



AN EPIDEMIOLOGICAL SURVEY STUDY & PHYSIOLOGICAL CONCEPT OF *AYURVEDA* IN CONTEXT OF POST COVID PATIENT

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Abstract

Introduction-The principles of *Ayurveda* are eternal but its application has to be applied in new diseases and can also be modified as per the timely changes in society. various Acharya also added new emerging diseases in their text with the need of hour and to save the society from their hazardous effect. In recent years, the spread of vector borne diseases has gained concerned worldwide. COVID-19 arising problems in present era can also be diagnosed and managed by the classical approach of *Ayurveda* under the principle mentioned in Charaka Samhita. A physician should try to comprehend the nature of the disease (Dosha), the site of its manifestation, etiological factors and should then initiate the treatment.

Material and Methods- Classical references on *Ayurveda* literature for this research work were collected from Brihatrayi, Laghutrayi and other compendiums in *Ayurveda*. Modern references for the current study were collected from contemporary literature, books, databases and other available online sources.

Observation and Results-Demographic analysis of patients. Age, Gender, Occupation etc. are some demographic data elements which are included in this study. Age, Gender, Occupation etc. The observation of questionnaire were analysed statistically, and results were interpreted.

Discussion-All the observation of Covid, post covid symptoms are made here. As it was an honest and able effort to collect and evaluate, formulate all the literature of COVID-19 in the form of *Ayurveda* terminology which were not directly explained in classics so after collection of literature a clinical trial may be conducted on the basis of *Nidanapanchaka*. It contained all the observations pertaining to conceptual and observational survey studies have been discussed in the discussion. Discussion done on involved Dosha, Dhatu Mala and Srotas.

KEYWORDS-Epidemiology, COVID-19, *Jwara*, Post covid

INTRODUCTION

The principles of *Ayurveda* are eternal but its application has to be applied in new diseases and can also be modified as per the timely changes in society. There has been emergence of new diseases in the society because of the changes in the ecological, environmental or demographical factors and also due to change in the lifestyle and social factors. Various *Acharya* also added new emerging diseases in their text with the need of hour and to save the society from their hazardous effect.

Prevention and cure of disease are primary aim of *Ayurveda*. So, as per the aim of *Ayurveda*, new emerging diseases which were not described in *Ayurveda* directly they should also be diagnosed, treated, and prevented in terms of *Ayurveda*. Now the question arises as to how these diseases need to be diagnosed and treated which are not mentioned in *Ayurveda*. For them, the treatment is applicable with due consideration of *Dosha, Dhātu, Mala involved*. These new diseases which do not have any significant correlation with the disease mentioned in classical text, can be grouped under "*Anukta Vyadhi*" as mentioned in classical literature¹ *Su. Ut. 35/19 Atidesha Tantrayukti* is used to describe the concept of *anukta*. *Anukta* is one such concept described in *Ayurveda* which is of great purpose to understand and adopt unsaid principles for disease, Medicines, and *Chikitsa Siddhanta*.

COVID-19 the emerging disease now a days. From *Ayurveda* perspective, these diseases should also be described for giving a contribution to the society in the field of infectious disease.

As COVID-19 are the burning issues of today, so it should be study deeply as per *Ayurveda Siddhanta*. *Ayurveda* treatment is of less value without knowing its exact *Nidana, Dosha* and *Dooshya* because *Samprapti Vighatana* can only be done by knowing these properly. There is no direct reference in classics regarding COVID-19. No uniform line of treatment documented in our literature regarding present emerging diseases. As a result, various *Vaidya* treat them by their own ways. By considering all these factors, an attempt is made in this study to fulfil our classics with recent diseases in terms of *Ayurveda*'s own terminology and principles.

AIMS AND OBJECTIVES

- (a) To study epidemiology in context of *Ayurveda*.
- (b) To study physio-pathogenesis of group of symptoms in post covid patient according to bowel habits (*koshtha*), urination, sleep, appetite.
- (c) To study about post covid patients.

REVIEW OF LITERATURE

It is further subdivided into the Historical review, Ayurvedic aspect of jwara. In Historical review various references from Veda, Upaveda and Samhitas have been described. Further conceptual study of jwara, modern concept of fever, covid sign & symptom, are elaborately discussed. Pathology, pathophysiology, sign & symptoms, symptoms & structure of virus according to waves are described in this chapter.

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COVID-19

The disease COVID-19 was first reported in China in the year 2019.² In the year 2020, the International Committee on Taxonomy of Viruses named the new virus as "severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)." Due to the genetic similarity of the virus to the coronavirus, which caused the SARS outbreak in the year 2003, this virus was also given the name SARS-CoV. On 11 February 2020, WHO labelled this disease as "COVID-19."³The first case in India was reported on January 30, 2020. By February 3, 2020, there were three cases reported in India. By mid-March, there was an increase in the number of cases reported from different parts of India.⁴

CORRELATION OF COVID-19 CLINICAL FEATURES WITH AYURVEDOKTA JWARA:

Charaka the great physician of *Ayurveda* has mentioned epidemic conditions under the head Janapadodhvamsa" and dedicated a separate chapter on epidemic disorders named as JanapadodhvamsaVimanam. The factors are- Jala (water). Vayu (air), Desha (place) and Kala (season), vitiation of these factors are considered to be responsible for the production of communicable diseases which can be well correlated with modern science.

