and pathogenesis. So a physician should try to comprehend the nature of the disease or dosha, the site of its manifestation and aetiological factors and should then initiate the treatment. While planning treatment, Principles of treatment of the following conditions may be incorporated – Jvara (Vaata- Kaphapradhaana / Sannipaata Jvara), Janapadodhvamsa, Saankramika/ aupasargika vyaadhi, Raajayakshma, Praan'avaha srotodusht'i and Rasavaha srotodusht'i. All these treatment modalities may be encapsulated under trividha cikitsa; Daivavyapaas'raya, Yuktivyapaas'raya and Satvaavajaya cikitsa. In Covid – 19, considering the varied symptomatology presented in different individuals, different stages of the disease and



also the comorbidities, the treatment is highly individualized. And it may be concluded that Ayurveda has enough potential and possibilities to be employed both for prevention and treatment of COVID-19. Ayurveda will not only bridge the gaps that exist in

modern medicine, but will complement modern medicine to reduce the burden of COVID-19. Integrated approach is the need of the hour.

Vaartaaprakaas'a

National Ayurveda Day

Prime minister Narendra Modi virtually inaugurated two Ayurveda institutes in Jaipur , Jamnagar. The ITRA Jamnagar is poised to emerge as a world class healthcare institution with the power of institution of national importance by an act of Parliament. NIA emerged to Deemed to be university by UGC. The WHO announced that it will set up a global centre for Traditional medicine in India. WHO institution will become a centre for global wellness. PM comments that it is a matter of pride and India has emerged as pharmacy of world

Sputnik V Vaccines arrive in India

The Russian Sputnik V vaccine has arrived in India following the nod to Hyderabad based company Dr Reddys laboratories to conduct phase 2,3 clinical trial for the vaccine in India.

Sanskrit Alphabets with English Transliteration Key

अ	आ	इ	ई	उ	ऊ
a	aa	i	ee	u	oo
		ए	ऐ	ओ	औ
		e	ai	o	au
ऋ	ॠ	ऌ		अं	अः
r'	rr'	l'		m	h
क	ख	ग	घ	ङ	
ka	kha	ga	gha	n~	
च	छ	ज	झ	ञ	
ca	cha	ja	jha	n`a	
ट	ठ	ड	ढ	ण	
t'a	t'ha	d'a	d'ha	n'a	
त	थ	द	ध	न	
ta	tha	da	dha	na	
प	फ	ब	भ	म	
pa	pha	ba	bha	ma	
य	र	ल	व		
ya	ra	la	va		
श	ष	स	ह	क्ष	ज्ञ
s'a	sha	sa	ha	ksha	jna

Vishayaprakaas'a

Retirement - Dr. K M Jose

Dr. KM Jose, Associate Professor, Dept of Kaumarabrtya retired from the service at Santhigiri Ayurveda Medical College where he had worked as a teaching faculty for the past 9 and half years. All the members of the santhigiri family wishes him a very Happy Retired life.



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