

## Efficacy of Lesser Known Homeopathic Medicines in the Treatment of Bronchial Asthma

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**Abstract** With the nature of diseased state life portrait get changed bringing change state. We can make better application of these lesser known medicine when we apply in consideration with the available symptoms in them with rational search for related aspects through the hypothetical understanding created to bring a complete meaning for the prescribed medicine. This study is to search for the lesser known medicines as presented in our Repertory and Materia Medica. There are the wide ranges of Homoeopathic medicines considered as rare remedies on the basis of Paucity of symptoms and Large medicines with rare symptoms representing the uniqueness when selected on the basis of totality inclusion. Homoeopathic clinical approach requires understanding for these of its broad range of medicines belonging to both large and lesser group of medicines. Use of rare medicines is required as management during the acute stages as well as in one sided presentation of symptoms in such cases.

**Keywords** *Bronchial asthma; Lesser remedies; Homoeopathy*

### 1. Introduction

Information coming out from the case taking process brings varied understanding about the disease conditions Bronchial Asthma. With the nature of diseased state life portrait get changed bringing change state. Expression of completeness of change comes when we get symptoms on all the plane of life. When these situations do not occur with tilting of symptoms on one plane of life bringing expression of one-sided disease or only local maladies one gets constrained in getting a totality of symptoms required for constitutional selection of the medicine. Bronchial asthmatic conditions are often expressed as disease limited to respiratory organ only. Also, during acute exacerbation of disease, we observe paucity of symptoms to arrive at the totality of symptoms. During these conditions one has to search for alternative medicine from our Materia Medica. As we observe that in Repertory rubrics contains both polycrest and rare medicine. It becomes inevitable to see for these lesser known medicines. Introduction of medicine in our medicine chest also has to pass through lesser place and later on becomes large polycrest medicine. Introduction of lesser known medicine are based on fragmentary information about their applicability on local condition being specific for that particular situation. It is thus they represent as a medicine for local physiological or organ specific medicine. Totality presentations of these lesser known medicine have limitations to represent for the

presenting conditions. Using these hypotheses lesser known medicines are used to break the deadline of incomplete pictures. They can help in bringing out the hidden aspects of patients suffering from the bronchial asthma. These rare medicines are widely practiced among practitioner. We can make better application of these lesser known medicine when we apply in consideration with the available symptoms in them with rational search for related aspects through the hypothetical understanding created to bring a complete meaning for the prescribed medicine.

### Objective for Study

Different conditions exhibited during bronchial asthma require understanding for both curative and management of the disease. This study is to search for the lesser known medicines as presented in our Repertory and Materia Medica. We intend to search for the condition where these medicines find applicability and helping to arrive at complete removal of the disease.

### 2. Materials and Methods

Our work is literary searching different Materia Medica and repertory to find out the drug picture and also to observe through available clinical information.

### Observations

Potentiality for curative aspects of Bronchial Asthma in Homoeopathy has been observed with great expectation for those patients who got desperate understood as incurable and seeking solace through these medicines. Homoeopathy has tremendous efficacy in reversing bronchial asthma as Dr. Hahnemann's approach of therapeutics consideration through symptoms similarity and treating the patient as a whole. Management during both chronic and acute condition needs strategic steps to apply medicine based on Homoeopathic principle. Hahnemann has presented the variable applicability for the different condition in any given case.

### Drugs Used in the Homoeopathy

There are lots of medicines in homeopathy for asthma and used in accordance with the symptom's similarity. The selection of medicine varies from patient to patient. Efficacy of some of the following lesser remedies are acknowledged prescribed either by using them in consideration with totality of symptoms or on the partial indication. Paucity of symptoms in these remedies compels to use them on few indicated symptoms which have the reputation coming from the presentation in Materia Medica. These rare medicines were introduced in Homoeopathy with their previous reputation of being effective in such conditions. This initial information was the base for inclusion and uses. With gradual use some new more symptoms were added in them. It will be useful to gather more information about these medicines.

**Acalypha Indica** - Cough with bloody expectoration; sometimes violent dry cough precedes the expectoration.

**Ailanthus Glandulosa** - Deep dry and hacking cough, with asthmatic expansion of lungs; cough with headache and congestion of face.

**Aletris Farinose** - Short, dry and tickling cough worse on walking and talking; discharge of urine during cough; cough suddenly relieved by menstruation.

**Aralia Racemosa** - Cough associated with constriction of chest, worse lying down, after the first sleep, has to sit up and cough violently; asthma, with oppression as from a weight on stomach, worse night on lying down, better by raising a little tough mucus.

**Asarium Europaeum** - Frequent cough followed by difficult breathing; cough caused by deep inspiration.

**Blatta Orientalis** - Asthma associated with bronchitis, suitable for fatty people, cough associated with dyspnoea. *Blumea odorata*: Barking like cough controls hoarseness due to cough.

**Boerhavia Diffusa** - Indicated for dry cough as well as cough with whitish thick expectoration.

**Ephedra Vulgaris** - Mother tincture is used to control asthmatic attack; in reduced doses it is also helpful in pulmonary heart disease.

**Glycyrrhiza Glabra** - Used as expectorant; prevents recurrent respiratory infections.

**Grindelia** - Tenacious mucous difficult to detach.

**Justicia Adhatoda** - Violent cough with tough expectoration and tightness of chest; great fear of suffocation; usually cough associated with vomiting.

**Pothos Foetidus** - A clinically useful drug in Allergic Rhinitis and Bronchial asthma < Dust. Acts better in Q potencies. Asthma worse from any inhalation of dust.

**Rumex Crispus** - Cough usually with headache; worse eating, in the evening and on lying down.

**Spongia Tosta** - A hard or “barking” cough during an asthma attack is a strong indication for this remedy. Breathing can be labored, with a sawing sound, and not much mucus is produced. The person may feel best when sitting up and tilting the head back, or when leaning forward. Warm drinks may be helpful. The problems often start while the person is sleep (typically before midnight).

**Aspidosperma** - An effective remedy in asthma used in Q potencies by many Homoeopaths as a palliative. It improves oxygenation.

**Coca-Coca** is prescribed where there is want of breath or shortness of breath. Coca is especially useful for aged sports men and alcoholics. There is hoarseness or loss of voice and dyspnea.

**Naphthalene** - It is prescribed where there is dyspnea and sighing respiration. Naphthalene is useful for emphysema of the aged with asthma. There is long and continued paroxysms of coughing and tenacious expectoration.

**Senega** - Senega is another effective remedy with increased respiration. There is excessive dyspnea and sharp contractive pains in the muscles of chest. Another feature is persistent cough.

**Curare** - It is prescribed where there is threatened cessation of respiration on falling asleep. Other symptoms are -short breath, short dry cough, very distressing dyspnea.

**Arsenicum Iodatum** - Occasional asthmatic attack in tubercular and psoric cases agg. In night, must seat up to breath, general feeble expiration, accompanied by great debility, burning in chest.

**Asafotedia** - Asthamatic feeling in trachaea, dry cough, spasmodic dyspnoea, as though lungs could not be expanded,

**Asclepias Tuberosa** - Humid asthma, great dyspnoea agg. Eating, smoking, prickly sensation, contracting pain.

**Aranea Diadema** - Hydrogenoid constitution, old Asthma, lassitude and constant chilliness.

**Benzoic Acidum** - Asthma with inflammatory rheumatic complaints, mucous oppression of lungs,

**Bismuth** - Every asthma preceded by gastric derangement,

**Copaiva Officinalis** - Oppression of chest and labored breathing, pressure in sternum.

**Ecalyptus Globus** - Humid bronchial asthma thick sputa.

**Hydrocyanium Acidum**- Minute bronchial tubules affected, puffy face and feeble or violent heart action. Involuntary urination.

**Mangunum** - Cannot lie on soft bed, bruised pain in upper part of chest, amel. Raising head

**Mephitis Putorious** - Asthma for drunkards,

**Ictodes Foetida** - Dust aggravate, after bowel movement.

**Vulpes Pulmo** - Recommended by Grauvogal,

**Sticta Pulmonaria** - Asthma of consumptiveness, associated with splitting headache.

**Eriodictyon Californicum** - Asthmatic with accumulation of mucous with considerable emaciation and fever.

Homoeopathic consideration for treatment as observed by the stalwarts finds application of the principles with distinct way for use of medicine.

- a. Totality of symptoms in consideration of miasm. Kent in his lecture on Natrum Sulphuricum Kent points out the short comings of prescribing on the simple totality of symptoms without any understanding of the underlying miasms. "Asthma, when it is hereditary, is one of the sycotic diseases of Hahnemann.....For years I was puzzled with the management of asthma. When a person came to me and asked: "Doctor Can you cure asthma?" I would say "No." But now I am beginning to get quite liberal on asthma, since I have learned that asthma is a sycotic disease, and since I have made judicious application of anti-sycotics I have been able to relieve or cure a great number of such cases. You will find in the history of medicine that wherever asthma was cured, it has been by anti-sycotic remedies. That is one of the first things I observed, that outside of sycotics you will seldom find a cure for asthma."
- b. Initial approach with simple totality of symptoms: Kent goes on to speak about the limitations of the use of Homoeopathy only on the symptoms without taking into account the underlying miasmatic causes and their syndromes. "While Ipecac, Spongia, and Arsenicum will correspond just as clearly to the supervening symptoms and to everything that you can find about the case, yet what do they do? They palliate; they repress the symptoms; but your asthma is no better off, your patient is not cured."

### 3. Results

There are the wide ranges of Homoeopathic medicines considered as rare remedies on the basis of:

- a. Paucity of symptoms
- b. Large medicines with rare symptoms representing the uniqueness when selected on the basis of totality inclusion.

