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The clinical study to evaluate the *Rasayana* effect of *Bharangi Guda* in Post-Covid Subjects - Research Article

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ABSTRACT

In COVID-19, long term intake of Antivirals, Antibiotics, Antimicrobials, Corticosteroids and ventilator exposure leads to ill effect in individual. Such as Fatigue, Weight loss, Weakness, Intermittent raise in Temperature, Headaches, Myalgias etc. are signs and symptoms noted in after effect of COVID-19. It is necessary to combat Post-covid signs and symptoms in patients and restore the normalcy of body functions or to build their immune system. *Rasayana* an Ayurvedic rejuvenation therapy which helps in maintenance and promotion of health. It means nutrition at all levels from macro to micro cellular levels. Replenishes from the vital fluids of body; boost the *Ojas* (immune system), thus keeping away from diseases. In the study; *Naimittika Rasayana* (consequent to diseases), *Bharangi Guda* which is indicated in *Pranavaha Sroto Vikara* like *Swasa* (asthma), *Kasa* (cough), *Jwara* (fever) etc. Ingredients like *Bharangi*, *Dashamoola*, *Harithaki*, *Guda*, *Trikatu*, *Trijatha*, *Yava*. Actions like Antispasmodic, Anti-asthmatic, Carminative, Antihistaminic principle, Tonic and refrigerant. Active principles like Saponin, D-mannitol, Tanin etc. Study design is Simple Randomized Clinical Study. Total 30 post-COVID patients shows highly significant in subjective parameters and significant and not-significant in objective parameters.

Key words: Post-covid, *Bharangi Guda*, *Rasayana*, *Janapadodhwamsa*.

INTRODUCTION

Towards to the end of 2019,^[1] a novel coronavirus, now designated as severe acute respiratory distress or SARS-CoV-2, was identified as the cause of a cluster of pneumonias in Wuhan, Hubei province of China.

Epidemics^[2] have not been new to India, *Ayurveda*

being in the fore front of health care of those times, has recorded its valuable experiences of epidemics and termed them as *Janapadodhwamsa* [1, *Vimana Sthana* 3/1-4] or *Maraka* [2, *Sutra Sthana* 6/19]. It has vividly described their mechanisms of Causation (*Nidana*), factors affecting severity and actions complicating illnesses, their management and prevention.

Long COVID or long-haul COVID (also known as post-COVID-19 syndrome, post-COVID-19 condition,^[3,4] Post-Acute Sequelae of COVID-19 (PASC) or Chronic COVID Syndrome (CCS) is a condition characterized by long-term health problems persisting or appearing after the typical recovery period of COVID-19. Long COVID has been described as having the potential to affect nearly every organ system, causing further conditions (sequelae) including respiratory system disorders, nervous system and neuro-cognitive disorders, mental health disorders, metabolic

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disorders, cardiovascular disorders, gastrointestinal disorders, musculoskeletal pain and anemia

Jwara is considered to be the “lord” of diseases. *Sannipataja Jwara* refers to a condition where there is disturbance in all the three dosha. Classical textbooks of *Ayurveda* describe *Jwara* as the most powerful among diseases capable of afflicting body, mind and senses. *Jwara* is a *Rasadhatu Pradoshaja Roga* affecting the *Abhyantara Rogamarga* which includes *Koshta* or *Amashaya* and *Pakvashaya* together. *Rasadhatu Pradoshaja Roga* is usually treated by *Langhana* and same in various forms used in the management of *Jwara* also.

Careful analysis of signs and symptoms of COVID-19 reveals that the diseases affect the *Abhyantara Rogamarga* with fever and respiratory symptoms as main manifestation.

This *Jwara* can also be classified as being *Agantuja* (external) caused by *Bhoota Abhishanga* (virus), which aggravates all the three *Doshas* considering the *Agantu* a *Janapadodwamsa* nature of diseases.

Rasayana^[5] therapy is a part of preventive *Ayurvedic* healthcare. *Rasayana* is defined as those medicines (and non-medicines including conduct, lifestyle changes, behavior etc) which are helpful in gaining high quality tissue in optimum and desired quantity. *Dhatus* in good quality and quantity form the foundation of a good immunity and paves way for leading disease free life.