SannipatikaJwara: mentioned in Charaka Samhita is mainly of two types: Prakriti- Sama-Samavayarabdha and Vikriti-Vishama-Samavayarabdha. The symptoms of Vikriti -Vishama-SamavayarabdhaSannipatikaJwara can also be correlated with COVID-19.

AgantujaJwara: is one type among the eight types of Jwara mentioned by Acharya Charaka in the context of JwaraChikitsa. This AgantujaJwara has been again divided into four types viz. AbhigatajaJwara, AbhishangajaJwara, AbhicharajaJwara and AbhishapaJwara. Among these types, AbhishangajaJwara or its subtype VishajaJwara is caused due to the contact of different types of toxic and poisonous substances to the body. COVID-19 can be considered as AbhishangajaJwara or VishajaJwara. In this, the specific species of external factor which leads to the production of Jwara by its toxins in the body and later involves the vitiation of the Dosha and Dooshya.

VishamaJwara: The disease can be considered under the subtypes of VishamaJwara. COVID-19 can also be correlated with VishamaJwara as the Dhatus get affected.Jwara among these can be considered as Tr̥tiyakaJwara in which asthi and majja Dhatu vitiated. Moreover, the term "Vishama", implies 'loosing normalcy or equality' is derived from root word 'Sama' by adding prefix 'Vi'. In the VishamaJwara mostly a correlation with agantu Nidana is observed even though Nija Hetu can also provoke the same.

MATERIAL AND METHODS

1. A detailed study of literature related to covid-19 and post covid was performed.
2. Development of Questionnaire for covid-19 and post covid assessment.
3. Ethical clearance was obtained from Institutional Ethics Committee of Madan Mohan Malviya Govt Ayurved college, udaipur (Rajasthan). Ethical Clearance certificate no. is IEC/ACA/2021/5126-5274 dated 31-12-2021.
4. Written informed consent was taken as per the Helsinki declaration.
5. 100 subjects were screened randomly were selected for the study.
6. After observation data was collected and presented in the form of graphs, charts and tables.
7. 30 Subjects took *Ayurveda* as well as Allopathy Treatment. 66 Subjects took Allopathy treatment. And 4 Subjects took *Ayurveda* treatment.

OBSERVATION & RESULT:

1. Age: In this present clinical study, maximum subjects are from, 31 to 40 years age group, after that, from age group, 21 to 30 years, 41 to 50, 51 to 60, 61 to 70, 10 to 20 years.
2. Gender: There are more male subjects than females.
3. Occupation: In this present clinical study, maximum subjects ie,40% are doing job, after that, are housewives, 10% are student, 2 % are farmer, 3 % are businessmen, 1% are driver &retired from their job.
4. Marital Status: In this present clinical trial, Maximum Subjects are married.
5. Prakriti: Maximum that is 23% subjects having Kapha vata Prakriti, while, is 22% subjects having Kapha pitta Prakriti, 18% is subjects having Vata Kapha Prakriti, is 15% subjects having Vata pitta Prakriti, is 11% subjects having Pitta Kapha Prakriti, is 8% subjects having pitta Vata Prakriti, 2 % having pitaj Prakriti.
6. Diet: maximum subjects are vegetarian.
7. Habitat: Maximum Subjects are residential in rural area.
8. Disease Severity: Maximum subjects having mild symptoms compare to other subjects.
9. Vaccination: Maximum subjects complete their 2nd dose of vaccine.
10. HRCT Score: Maximum subjects were not done their HRCT Score, because they have mild Symptoms.
11. SPO2 Level: Maximum subjects not known there SPO2 Level, because they are home quarantine, unavailability of pulsoximeter.
12. Treatment Taken: Maximum Subjects took allopathy treatment, while 30 subjects took ayurvedic treatment along with allopathy. 4% subjects took only ayurvedic treatment.
13. COPD/ASTHMA: In this present clinical trial there is no history of COPD or Asthma in maximum subjects.
14. Contact History: In this present clinical trial there is no history of Direct contact in maximum subjects with COVID patients.
15. Healthcare worker: There are 13% health worker in this present clinical trial.