Use of these rare medicines are proving to be adding on new clinical evidences which increases their likelihood ratio in reportorial presentation.

### 4. Discussion

Bronchial asthma has been recognized as a disease which results in increased morbidity and mortality. The magnitude of the problem of asthma has not been defined with certainty, despite several epidemiological studies conducted throughout the world. Studies on the prevalence of bronchial asthma lack consistency, possibly because of ill-defined diagnostic criteria, non-standardized study protocols, different methodologies, environmental exposures and the health care infrastructure. A positive association was seen between asthma and increasing age in rural and urban areas.

Homoeopathic clinical approach requires understanding for these of its broad range of medicines belonging to both large and lesser group of medicines. Strategic consideration for application of the homoeopathic principles requires flexibility to the limited extent. Keeping in view for such consideration it becomes useful for developing strategy for applicability as long term treatment with constitutional pattern of diseases and providing relief during the acute exacerbation with rare medicines as per indications.

### 5. Conclusion

It is absolutely necessary for a homoeopath to understand the nature of the fundamental cause and exciting causes of bronchial asthma, the allergic triggers as well as the underlying fundamental cause of bronchial asthma which is usually due to the chronic miasms. A acquired usually psoric origin and genetic the sycotic base. The acute exacerbations of the chronic state are latent within the constitution and have been brought by exciting factors. Use of rare medicines is required as management during the acute stages as well as in one sided presentation of symptoms in such cases.

### References

Anuradha, A., Lakshmi Kalpana, V. and Narsingarao, S. 2011. Epidemiological study on bronchial asthma. *Indian J Allergy Asthma Immunol.*, 25(2), pp.85-89.

Kent, J.T. Lecture on Homoeopathic Materia Medica. B. Jain Publishers Ltd., New Delhi.

Lilential, S. Homoeopathic Therapeutics. 2nd Edition. B. Jain Publishers Ltd., New Delhi.

Sasi Kala, M., Vijaya Kumar, S. and Gauthaman, K. 2016. Relevance of the use of alternative medicine for bronchial asthma: a review. *J Young Pharm.*, 1(2), pp.184-189.

Schroyen, F. Synthesis Repertory. B. Jain Publishers Ltd., New Delhi.

Sharma, B., Narula, R.H. and Manchanda, R.K. 2015. Homoeopathy for the management of Asthma - a review of council's clinical research. *Indian Journal of Research in Homoeopathy*, 9(2), pp.69-78.

Research Article

## Role of Yoga in Anxiety Disorder

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**Abstract** Anxiety leads to derangement in physical and mental health. Anxiety levels are more in full time all meal and female. Spicily whose excess stress of work, leave at out station for working people and so on. Anxiety leads to derangement in physical and mental health. Anxiety levels are more in full time every people but in some one more due to excess mental and physical stress. People environment have different circumstances of life as compared to a people whose expend peaceful life. The study seeks to assess the stress level among the house and outdoor wives and its management through Yoga and Mindfulness breathing. Effects of stress in modern life hold may lead to a series of complications, which may include body ache, weight gain, easy fatigue, headache, pain extremities, breathing difficulty, asthma. Practice of yoga can improve mental exertion, improve the different complications. Regular yogic practices and adapting and implementing the principals and philosophy of yoga in day to day life may decrease the anxiety level and improve the overall health of the patients.

**Keywords** Anxiety; complications; physical; mental

### Introduction

#### Anxiety

Anxiety about result or the reaction of our parents to the report card; nervousness about the first date or a job interview we all would have lived through these moments. A little bit of fear is normal; in fact, just like salt in the food, it is needed so that we remain disciplined, focused and dynamic. The problem starts when this fear becomes persistent and so intimidating as to start interfering with our everyday life. Then it becomes an anxiety disorder – a state of excessive uneasiness, worry, or fear of the unknown, which needs to be treated – and this is where yoga can help. It's also good to know that yoga alone should not be considered as the only treatment option. It should complement proper medication after consultation with a doctor or specialist. The doctor would guide you on the condition better and help you understand the type of anxiety disorder you may have – Panic Disorder, Obsessive Compulsive Disorder, Post-Traumatic Stress Disorder, Social Anxiety Disorder, or Generalized Anxiety Disorder, to name a few.

## Types of Disorders

Anxiety disorder is an umbrella term that includes different conditions:

1. Panic disorder - You feel terror that strikes at random. During a Panic attack, you may also sweat, have chest pain, and feel palpitation (unusually strong or irregular heartbeats). Sometimes you may feel like you're choking or having a heart attack.
2. Social anxiety disorder - Also called social phobia, this is when you feel overwhelming worry and self-consciousness about everyday social situations. You fixate about others judging you or on being embarrassed or ridiculed.
3. Specific phobias - You feel intense fear of a specific object or situation, such as heights or flying. The fear goes beyond what's appropriate and may cause you to avoid ordinary situations.
4. Generalized anxiety disorder - You feel excessive, unrealistic worry and tension with little or no reason.

## Symptom

- You feel unusually panicky, scared and uneasy.
- You tend to get uncontrolled, obsessive thoughts of past traumatic experiences.
- You wake up from frequent nightmares.
- You tend to repeatedly wash your hands.
- You have problems sleeping.
- Your hands and feet stay unusually sweaty.
- You get frequent palpitations.

## Management by Yoga

Yoga helps our entire system. All around the world yoga is synonymous with peace of mind, relaxation, and stress reduction. By transferring focus and attention to the body and breath, yoga can help to temper anxiety while also releasing physical tension. Most of us have been practicing yoga techniques to calm our mind. For instance, you must have advised yourself or your near and dear ones to take some deep breaths or take a chill in anxious situations. Regular yoga practice can help you stay and relaxed in daily life, and can also give you the strength to face events as they come without getting restless.

## Yoga Postures for Anxiety

The following yoga sequence can help achieve a happy and healthy mind and body. In addition to many other benefits, asanas help release tension and stress from the body by regulating hormones and increasing endorphins (which explains the "yoga high").

- Gentle Neck Rolls (KanthaSanchalana)
- Cat stretch (Marjariasana)
- Child pose (Shishuasana)
- Standing forward band (Hastapadasana)
- Tree Pose (Vrikshasana)
- One-Legged Seated Forward Bend (JanuSirsasana)
- Two-Legged Seated Forward Bend (Paschimottanasana)
- Bridge Pose (Setubandhasana)

- Shoulder Stand (Sarvangasana)
- Fish Pose (Matsyasana)
- Bow Pose (Dhanurasana)
- Corpse Pose (Savasana)

### Aims and Objectives

1. To see the efficacy of Yoga in cases of respiratory difficulty arising from anxiety
2. To conduct a review of literature on the subject of management of anxiety through yoga.

### Materials and Methods

**Study design:** A prospective, randomized, Single Blind, placebo controlled parallel design study

**Study Population:**

**Study site:** Yoga clinic of Dr Soni Kumari

**Study Setting:**

- Outdoor Patient Department (O.P.D.)
- Other sources if possible

### Inclusion criteria

- a. Patient suffering from Asthma with manifestation of anxiety.
- b. Patient between the age group of 45-55 years.

### Exclusion criteria

- a. Patients associated with other complications

**Sample size Calculation** 30 patients will be included for study.

### Procedure:

STEP I: Extensive search & study of different books and journals with special reference to Synthesis Repertory.

STEP II: Gather exhaustive information from the Internet according to availability

STEP III: Selection of (Number of patient) patients (minimum) suffering from different diseases.

STEP IV: Proper case taking will be done according to the standard case-taking performa.

STEP V: Relevant investigation will be done as per need

STEP VI: Inclusion and Exclusion Criteria will be fulfilled.

STEP VII: Analysis, Evaluation of the cases were done and necessary yoga procedures will be explained to patients.

STEP VIII: Follow up of the case at regular interval.

STEP IX: Statistical analysis of the result by using different standard statistical methods (if possible).

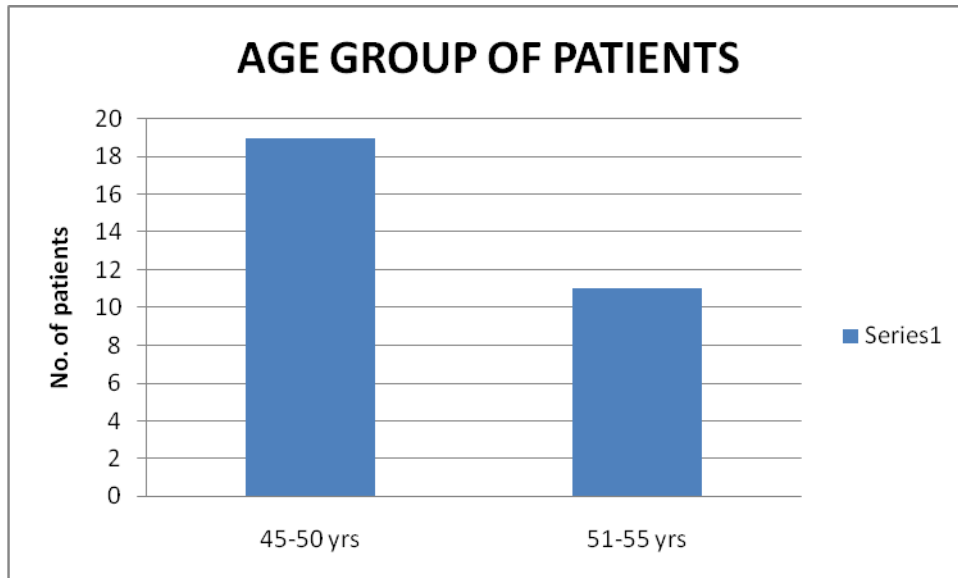
### Observation

Total number of patients included during study “**Role of Yoga in anxiety disorders**” was 30. Some of the subjects did not continue the treatment and stopped abruptly during the study. They discontinued the treatment after first visit or after first follow-up are only considered for the base line analysis. Following are the observation noted during the study.