The ingredients of *Bharangi Guda*^[6] are *Bharangi*, *Bilva*, *Shyonaka*, *Gambari*, *Patala*, *Agnimantha*, *Shalaparni*, *Prishniparni*, *Brihati*, *Kantakari*, *Gokshura*, *Haritaki*, *Guda*, *Shunti*, *Maricha*, *Pippali*, *Twak*, *Ela* (*Suksmaila*), *Patra* (*Tejapatra*), *Yavaksara* (*Yava*). These are available drugs and preparation method is easy. Actions like Antispasmodic, Anti-asthmatic, Carminative principle, Tonic and refrigerant. Active principles like Saponins, D-mannitol, and Tannin etc.

Karma:^[7] *Agnivardhaka*, *Pustikaraka*.

Rogaghната:^[7] All types of *Kasa*, *Swasa*, *Yakshma*, *Bala*, *Jeerna Jwara* and *Hikka*.

MATERIALS AND METHODS

Method of Collection of Data

Study Design: Simple random clinical study

Sample Size: Total 30 Post-Covid subjects have been selected

Inclusion Criteria

- Post-Covid subjects with signs and symptoms of Fatigue, Dyspnoea, Disturbed sleep, Cough, Anorexia and Weight loss were selected.
- Subject selected between age group of 20 to 60 years, irrespective of sex.
- Subjects Haemoglobin greater than 8gm/dl were selected.
- Upto 1 year subjects have been considered for study and diagnosed as COVID-19 positive.
- Trials subject's RT-PCR report confirmed negative.
- Subjects were vaccinated either 1st dose or 2nd dose or both doses.
- Subjects either RT-PCR or RAT positive reports are were collected to claim that they have exposed to SARS-CoV-2 virus.

Exclusion Criteria

- Patient having history of Diabetes mellitus.
- Other Systemic diseases like Sexual Transmitted Diseases (STD's), Acquired Immuno Deficiency Virus (AIDS) etc
- Other Post-Covid complications like Mucormycosis etc.
- Pregnant and lactating mothers were excluded from study.

Withdrawal Criteria

Subjects who develop acute complications of Post-Covid or any other diseases or develop serious adverse drug reactions to the interventions in the study period were withdrawn from the study as such no one had complications.

Diagnostic Criteria

- Reverse Transcription- Polymerase Chain Reaction (RT-PCR) report outcome is Positive.
- RAT report outcome is positive.

Posology

- For *Deepana* and *Palchana*: *Chitrakadi Vati*- 500 milligrams - 1 TID with *Sukoshna Jala* before food.
- For *Koshta Shodhana*: *Haritakyadhi Yoga*:^[15] 12 grams at night with *Sukoshna Jala* after food.
- For *Shamana Yoga*: *Bharangi Guda*: 12 grams- two times a day with *Ksheera* after food.

Table 1: Study Duration

Chikitsa	Kala
<i>Deepana</i> and <i>Pachana</i> - <i>Chithrakadhi Vati</i>	3 days
<i>Koshta Shodhana</i> - <i>Harithakyadhi Yoga</i>	2 days
<i>Shamanaushadhi</i> - <i>Bharangi Guda</i>	30 days
Follow up	15 days
Total study duration	50 days

- Patients will be assessed clinically on 0th, 35th and 50th day.
- CBC, IgG, IgM, CRP, Weight will be assessed on 0th and 35th day.

Criteria for Assessment of Result

Subjective Parameters

- Fatigue
- Anorexia
- Disturbed sleep
- Cough
- Dyspnoea
- Weight loss

Objective Parameters

- Complete blood count (CBC)
- CRP (C-Reactive Protein)

- IgG, IgM antibodies
- Weight

Investigations

- Blood - CBC (Complete blood count)
- IgG, IgM
- CRP (C - reactive protein)

Grading of Subjective Parameters

Fatigue - Chalder fatigue scale (CFS-11)^[7]

Table 2:

Grade	Assessment
G ₀	Better than usual
G ₁	No more than usual
G ₂	Worse than usual
G ₃	Almost always

Anorexia^[8]

Table 3:

Grade	Assessment
G ₀	Normal desire to take food
G ₁	Most of the time dislikes food
G ₂	Dislikes the food even though hungry but takes the food
G ₃	Dislike the food and takes little or does not take food

Disturbed sleep - Sleep Quality scale^[9]

Table 4:

Grade	Assessment
G ₀	Few
G ₁	Sometimes
G ₂	Often

G ₃	Almost always
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Cough - MEG Cough severity index scale-CSI^[10]

Table 5:

Grade	Assessment
G ₀	Never
G ₁	Almost Never
G ₂	Sometimes
G ₃	Almost always
G ₄	Always

Dyspnoea - Medical research council [MRC Dyspnoea scale]^[11]

Table 6:

Grade	Assessment
G ₁	Not troubled by breathless except on strenuous exercise
G ₂	Short of breath when hurrying on a level or when walking up a slight hill
G ₃	Walks slower than most people on the level, stops after 15minutes walking at own place
G ₄	Stops for breath after walking 100 yards or after a few minutes on level ground
G ₅	Death

Weight loss - before and after weight measurement in Kilograms (Kg).

Overall Assessment Criteria

Assessment of results were done on objective and subjective parameters of baseline data to pre medication data comparing with gradation. The final result will be categorized as:

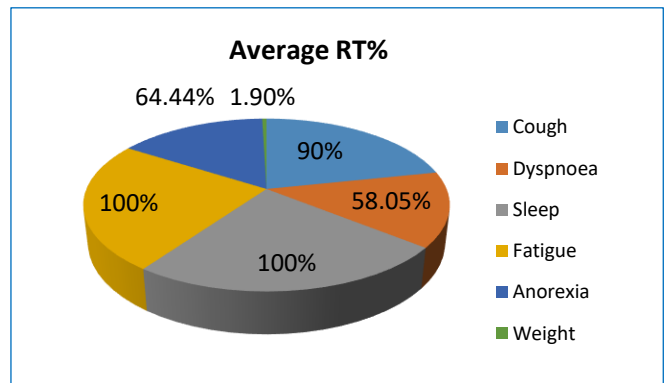
Table 7:

SN	Results	Criteria
1.	Good improvement	76% - 100% reduction in signs and symptoms
2.	Moderate improvement	51% - 75% reduction in signs and symptoms

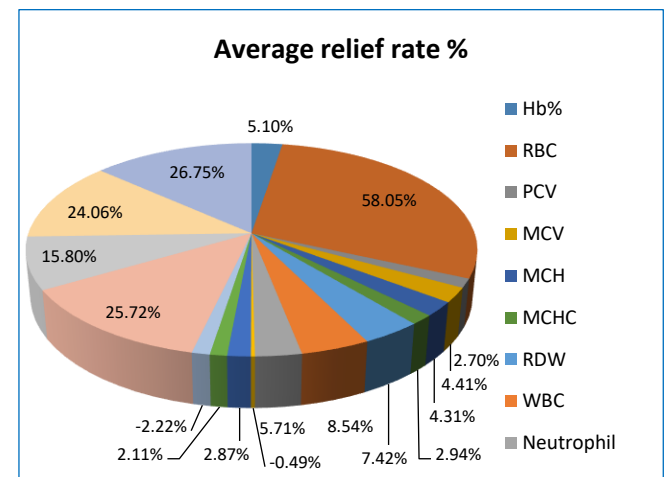
3.	Mild improvement	26% - 50% reduction in signs and symptoms
4.	No improvement	Less than 25% reduction in signs and symptoms

RESULTS AND DISCUSSION

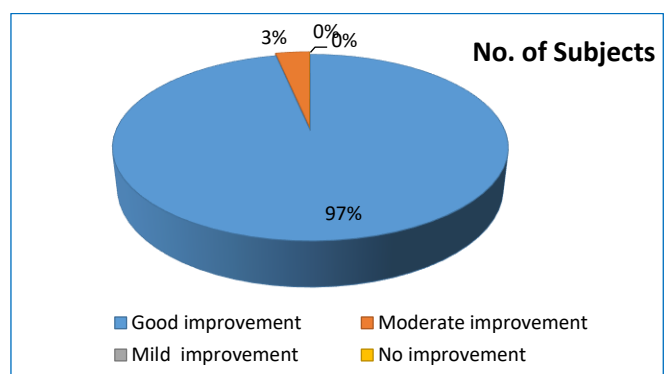
Graph 1: Showing Distribution of Average Relief Rate of Subjective Parameters of 30 Subjects