16. Sign & Symptoms During postcovid of fever: In this present clinical trial there is no Sign & Symptoms During postcovid of fever in maximum subjects that is 96%.
17. Runny Nose: In this present clinical trial there is no runny nose in maximum subjects that is 90%.
18. Sore Throat: In this present clinical trial, there is no sore throat in maximum subjects that is 87%.
19. Shortness of Breath: In this present clinical trial there is no Shortness Of Breath in maximum subjects that is 80%, after that, 18% subjects suffers from shortness of breath.
20. Chest Pain: In this present clinical trial there is no chest pain in maximum subjects that is 90%, after that, 5% subjects suffers occasionally, & frequently also.
21. Myalgia: In this present clinical trial there is no myalgia, in maximum subjects that is 62%, after that, 32% subjects suffers myalgia occasionally, while, 6% suffers it from frequently.
22. Loss of Smell: In this present clinical trial there is no loss of smell, in maximum subjects that is 99%.
23. Loss of Taste: In this present clinical trial there is no loss of taste, in maximum subjects that is 99%.
24. Cough: In this present clinical trial there is no cough, in maximum subjects that is 90%, after that, 5% subjects suffered occasionally, while, 5% suffers it from frequently.
25. Bowel Habit: In this present clinical trial, there is regular bowel habit in maximum subjects that is 70%, after that, 20% subjects having constipated, while, 10% having irregular.
26. Sleep: In this present clinical trial, there is normal sound sleep in maximum subjects that is 75%, after that, 19% subjects suffered low time for sleeping, while, 6% suffers it from maximum time sleeping than normal.
27. Dosha Sthiti: Maximum subjects having Sam Dosha Stihiti, that is 32%, while 27% in Vata & Vata kapha.

DISCUSSION:

Discussion on COVID-19 as a type of Jwara:

we can consider COVID-19 as a type of Jwara. In the observational survey of POST COVID-19 patients that we analysed, fever was not seen in most of patients due to long period after cure. However, the course of the disease was very mild in these patients and we infer that they remained in the Purvarupa (prodromal) stage without progressing to full fledged disease. Further studies focused on careful analysis of clinical symptoms with respect to disease progression is needed to make clear distinctions of the clinical stages of COVID-19 from the Ayurvedic perspective.

Discussion on COVID-19 as a type of Sannipatajwara based on clinical symptoms:

Fever in COVID-19 is mild to moderate, which is typical of fever with dominance of Vata and Kapha as understood in *Ayurveda* (Madhyama Vega Jwara)⁵

High grade fever has been reported in exceptional cases. Other major symptoms like cough and breathing difficulty as well as pneumonia and acute respiratory distress syndrome (ARDS) point to involvement of Vata and /or Kapha⁶

Associated symptoms like chills, shaking, rhinorrhoea, headache, sputum, nausea, vomiting and anorexia are also generally indicative of Vata and Kapha dominance⁷

Such a presentation is suggestive of Vata Kaphajwara. However, some symptoms like confusion, sore throat, haemoptysis and diarrhoea, which are also seen in COVID-19 patients indicate the involvement of Pitta as do the sporadic reports of skin eruptions and dizziness⁸

Since the clinical features of COVID-19 invariably indicates imbalance of all the three Doshas with fever as a main symptom, the possibility of Sannipatajwara was also examined. We found many general features of Sannipatajwara can be seen in COVID-19.

CONCLUSION:

After selection of problem, literary review, observational study, discussion and analysis, one can reach to the final outcome of the study i.e. conclusion of the study.

the final outcomes concluded under these points: -

COVID-19 is the types of Jwara caused by Agantujakarana So it can be classified under AgantujaJwara as AbhishangajaAgantujaJwara. As AbhishangajaJwara involved Tridosha. In addition to this, on the basis of observational study conducted it is concluded that it is Tridoshaja in nature.

- Although COVID-19 is Tridoshaja in nature but it involved Vataleshmik predominancy and Pitta is in Anubandhaavastha On the basis of Ansamsa Bala Kalpana (VikalpaSamprapti) in COVID-19 there is Rasa in early stage, Rakta, Mamsa, Meda, Asthi, Majja, Shukra in late stage Dhatu Dusti and involved Pranavaha, Udakavaha, Annavaha (Cough and Dyspnoea), Rasavaha, Swedvaha (Fever), Raktavaha, Mamsvaha, Medovaha, Msthivaha, Majjavaha, Shukravaha, and ManovahaSrotas (Complications) Srotasdusti.

- Through observational survey study & literature review Dosha, Dhatu, Dushya, Mala and Srotasdusti assessed.

- In addition to this via analytical survey study & literature review, a probable SampraptiVighatana, nomenclature, line of treatment, Pathya and Apathya is also given as it will help to understand the disease and to do precise treatment on the basis of *Ayurveda Siddhanta*.

1. Based on a preliminary analysis of literature reporting clinical symptoms of COVID-19, study of observational survey study of COVID-19 patients and a review of Ayurvedic literature, we suggest that COVID-19 can be classified as AgantukaJwara with a VataKaphapradhanaSannipata presentation.

2. The dominance of Pitta in certain stages of the disease and in some patients should be considered.

3. COVID-19, further subclassified under the category of VataKaphapradhanaSannipatajwara on the basis of a more detailed analysis of clinical symptomatology.

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