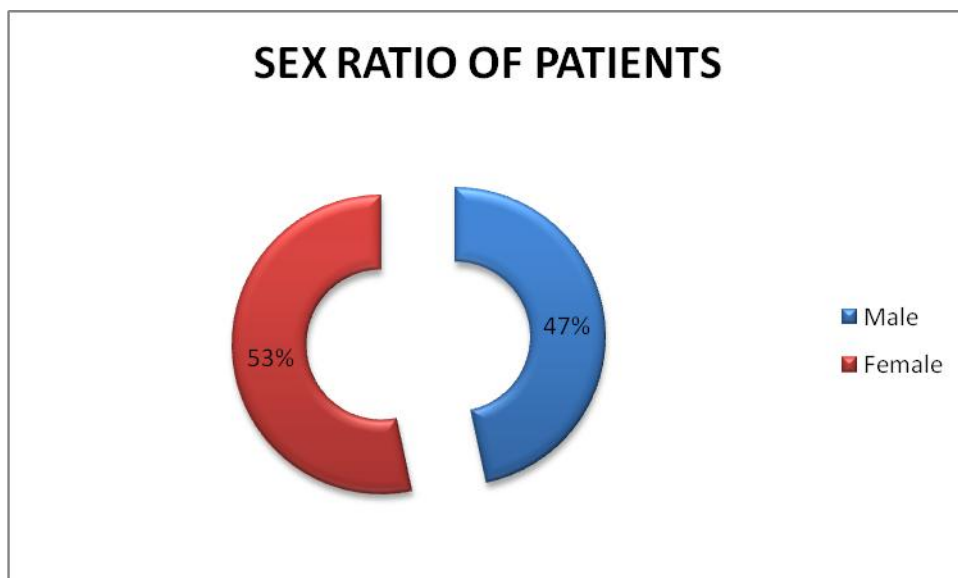
Observation – 01

Age group (in years)	No. of Patients
45-50	19
51-55	11
Total	30



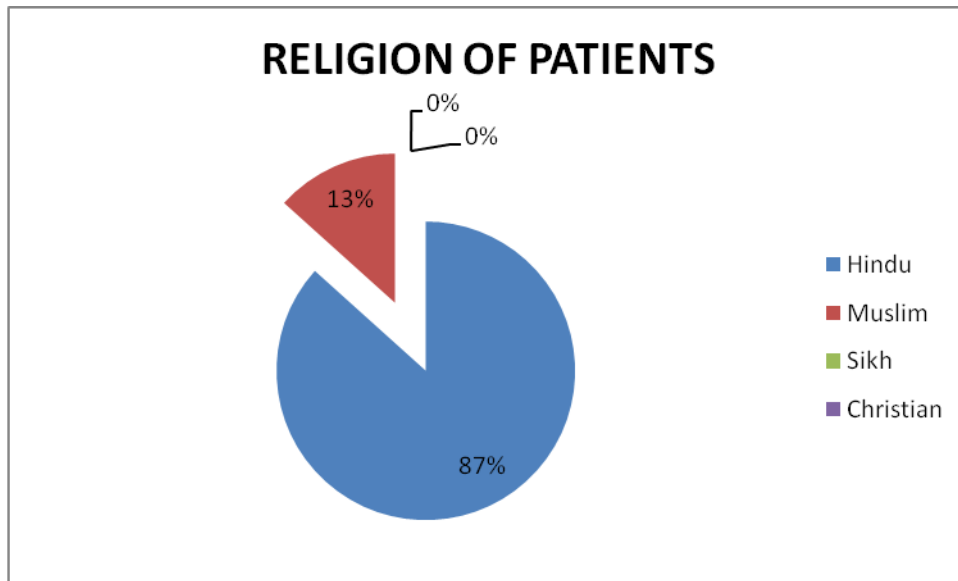
Observation – 02

Sex of Patient	No. of Patients
Male	14
Female	16



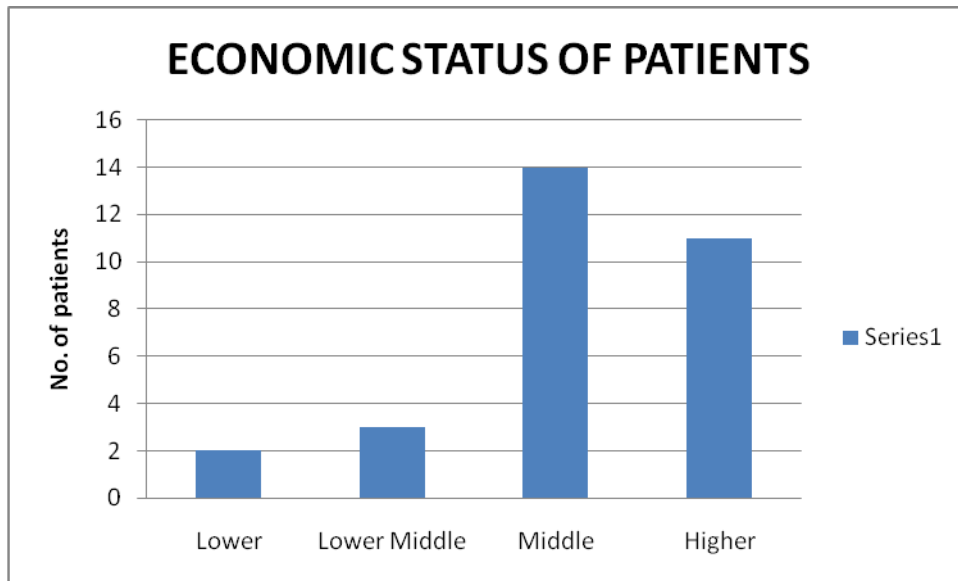
Observation – 03

Religion	No. of Patients
Hindu	26
Muslim	4
Sikh	0
Christian	0
Total	30



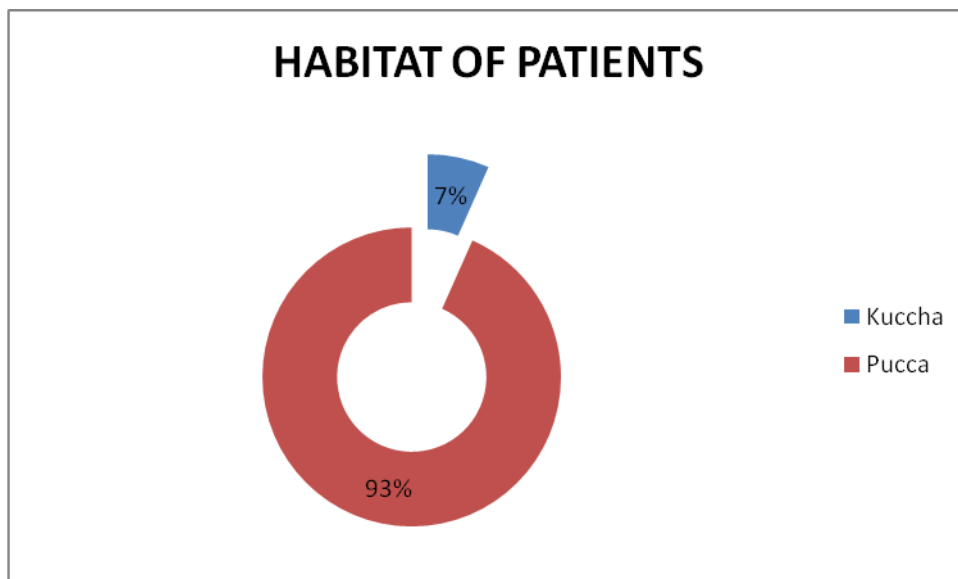
Observation – 04

Economic Status	No. of Patients
Lower	2
Lower-middle	3
Middle	14
Higher	11
Total	30



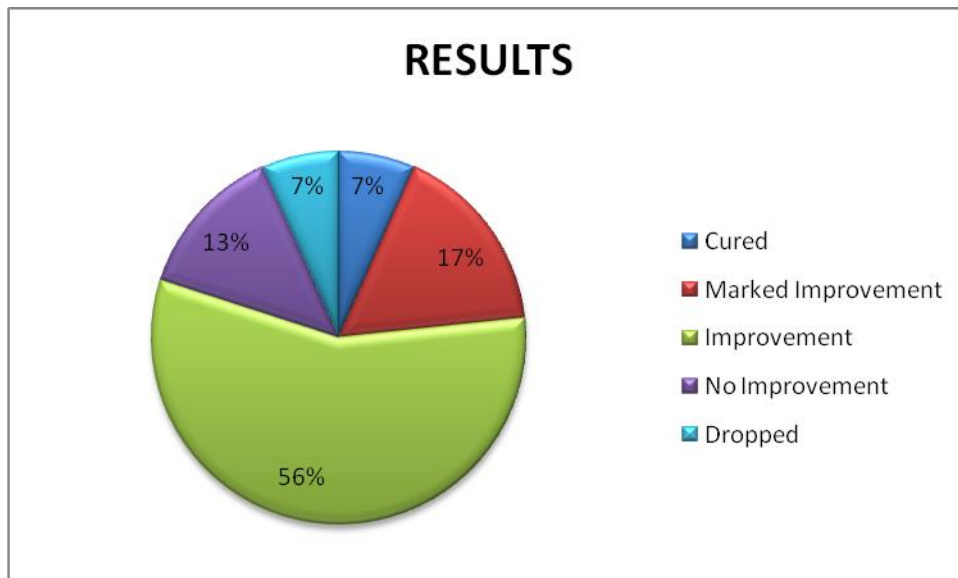
Observation – 05

Habitat	No. of Patients
Kaccha	2
Pucca	28
Total	30



Observation – 06

Results	No. of Patients
Cured	2
Marked Improvement	5
Improved	17
No improvement	4
Dropped	2
Total	30



**Conclusion**

Breathing problems can be corrected by yoga through the practice of Pranayama. Pranayama has various techniques that are designed for the maximum capacity utilization of the lungs - something that most of us do not do. Yoga and Pranayama also help in regulating the temperature of the breath flow thereby solving a lot of problems related to breathing.