Graph 2: Showing Distribution of Average Relief Rate of Objective Parameters of 30 Subjects



Graph 3: Overall Assessment Subjects Based on both Subjective and Objective Parameters



Discussion on the Results

Discussion on Subjective Parameters

Subjective Parameters	Mean BT	Mean AT	Mean deviation	Std. deviation	SE	t-value	PV	Result
Cough	2.87	0	2.87	1.203	0.223	12.869	0.00001	HS
Dyspnoea	2.73	1.06	1.67	0.699	0.129	12.945	<0.00001	HS
Sleep Disturbance	2.2	0	2.2	0.4	0.074	29.729	<0.00001	HS
Fatigue	2.8	0	2.8	0.541	0.100	28	<0.00001	HS
Anorexia	2.97	1.97	0.657	0.657	0.122	16.14	<0.00001	HS
Weight	58.73	59.66	0.93	1.547	0.287	3.240	0.00294	S

Discussion on Objective Parameters

Objective Parameters	Mean BT	Mean AT	Mean deviation	Std. deviation	SE	t-value	PV	Result
Hb%	11.65	11.13	0.52	0.763	0.141	3.687	0.00092	S
RBC	4.20	3.77	0.43	0.658	0.122	3.524	0.00612	S
PCV	37.17	36.33	0.84	3.681	0.683	1.229	0.231	NS
MCV	81.65	78.96	2.69	8.440	1.567	1.716	0.0964	NS
MCH	28.67	27.39	1.28	1.458	0.270	4.740	0.00008	HS
MCHC	34.34	33.65	0.69	3.995	0.741	0.931	0.363	NS
RDW	11.82	11.14	0.68	1.729	0.321	2.118	0.042	S
NEUTROPHIL	53.4	51	2.4	7.692	1.428	1.680	0.103	NS
LYMPHOCYTES	39.56	40.49	-0.93	7.991	1.483	0.627	0.534	NS
EOSINOPHIL	2.96	3.36	-0.4	2.138	0.397	1.007	0.322	NS
MONOCYTES	3	3	0	1.183	0.219	0	1	NS
PLATELET	2.69	2.04	0.65	0.796	0.147	4.421	0.00013	S
IgG	680.49	547.69	132.8	231.69	43.023	3.086	0.0045	S

IgM	111.63	85.09	26.54	50.391	9.357	2.836	0.00823	S
CRP	3.55	2.37	1.18	1.641	0.304	13.881	0.00059	S

CONCLUSION

The conclusion drawn from above mentioned interpretations, it is clear that COVID-19 is *Aupasargika* and *Janapadhodhwamsa Vyadhi* caused by a type of *Krimi* or *Bhoota* (SARS-CoV-2) which comes from outside the body. The clinical symptoms of COVID-19 resemblance with *Abhisangaja Jwara*, *Vata-Kaphaja Jwara* and *Sannipataja Jwara*. The post effect in the individual will persists in every exposure to the epidemic. In this study at DGM AMC, we have come across more number subjects suffering from the Post-COVID effect. Subjects were suffering with mild to severity of dyspnoea, cough, mental disturbance etc even after 1-2 years after the exposure to COVID-19. *Naimittika Rasayana Bharangi Guda*, mentioned in *Shwasa-Hikka* condition, and individual properties of *Dashamoola* and *Haritaki* was helpful in post-COVID conditions associated with Dyspnoea, Cough, Fatigue and Anorexia. *Rasayana* as a form helpful in *Kshaya* kind of conditions. In Subjective parameters we have seen clinically and statistically high significance with the intervention. In Objective parameters we have seen significance and non-significance statistically, but could be drawn good conclusion if we have come across acute conditions of post-COVID. During COVID-19, this kind of interventions is needed to prevent post-effect in the individual.

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