Virtually everyone can see physical benefits from yoga, and its practice can also give psychological benefits, such as stress reduction and a sense of well-being, and spiritual benefits, such as a feeling of connectedness with God or Spirit, or a feeling of transcendence. Certain poses can be done just about anywhere and a yoga program can go for hours or minutes, depending on one's schedule.

There are several mechanisms in yoga that have an effect on stress levels, meaning there are multiple ways that yoga can minimize your stress levels. Studies show that the most effective ways in which yoga targets stress are by lifting your mood (or positive effect), by allowing for increased mindfulness, and by increasing self-compassion. By simultaneously getting us into better moods, enabling us to be more focused on the present moment, and by encouraging us to give ourselves a break, yoga is a very effective stress reliever.

**References**

- [1] American Thoracic Society. 1999. Dyspnea: Mechanisms, assessment, and management: A consensus statement. *American Journal of Respiratory and Critical Care Medicine*, 159, pp.321-340.
- [2] Hamilton, M. 1959. The assessment of anxiety states by rating. *British Journal of Medical Psychology*, 32, pp.50-55.
- [3] Gupta, U., and Gupta, B.S. 2006. Effects of yoga-based meditation on psycho physiological health of coronary patients. *Indian Journal of Clinical Psychology*, 33, pp.21-27.
- [4] Gupta, N., Khera, S., Vempati, R.P., Sharma, R., Bijalani, R.L. 2006. Effect of yoga based life style intervention on state and trait anxiety. *Indian Journal of Physiology and Pharmacology*, 50, pp.41-47.
- [5] Jerath, R., Edry, J.W., Barnes, V.A., and Jerath, V. 2006. Physiology of long pranayamic breathing: Neural respiratory elements may provide a mechanism that explains how slow deep breathing shifts the autonomic nervous system. *Medical Hypotheses*, 67, pp.566-571.
- [6] Udupa, K.N., Singh, R.H., and Settiwar, R.M. 1975. A comparative study on the effect of some individual yogic practices in normal persons. *Indian Journal of Medical Research*, 63, pp.1066-1071.
- [7] Udup, K.N., Singh, R.H., Settiwar, R.M. 1975b. Physiological and biochemical studies on the effects of yogic and certain other exercises. *Indian Journal of Medical Research*, 63(4), pp.620-624.
- [8] Khare, K.C., and Nigam, S.A. 2000. Study of electroencephalogram in meditators. *Indian Journal of Physiology and Pharmacology*, 44(2), pp.173-178.

## Therapeutic Uses of Earthworm – A Review

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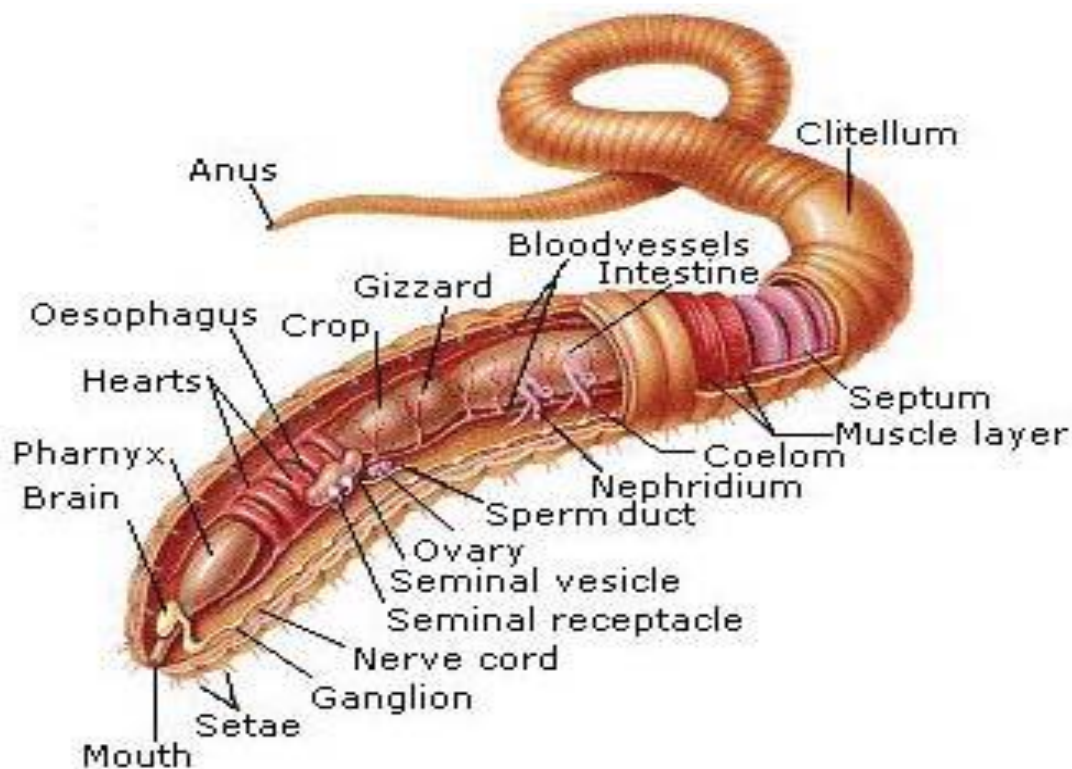
**Abstract** Based on review of literature on Unani Medicine and contemporary scientific investigations, the study demonstrates enormous potential of common Indian earthworm to combat many human ailments. The information on clinical, pharmacological and chemical studies carried out on earthworms between 1930 and 2009 in India and abroad has been reviewed in an effort to substantiate their medical efficacy. In this paper, the methods of collection and processing of earthworms, their pharmaceutical composition, preliminary pharmacological and clinical effects on (i) nervous system; (ii) blood circulatory system; (iii) cardiovascular system; (iv) respiratory system; (v) uterus smooth muscle function; and (vi) anticancer properties are reviewed. Therapeutic efficacy of earthworms has been shown for *tracheitis* and *bronchial asthma*, *epilepsy*, *high blood pressure*, *schizophrenia*, *leg ulcers*, *mumps*, *eczema*, *urticaria* and *anaphylaxis diseases*, *burns* and *scald fractures*, *erysipelas*, *sequel of encephalitisB*, *chronic lumbago*, *skin crevices*, *blood deficiency apoplexy*, *acute injury of soft tissues*, *vertigo*, *hematemesis* and *hematuria*, *digestive ulcer*, *vesicle calculus* and *cancer*. Taking lead from the present reports detailed scientific investigations are needed to discover new therapeutic agents of zoological origin which might be very specific to treat certain diseases and conditions, thus far, incurable in modern medicine.

**Keywords** *Earthworm; Unani Medicine; Materia Medica; Indian Systems of Medicine*

### Introduction

Earthworms (Figure 1) have been used in traditional medicine in India for at least 2,300 years (Puri, 1970). Results from the studies of Zhang *et al.*, (1988), Alumets *et al.*, (1979) and Reynolds and Reynolds (1972) show that some nitrogenous substances extracted from the earthworm can dilate bronchi and can be used as anti-histamine to treat asthma. In Unani texts, such as *Khawasul Advia* (1911), *Unani Chiktsa Sagar* (Shukla, 1950), *Village Physician* (1959), *Havial Mutradat Wa Jamial Mustalehal* (Hussain, 1901) and '*Makhzanal-Advia*' (Hussain, 1771), it is recorded that '*Kharteen*' (Unani name for earthworm) was used as an antipyretic and anesthetic, for detoxification, treatment of hypertension and hastening parturition, as well as in the treatment of many common ailments, such as arthritis, itching, burns, carbuncles, erysipeias, and inflammation. With the development of modern science, some active compounds from earthworm, such as linmbritin and terrestrolumbralysim, have been isolated. Recently, an enzyme has been extracted from earthworm that can dissolve blood

thrombi in experimental conditions. This will probably be made into an oral medicine by the pharmaceutical industry for use in the prevention of cardio-vascular disease (Zhenjun, 2007). Based on earlier studies the present paper highlights the enormous medicinal potential of earthworm to combat many of the present day diseases and conditions. Further, investigations comprising advanced Pharmacological, Phytochemical and Clinical studies are needed to develop new drugs of zoological origin.



**Figure 1:** *Drawida grandis* – An important medicinal earthworm

### Chemical Composition

Earthworms contain lumbrifibrine, terrestrolumbrysin, lumbritin, hypoxanthine and other purines, pyrimidines, choline and guanidine. The fat of earthworm is composed of octade acids, palmitic acids, high-chain unsaturated fatty acids, linear and carbon fatty acids, branched fatty acids, phosphate, cholesterol etc. The yellow chloragenous cells and organs of *Lumbricus terrestris* contain large amount of carbohydrates, lipid, protein, pigments and some alkaline amino acids. The yellow pigments perhaps consist of riboflavine or its analogues (Anonymous, 1985). The tissues of *Pheretima* species contain large amount of microelements-Zn 59.1 µg/g, Ca 25.4 µg/g, Fe 1735.5 µg/g, Cr 10.93 µg/g, Mo 0.25 µg/g, Ca 1019.2 µg/g and Mn 1143 µg/g (Zhang, 1988). Those of *Allolobophora caliginosa* contain crude protein 57.96%, crude fat 6.53%, crude ash 21.09%, crude fibre 0.36%, N extract 14.06%. Those of *Eisenia foetida* contain crude protein 64.61%, crude fat 12.29%, crude ash 10.16%, crude fibre 0.27%, N extract 12.67%. Those of *E. rosea* contain crude protein 63.71%, crude fat 12.29%, crude ash 10.66% crude fibre 0.21%, N extract 12.67% (Zhang, 1987). The blood and body fluids of *Lumbricus terrestris* contain small concentration of glucose (0.01-0.05 µg/ml), considerable lipids, including 35.14% neutral fat, 41.74% glucolipid, and 23.12% phosphatide. The neutral fat consists mainly of lauric acid, oleate, myristic acid and decanoic acid.

The fatty acids of the glucolipids are decanoic acid and some short chain fatty acids. The acids of phosphatide are mainly oleate, decanoic, linoleate and behcnic acids. The proportion of unsaturated fatty acids is higher than that of neutral fatty acids and saccharides (Hu, 1980). A peptide substance exists in gut wall of *Lumbricus terrestris* (Kaloustain, 1986). The dormant species of *Allolobophora caliginosa* contain a protein which can hydrolyze collagen (Kaloustain, 1986). Scientists from Japan, China and Korea isolated the enzymes from earthworm gut and body fluids which can dissolve fibrin. These enzymes have been developed as innovative medicines to treat cerebral thrombosis and myocardial infarction (Cheng, 1985). Sun (1989) reported a kind of acid antibacterial peptide, a tetradecapeptide, which has produced a disease resistant, nutrient earthworm preparation and which can be used in plant and animal production. There is also an enzyme in the earthworm body tissue, which can dissolve the earthworms after death under certain conditions (Sun, 1997). Some active enzymes occur in the yellow chloragenous cells and organs of *Lumbricus terrestris* in high concentrations. These include catalase, peroxidase, dismutase,  $\beta$ -D-glucosyl-enzyme, alkaline phosphatase and porphyrin synthetase. The body fluids of *Eisenia* species contains at least 18 proteins with molecular weights between 1000 and 95,000 Da. (Cheng, 1985).

## Pharmacological and Clinical Effects

### 1. Effects on the Nervous System

Zhang (1984) first reported that earthworm can reduce blood pressure (Zhang, 1984). Xu *et al.*, (1963) observed the phenomenon of significant blood pressure decrease of anesthetized dogs, that were injected with macerated earthworm extracts in hot water and ethanol solution significantly. Kaloustain, (1986) reported that an 100% extract of earthworm tissue can improve the metabolism of dopamine (DA) and 5-hydroxy tryptamine (5-HT), monoamine nerve medium of the central nervous system, so it can have a protective function against blood-deficiency brain death.

### 2. Effects on Blood

Rao (1986) reported that the enzymes in earthworm body fluids can dissolve fibrin thrombosis. Hu (1980) studied extracts from earthworms to restrain the formation of blood thrombi, by comparing six indices of thrombosis including viscosity angle, development time of prothrombosis, formation time of a characteristic thrombus, dissolving time of the fibrin thrombus, length of the thrombus and dry weight. Bharati and Shweta (2009) reported the effect of different extracts of earthworm on the rates of decomposition of experimental thrombus of rabbits, with whole blood coagulum, blood plasma with platelets and with pure fibrin coagulum of albino mice.

### 3. Effects on Cardiovascular System

Shukla (1950) reported that earthworm injections (0.5g/ml) could act against arrhythmia of various experimental models involving chloroform-adrenaline, ectisine and barium chloride. It can also cause short blockade conduction between the atrium and ventrium, which is not due to K<sup>+</sup> in the agent.

### 4. Effects on Respiratory System

An effective asthma-preventing component from earthworms was separated early in the 1930s. This component was used in experiments with rabbit lungs and it was reported that the component produced broncho-dilation, which could be used to resist asthma caused by histamine and pilocarpine. This component was injected intra-venously in experimental animals.



### 5. Effects on Uterine Smooth Muscle

Xu (1964) separated a kind of substance, which can contract the uterus. Experimental results show that this substance significantly increased the tension of the pregnant or non-pregnant uterus. Xu (1964) reported earthworm injections increased contraction of the mouse uterus more than the standard solution of pituitrin (0.01 mg/ml).

### 6. Anticancer effect

Earthworm extracts have been used successfully to cure transplanted cancer, in S-180 cells of rats (Wang, 1986) and it suppressed the cancer significantly after treatment for 88 days' with 5mg/ml of extract as enema without any adverse side effects (Wang, 1988). Han (1991) isolated some components by a dialysis method and observed their effects on MGc 803 gastric cancer in participation of 3H-TdR. The results showed that some earthworm components could inhibit 3H-TdR participation of MGc 803 gastric carcinoma ( $p < 0.01$ ), and still had an inhibitory function, even when the component was heated up to 560c for half an hour ( $p < 0.05$ ). This means that the dialysis components of earthworm have a strong heat-resistance on a limited scale (Han, 1991). Sun (1989) compared the cancer killing ability of four treatments, including cancer cell suspension, earthworm extract-blood porphyrin derivative-laser, blood porphyrin derivative-laser, and earthworms extracts. The depression rate on cancer cells was highest in a treatment with an earthworm extract-blood porphyrin derivative-laser. With a chemical-luminous method, Sun (1989) concluded that the mechanism by which the earthworm extract increased the cancer-killing capability of blood porphyrin derivative-laser is by increasing active oxygen.

### 7. Sperm-killing effect of Earthworm Extracts

Succinic acids and hyaluronic acids in earthworm tissue can agglutinate and kill sperm (Zhang, 1987 & 1988). The results showed that earthworms contain upto 200 ppm of arsenic. The arsenic toxicity can decrease by washing and was comparatively low in experiments with rabbit, rats and dogs that were administered with earthworm extract as enema or intravenously. Zhang (1990) suggested the use of sperm-killing function for birth control in China.

## Clinical Applications of Earthworms

### 1. Treatment of Tracheitis and Bronchial Asthma

Fried hot earthworm powder was taken orally 3-4 times per day. With a dose of 3- 4 g each time, for the treatment of bronchial asthma (Cheng, 1985). An earthworm preparation, "Chuan-shuning pill" was used for treatment of bronchial asthma patients, and 84.09% of the patients responded favorably to the treatment. This method is characterized by lasting and moderate anti-asthma (Ling, 1961). A single earthworm injection was used to treat 275 cases of bronchial asthma and 78% of patients recovered fully; especially for children, the therapeutic effects were better than for adults (Shanghai Huashan Hospital, 1971). According to a report by Huang Wenda, a 30% earthworm injection was used to treat children's asthma and adult stubborn asthma with a single dose of 0.1-2ml for children and 2ml for adults, once a day after the asthma occurred. After 10 to 30 minutes' treatment, the breathing became smoother. Wheezing etc, of asthma eased and phlegm was expelled easily. With two to four treatments, the symptoms of asthma disappeared entirely (Hu, 1980). Usually a 1 ml earthworm extract preparation (equal to 1g earthworm) for adults was used as intra muscular injections on the first day and 2ml per day for a second dose if no side effects appeared on the first day. Ten days was regarded as complete course of treatment (Anonymous, 1985). Some reports said

that mixtures from several earthworm species were better than single species earthworm preparations, in curing 101 cases of asthma. A dose of 2ml intramuscular injection of earthworm extract per day, every other days, resulted in 88.1% of the patients responding to the treatment in 1 to 2 weeks (Shanghai Cooperative Group for asthma treatment, 1982). The results of germ culture and bacterial checks showed that earthworm tissue components were effective in controlling tracheitis inflammation and repairing mucosa membranes. Earthworm powder was used in treatment of 100 cases of children with asthma, and the therapeutic effects were very good, especially for active asthma (Liang, 1984).

## 2. Treatment of Epilepsy

An earthworm pill, a secret recipe handed down from generation to generation, which was composed mainly of earthworms (*A. caliginosa*) had therapeutic effects against epilepsy. Xu (1963) concocted a mixture of earthworm 3 to 5 g, used once a day, to treat 20 cases of partial epilepsy, 16 cases recovered fully, 3 cases were improved and in one case there was no effect. Zhang used another earthworm extract to treat 12 cases of epilepsy, dosed once a day for 10 to 20 days. In four cases there were no epilepsy attacks for one year, in five cases there were hardly any epilepsy attacks for half a year, and there were obvious decrease in attack times in other patients (Zhang, 1984).

## 3. Treatment of High Blood Pressure

An earthworm extract tincture, applied twice a day at 20ml per dose was used to cure 34 cases of hypertension in patients who were treated with other medicines without effect. High blood pressure was usually reduced within 4 to 10 days by this earthworm treatment (Hu, 1980). An earthworm extract (named "Earth dragon B1") was used 3 times per day and 2ml once, to treat 11 cases of hypertension, the results showed an effective ratio of hypertension suspension of 90.9% without any obvious side-effects. An earthworm mixture extract was also used to treat 17 cases of hypertension with very good therapeutic results (Hu, 1980). A K factor extracted from earthworm was injected intramuscularly to lessen high blood pressure, and 86.6% improvement occurred in 30 cases, and were better than most chemical treatments to control high blood pressure (Zhang, 1984).

## 4. Treatment of Schizophrenia

Zhenjun (2007) reported that earthworms were used to treat 110 cases of schizophrenia which were divided into two groups; 60 cases in the first group with treatment of earthworm powder and 50 cases in the second group with treatment with an earthworm extract injection. During a 60 day treatment course, 18 patients were improved in the first group and 11 in the second group. Materials from fresh earthworms were reported more effective than dried ones.

## 5. Treatment of Leg Ulcers

An earthworm ointment for external uses, "Xin-fu-Shuang" in Chinese was used to treat 50 cases of leg ulcers; 17 cases recovered fully and 37 cases improved. It functioned to lessen pain, to dispose of rotten tissues, remove pus and improve the growth of muscle buds. A syrup, made from earthworms and powdered sugar, was put on the ulcers with good results (Anonymous, 1960). Earthworms were also used orally to cure leg ulcers. The method was to rinse earthworms with cold water and soya-bean milk. This was taken before dinner. A patient took 300 earthworms and recovered fully (Wang, 1963).

## 6. *Treatment of Mumps*

Earthworms were rinsed and put into container, and the same quantity of sugar added to the container, and the earthworms were submerged. The earthworms gradually secreted yellow-white mucus and this mucus was put on to affected parts covering them with gauze. The mucus was changed once every 2 to 3 hours. Observation of 20 cases showed that this was a better method of treating mumps, because of its fast detumescence and antifever effects. In another report 170 cases of mumps were cured fully within 1 to 3 days using this method (Li, 1988).

## 7. *Treatment of Eczema*

*Urticaria and Anaphylaxis diseases* Earthworm tissue extracts were used to treat 35 cases of eczema with injections at acupoints and results indicated that 14 patients recovered fully, 13 improved, 5 responded to the treatment and in 3 patients there were no effects. A sample of 60g earthworms was mixed with 30g sugar and the patients recovered after application of the mixture. It was put on the affected part, 4 to 5 times daily. This method was used to treat skin chronic itches and repeated eczema attacks (Hu, 1980). Earthworm injections were used to treat 100 cases of urticaria, treated once a day with 2ml dose of treatment resulted in an 84% of cure rate. With this 15 patients were recovered, 24 improved and 9 responded to the treatment and in 2 there were no effect (Anonymous, 1980).

## 8. *Treatment of Burns and Scald*

A sample of 15 earthworms were put into a sugar solution and soaked for 10 hour to produce an infusion. Using this earthworm infusion on the wounded surface, 50 cases of burns and scalds (10 to 110) recovered fully in one week (Zhang, 1990). Li (1988) reported application of 5011 cases of burns and scalds (first and second degree) showed that 98.7% of wounds recovered fully. In 32 cases of serious burns and scalds, 23 were completely cured.

## 9. *Healing of Fractures*

Using earthworm extracts to treat 63 cases of femur fracture, the pain stopped within one hour of treatment, tumescence disappeared within 24 hours and the bone grew well over an average of 38.7 days. Li (1988) observed 264 cases of fractures of femur stem (within 7 days) and found that the healing time of fractures was 3.6 days earlier after earthworm treatments, compared to that of other treatments.

## 10. *Treatment of Erysipelas*

A mixture of fresh earthworm tissues and red sugar was applied to parts affected with erysipelas and some 11 patients were cured in 3 to 5 days (Vohora and Khan, 1978).

## 11. *Treatment of Sequelae of Encephalitis B*

Fresh earthworms were stewed into an extract which was taken orally to treat 10 cases of sequelae of encephalitis B, for 30 days, as a treatment and satisfactory therapeutic results were obtained (Gates, 1982).

#### 12. *Treatment of Blood Deficiency Apoplexy*

Han (1991) reported that when extracts from fresh earthworms were used to treat 381 cases of blood deficiency apoplexy, there was an average effective cure rate of 79%.

#### 13. *Treatment of vertigo*

An earthworm tissue extract was used to treat vertigo. Of 32 treatments, 20 cases were cured fully, 7 proved, 2 responded to the treatment and 3 had no effects (Zhang, 1988).

#### 14. *Treatment of Hematemesis*

A batch of 50 fresh earthworms was mixed with 250 g red sugars. A yellow secretion emerged from the body pores of earthworms. Patients took this secretion orally at a dose of 20 ml per treatment which stopped *Hematemesis* within 2 hours. The disease healed fully when a dose of 100 ml of the secretion was taken (Wu, 1985; Li, 1988).

#### 15. *Treatment of Digestive Ulcer*

A dried earthworm powder was taken orally to treat 40 cases of digestive ulcers at the rate of, 2g per dose, 3 to 4 times a day, with this 34 cases were cured fully and 6 cases improved (Shweta and Singh, 2006).

#### 16. *Treatment of Vesical Calculus*

Chen (1985) reported that earthworms were applied to treat 5 cases of vesical calculus of cystolith with significant therapeutic effects.

### Summary

Indian systems of medicine have understood the importance of the drugs of animal origin right from the ancient times. The Indian *Materia medica*, which includes drugs of Ayurveda, the Indian system of medicine, and Unani the Greco-Arabian system of medicine, at present has about 2000 drugs, out of these about 200 are obtained from animals (Zhenjun, 2007). The present review provides various therapeutic uses of earthworm to treat many human ailments. Earthworms have been used in traditional medicine in India for at least 2,300 years (Puri, 1970). In ancient India, *Kharteen* (Unani name of earthworm) has been used as antipyretic and anaesthetic, for detoxification, treatment of hypertension and hastening parturition, as well as in the treatment of many common ailments, such as *arthritis, itching, burns, carbuncles, erysipelas* and *inflammation*. With the development of science, some active compounds of the earthworm, such as linmbritin and terrestrolumbrolysim, have been isolated. In 1986 a Japanese scientist extracted an enzyme from earthworms that can dissolve thrombi in laboratory experimental conditions. This enzyme preparation has been made into an oral medicine by the pharmaceutical industry for use in the prevention of cardiovascular disease in Hong Kong, Japan, Korea and China, (Han, 1991). In view of the enormous potential of earthworm to treat many diseases and pathological conditions as indicated in preliminary clinical and pharmacological investigations, detailed scientific studies are suggested to develop new therapeutics of animal origin.

## References

- Alumets, J., Hakanson, R., Sundler, F., and Thorell, J., 1979. Neuronal localisation of immunoreactive enkephalin and Bendorphin in the earthworm. *Nature*, 279: 805-806.
- Anonymous, 1959. 'Village Physician', Part I, ed. I. Hamdard (Waqf) Laboratories, Delhi, pp, 198, 218, 240, 243, 260, 301, 304.
- Anonymous, 1960. Dermatological dept. of the first hospital attached to Hubei Medical College. *The Intermediate Med.* 6: 48.
- Anonymous, 1980. Sichuan first hospital. *Chongguang Med. and Pharmacol.* 2: 36.
- Anonymous, 1985. Jiangsu New Medical College. Dictionary of Materia Medica, Shanghai Sci. & Tech. Press. pp 2111.
- Cheng, G.F., 1985. Some active enzymes in earthworm. *J. of Biochem.* 1: 161-168.
- Gates, G.E., 1982. Farewell to North American megadriles. *Megadrilogica* 4: 6-8.
- Han, Wei, 1991. Influence of 2nd, 3rd, 4th fractions isolated by get filtration from earthworm extract on DNA synthesis of MGc 803 gastric carcinoma cell line. *J. of the Fourth Medi. Univ. of PLA.* 12: 409.
- Hu, Dongliang, 1980. The effect of earthworm on eczema. *Guizhou J. of Med. And Pharmacol.* 3: 46.
- Hussain, M., 1771. 'Makhzanal-Advia' (Original in Persian) (Urdu translation by A.R. Qureshi). Sheikh Ghulam Husain & Sons, Lahore.
- Hussain, S.H., 1901. *Havial Mufradat Wa Jamial Mustalehat* (Urdu). Matba Akbari, Agra.
- Kaloustain, K.V., 1986. A study on a peptide substance in the gut of *Lumbricus terrestris*. *Comp. Pharmacol. Toxicol.* 83C: 329-333.
- Khan, N.G., 1911. 'Khawasul Advia' (Urdu), vol. 2, Khadimul Talim, Steam Press, Lahore.
- Li, Yongji, 1988. Influence of thrombosing on rabbit. *Acta Chin. Med. and Pharmacol.* 2: 46.
- Liang, Yuanli, 1984. Application of earthworm in treating asthma. *Sichuan J. of Traditional Chin. Med.* 4: 15.
- Ling, Xizhi, 1961. The experiment of earthworm for external application on encephalitis B's hyperpyrexia. *Jiangsu J. of Traditional Chin. Med.* 3: 41.
- Puri, H.S., 1970. Drugs of Animal Origin used in Indian Systems of Medicine, *Nagarjun*, 13: 21.
- Rao, Y.K. and Ali, U., 1970. Drugs of Zoological Origin in Ayurveda, Sidha and Unani systems of Medicine, *Pharmacy News*, 33.
- Rao, Yuxiong, 1986. The preliminary observation of enzyme in Guangzhou local earthworm's coelomic fluids resoving fibrin. *Practical Med. J.* 2: 41.

- Reynolds, J.W. and Reynolds, W.M., 1972. Earthworms in medicine. *Am. J. Nurs.* 72: 1273.
- Shachi Bharti, Deepshikha Verma and Shweta, 2009. Anti-inflammatory activity of earthworm (*Eutyphoeus incommodus* Beddard). *Hippocratic J. Unani Medicine*, 4(4): 55-58.
- Shanghai Jinshan Hospital, 1982. Selections of research materials III, pp. 11, 168.
- Shukla, M.R., 1950. 'Unani Chikitsa Sagar' (Hindi), ed. J, Motilal Banarsidass, Varanasi, pp. 383-485.
- Shweta and V.K. Singh, 2006. Need for organic farming in cultivation of medicinal crops in India. In: Recent Progress in Medicinal Plants –Biopharmaceuticals.
- J.N. Govil, V.K. Singh and Khalil Ahmad (Eds.). Studium Press, LLC, USA Vol. 14, pp. 585-595.
- Sun, Shufen, 1989. The killing effect of Laser\_HpD\_Aidiron on H22 Tumor cells in vitro. *Chongguang Med and Pharm* col. 2: 36-38.
- Sun, Zhenjun, 1977. Studies on earthworm active protein, Report of Post-doctoral Research. China Agricultural University, China.
- Vohara, S.B. and Khan, S.Y., 1978. Animal Origin Drugs used in Unani Medicine. Vikas Publishing House Pvt. Ltd., New Delhi.
- Wang, Kewei, 1986. Antitumorogenic effect of an extract of earthworm on S180 and H22 cells in mice. *J. of the Fourth Med. Univ. of PLA.* 7: 85.
- Wang, Kewei, 1988. Antitumorogenic effect of long\_time usage 912 on S180 and H22 cells in mice. *J. of the Fourth Med. Univ. of PLA.* 9: 61.
- Wu, Qihai, 1985. A case of treating bad hematemesis with syrup of earthworm. *Shanghai J. of Traditional Chin. Med. and Pharmacol.* 9: 34.
- Xu Shuyun, 1964. A contractive ingredient of uteri obtained from the Chinese drug Kuang-Ti-Lung (*Lumbricus kwangtangensis*). *Acta Pharmaceutica Chin.* 11: 729.
- Xu, Shuyun, 1963. Studies on the hypotensive effect of the Chinese drug Kwang- Ti-Lung (*Lumbricus kwangtangensis*) and its mechanism. *Acta Pharmaceutica Chin.* 10: 15.
- Zhang Hua, 1984. Using the decoction of earthworm treating epilepsy. *Sichuan J. of Traditional Chin. Med.* 2: 57.
- Zhang, Fuxin, 1987. Spermicidal effect of earthworm, an experimental study. *Shanxi J. of Traditional Chin. Med.* 8: 45.
- Zhang, Fuxia, 1988. Killing sperm and its effective ingredients. *J. of Shanxi Traditional Chin. Med. Coll.* 11: 30.
- Zhang, Liping, 1990. Pharmacological study and clinical application of earthworm. *Fujian J. of Traditional Chin. Med.* 2: 52.

Zhenjun, Sun, 2007. The Pharmaceutical and clinical uses of Earthworm in China.

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### **Some common medicinal giant earthworm species found in India**

Sl. No. Species Length (mm) Distribution

1. *Drawida grandis* Bourne 520 Tamil Nadu
2. *Drawida naduvatamensis* Bourne 500 Kerala
3. *Drawida nilamburensis* Bourne 1000 Tamil Nadu
4. *Megascolex imperatrix* Bourne 650 Karnataka
5. *Megascolex konkanensis* Fedarb 415 Annamalai Hills
6. *Megascolex Konkanensis longus* 570 Tamil Nadu Stephenson
7. *Eutyphoeus gammiei* Beddard 405 E. Himalaya
8. *Perionyx macintoshi* Beddard 375 E. Himalaya

Research Article

# Comprehension of Rukni Amraz (Elemental Diseases) in Perspective of Unani Medicine

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**Abstract** According to Unani medicine, *arkān* are primordial constituents of *mawālīd thalātha* (three primary matters) i.e. animals, plants and minerals. Therefore, they are responsible for sustenance and growth by providing adequate replenishment to the dissolution occurring in the body. Balance in the proportion of *arkān* is responsible for healthy state of body and any disturbance in their normal proportion leads to *rukni amrād* (elemental diseases) e.g. Loss of body water leads to dehydration. One *rukni* is *arḍ* along with all its constituents. In *arḍi amrād* deficiency or excess of any constituent of earth may lead to disturbance in its proportion and can lead *arḍi amrād* e.g. Deficiency or excess of calcium and iron. This category of disease is mentioned in Unani literature but not described in detail and under the head of elementary diseases. In this paper the hidden aspect of Unani medicine is explored in light of modern knowledge.

**Keywords** *Arkān; Mawālīd Thalātha; Unani medicine*

## Introduction

Unani medicine relates seven factors towards *Ṭabīʿat* (Medicatrix naturae), for well-being and existence of the human body. These factors collectively called as *Umūr Ṭabīʿiyya* (Factors of the existence).<sup>[1]</sup> These factors are considered essential for the functioning of *Ṭabīʿat*. *Ṭabīʿat* is the supreme planner and executer of various functions of the body.<sup>[2,3]</sup> *Ṭabīʿat*, itself, can reside only in a body and isolated existence of *Ṭabīʿat* cannot be imagined. These seven factors are placed in an evolutionary order from simplest to the most advance. The first factor amongst these is *Arkān* (Primary building blockers).<sup>[4]</sup> *Arkān* provide material, along with other factors, for the body building.<sup>[5]</sup> These *Arkān* are not of uniform qualities rather are of opposing and contrary qualities.<sup>[6,2]</sup> *Arkān* namely *Arḍ* (Earth), *Māʾ* (Water), *Hawā* (Air), *Nār* (Fire). *Māʾ* and *Nār* are opposite to each other and *Arḍ* and *Hawā* are opposite to each other.<sup>[7]</sup> When these four assemble in a body, then they tend to ruin each other and because of this and others endogenous as well as external dissolving factors, these *Arkān* dissolve continuously. For continuation of existence and sustenance, replenishment of these is obtained from diet, air, water and heat.<sup>[8]</sup> According to Unani philosophy human body is built from these four *Arkān*.<sup>[4]</sup> In all human proportion of these four is not uniform and compositional



variations exist.<sup>[9]</sup> There is dominance of one or other *Rukn* in every body. Existing *Mizāj* (Constitution or Temperament), sometimes, relates with qualities of dominant *Rukn* or with metamorphic form of that *Rukn* i.e. humour. This proportion of *Arkān* give rises *Mizāj* and this proportion is also said *Mizāji*,<sup>[10]</sup> because *Mizāj* and thereby functions depend upon this proportion of *Arkān*. Subordinate to *Mizāj* is *Ṭabī'at* which works to maintain *Mizāj*.<sup>[4]</sup> Any derangement in proportion of these *Arkān* leads to *Mizāji* deviation. In Unani system of medicine foremost form of diseases is temperamental derangement. This category of diseases is called as *Amrāḍ Sū-i-Mizāj* (*Diseases of temperamental derangement*).<sup>[11]</sup> *In my opinion one subcategory of these diseases should be such when temperamental derangement is because of proportional disturbance of Arkān*. Excess or deficiency of one or more *Arkān* can alter the existing normal *Mizāj* and thereby functional alteration becomes evident in the form of diseases.

In human body dominant *Arkān* are *Arḍ* and *Mā'*, active qualities of other two *Arkān* are present in active form.<sup>[10]</sup> A physiological proportion of these four *Arkān* is mandatory for health. *Arḍ*, *Mā'* and *Hawā* participate in body building of human body with all their minor and major constituents. e.g. *Hawā* containing Oxygen (O<sub>2</sub>), Carbon dioxide (CO<sub>2</sub>), Nitrogen (N<sub>2</sub>) and others normal constituent. Similarly, *Arḍ* enters in making human body with all its constituents. These constituents may be minerals, electrolyte and metals. At the time of genesis of body and establishment of *Mizāj* a definite proportionate amount of these *Arḍi* (Earthy) constituents enter into the body and then perform their functions. Ancient Unani physicians were not familiar with physiological functions of individual constituent of *Arḍ*. Neither they were familiar with these constituents. With the advent of analytical advance techniques so many earthy constituents were discovered and then their presence in human body was revealed and subsequently their physiological role and functions were determined. Obviously, this knowledge paves the way towards their pathology.

## Discussion

These earthy constituents are divided, on the basis of their requirements into major and minor categories.<sup>[12]</sup> Amongst the major constituents are Sodium (Na), Potassium (K), Calcium (Ca), Phosphorus (P), Magnesium (Mg) and minor are Chromium (Cr), Cobalt (Co), Copper (Cu). Fluorine (F), Iodine (I), Iron (Fe), Manganese (Mn), Molybdenum (Mo), Silicon (Si), Zinc (Z), Chlorine (Cl), Sulphur (S) Diseases of excess and deficiency of each constituent are now well recognized.<sup>[13]</sup> Diseases due to major constituents are more prevalent and more recognized. Whereas diseases due to disturbance of minor constituents may be wide prevalent but are not perceived easily or become evident only after diagnostic tests. Sometimes diseases because of minor constituents become serious and may lead to fatality. Sodium (Na) and Potassium (K) are main anion of ECF and ICF and are responsible for membrane electric potential difference.<sup>[14]</sup> Both are involved in excitability of living cells. Being osmotically active they are also responsible for homeostasis of water.<sup>[15]</sup> Excess and deficiency of these two mainly affect neurological and muscular function including heart.<sup>[14]</sup> Secondly they affect hydration state of the body. Equilibrium of both Sodium (Na) and Potassium (K) maintain mental functions also.<sup>[12]</sup> Calcium (Ca) and Phosphorus (P) play crucial role in bone, muscle and teeth health.<sup>[13]</sup> Calcium (Ca) is also an important anion which takes part in nerve transmission, muscle contraction, and blood coagulation.<sup>[14]</sup> It also acts as intracellular messenger. Phosphate (P) is an essential component of various energy storing and releasing component like ATP, GTP and of genetic materials RNA and DNA.<sup>[16]</sup> Major proportion of Magnesium (Mg) is found in bone complexed with Calcium (Ca).<sup>[13]</sup> Its deficiency is manifested in the term of neuromuscular disturbance. Carpopedal spasm, sometimes is because of deficiency of Magnesium (Mg). Intracellularly it acts as activator of many enzymes. Manganese (Mn) is also an activator of cellular enzymes.<sup>[17]</sup> It also stimulates bone growth and cholesterol synthesis. Participation of Manganese (Mg) in glucose metabolism is also documented. Copper (Co) is present in cytochrome oxidase and

ceruloplasmin.<sup>[16]</sup> Its deficiency causes iron deficiency anaemia and Wilson's hepatolenticular degeneration. Cobalt (Co) being a part of vitamin B12 participates in formation of Hb and maturation of erythrocytes.<sup>[16]</sup> It is also documented that Cobalt (Co) stimulates the synthesis of erythropoietin. Arginase and carboxylase enzymes have nickel. It is a component of hair and plays some role in health of hair. Chromium (Cr) improves the action of insulin and its deficiency causes glucose intolerance.<sup>[13]</sup> In this sense it is considered as diabetogenic and now routinely used in anti-diabetic therapy. A well-recognized intracellular antioxidant, which prevents cell membrane peroxidation and cancer is selenium (Se).<sup>[18]</sup> Its deficiency causes cardiac and skeletal muscle disturbances. Hair nail abnormalities and emotional lability are because of Selenium (Se) excess. Zinc (Zn) works as a cofactor for a number of enzymes.<sup>[17]</sup> Appetite, wound healing and well-being are related with it. Acute deficiency of Zinc (Zn) may lead to diarrhoea, encephalopathy, eczema and hair loss.<sup>[13]</sup> Chronic deficiency of zinc may lead to dwarfism, hypogonadism and ophthalmoplegia. Diabetes mellitus may cause zinc deficiency, hence now zinc is administered routinely in anti-diabetes therapy. Iodine is known, since long for its goitrogenic effect.<sup>[14]</sup> It participates in thyroxine synthesis and deficiency leads to deficient synthesis of thyroxine and consequently goitre.<sup>[19]</sup> Antidental carries element fluorine is present in hard water.<sup>[13]</sup> Its excess is responsible for mottling of enamel and discolouration of teeth.<sup>[12]</sup> Much higher level of fluorine may cause osteosclerosis and calcification of ligament. Involvement of Iron (Fe) in synthesis of haemoglobin (Hb) is well known.<sup>[15]</sup> It is also the part of myoglobin and cytochrome oxidase enzyme system.<sup>[16]</sup> Abnormalities of both deficiency and excess of iron are well documented. Iron deficiency anaemia may be considered as the most prevalent disease in lower middle and lower society. Indiscriminate consumption of iron causes its deposition in various organs, specially in liver and pancreas. This deposition is called as siderosis and it leads to diabetes mellitus.<sup>[20]</sup>

Some from described earthy element are water soluble and hence, they are present in water in abundant quantities e.g. sodium, iodine, fluorine.<sup>[13]</sup> Because of continuous addition of water-soluble elements to the sea. Sea water is the richest source of NaCl. Iodine and fluorine are also present in potable as well as sea water.<sup>[12]</sup> Other earthy elements are obtained from dietary sources. Unani physicians are of opinion that dissolved or teared out element of the body is replenished and repaired by the same *Rukn* (Element), but earth and earthy constituents are taken in diet.<sup>[6,8]</sup>

On evaluation of dietary sources of these earthy elements, it becomes immediately evident that all sources are *Bārid* (Cold), *Bārid Yābis* (Cold and dry) or *Ghaleez* (Viscous). All diets with *Bārid* constitution and *Ghaleez* character are earthy and dominating *Rukn* in all of them is earth. This may be taken as an evidence in favour of concept of Unani medicine regarding replenishment of *Rukn* by the same *Rukn* i.e. replacement of the lost or deficient element by the same element in any form. This concept of homotherapy was first proposed by *Masihi* AS and other stalwart of Unani medicine also followed it.<sup>[5]</sup> The different earthy constituents are not uniformly distributed in diet. Any particular earthy element is present in certain specific diets in abundance e.g. K<sup>+</sup> in pineapple, pear and fresh coconut, iron in leafy vegetable and liver of animal. Iodine is present in abundance in sea fishes. Intake of different diet, in moderation prevents the disturbance in healthy homeostasis and proportions of various earthy elements.

Unani physicians have not described this category of diseases separately. But surely, they were familiar with the *Rukni* diseases. In Unani literature some such instances are present where description is focused on *Rukni* diseases. Diseases because of deficiency or excess of water contents of body, air and fire are described elaborately. The diseases due to altered quantity of earthy constituents are difficult to find but can be extracted and conceived from the description of certain diseases. As a matter of fact, all diets transform into corresponding humours.<sup>[11]</sup> Hence primarily dietary modifications are suggested to maintain and restore the humoral balance.<sup>[2]</sup> Concept of dieto

therapy is deep rooted in the treatment of humoral and temperamental diseases. Intake of appropriate diet not only rectify quantitative but also qualitative disturbance is concern humour.<sup>[21]</sup> Qualitative disturbances are limited only up to *Kayfiyat* of humours not beyond.<sup>[22]</sup> Isolation and microanalysis of humour could not have been possible, otherwise some more qualitative/compositional details and disturbances would have been evident. And very rightly root of dietotherapy would have spreaded up to their rectification. In my opinion these earthy constituents would be parts of one or other humours. Now it is well established that these earthy elements are the parts of essence of the body. Very minute or minute quantities of these element is lost from the body.<sup>[13]</sup> This loss makes the replenishment mandatory. This replenishment can be obtained only from the identical form in which they are lost.<sup>[5]</sup> This identical form of earthy elements is available either in cellular environment as a part of cells or in pharmaceutical or nutraceutical forms. Now supplements of these earthy elements are routinely used therapeutically for the treatment of various clinical syndromes attributed to excess or deficiency of a particular earthy element e.g. deficiency of Ca, PO<sub>4</sub>, Se, Cl.

## Conclusion

Detailed and formal description of elemental diseases is not given in literature of Unani medicine. But it is not possible to deny that first this category of diseases was conceived by Unani physicians. Recognizing *Arkān* (Primary components) as essential and primary building blockers of the body, Unani physicians confirm the involvement of elements in body and in its various functions. Unani physicians described the interaction between four *Arkān* and their dissolution.<sup>[4]</sup> In view of dissolution, replenishment was accepted as the only mean of sustenance.<sup>[8]</sup> *Rukn Arḍ* dissolutes in various viscous wastes including faeces. For the replenishment of *Rukn Arḍ* and its components, most approximate forms of *Arḍ* i.e. diet is recommended. From this theory of replenishment, Ideas of supplement and avoidance originated. It was also the origin of homotherapy. Homotherapy means compensation of lost component by the identical component i.e. water with water or air with air.

From this it can be concluded that diseases due to excess or deficiency of earthy components (elements) can be remedied by dietary modification effectively. Modification in diet made to combat the diseases, is the spirit of dietotherapy.<sup>[11]</sup>

## References

- [1] Rezaeizadeh H., Alizadeh M., Naseri M., Shams A.M. 2009. The traditional Iranian medicine point of view on health and disease. *Iranian J Publ Health suppl.* 38, pp.169-172.
- [2] Ibn-Sina S.R. *Al-Qanoon* (Urdu translation by Ghulam Husnain Kantoori). New Delhi: Idara Kitabul Shifa; YNM.
- [3] Saad B., Said O. 2011. *Greco-Arab and Islamic herbal medicine: traditional system, ethics, safety, efficacy, and regulatory issues.* John Wiley & Sons. Apr 27.
- [4] Nafis Allama. 1954. *Kulliyat-e- Nafisi* (Tarjuma wa Sharah by Hkm Kabiruddin). New Delhi: Idara Kitabul Shifa.
- [5] Masihi A.S. 2008. *Kitab-ul-Miah* (Urdu Translation by CCRUM). Vol 1. New Delhi: CCRUM.
- [6] Jalinoos. 2008. *Kitab fil Anasir* (Urdu Translation by Rehman SZ). Aligarh: International Printing Press.

- [7] Jurjani I.A. 2010. Zakhira Khawarzam Shahi (Urdu translation by Hadi Husain Khan). New Delhi: Idara Kitabul Shifa.
- [8] Majooosi A.I.A. 2010. Kamilus Sanaa. New Delhi: Idara Kitabul Shifa.
- [9] Russel B. 1972. A History of Western Philosophy. New York: Published by Simon & Schuster.
- [10] Ibn Sina S.R. 2006. Kulliyat-e-Qanoon. (Urdu translation by Kabiruddin HM). New Delhi: Aijaz Publication House.
- [11] Baghdadi I.H. Kitabul Mukhtarat-Fil-Tibb (Urdu Translation by CCRUM). Vol 1.  
i) 1<sup>st</sup> Ed. New Delhi: Model Offset works; 2005.
- [12] Rahim A. 2008. Principles and Practice of Community Medicine. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd.
- [13] K. Park. 2013. Park's Textbook of Preventive and Social Medicine. 22<sup>nd</sup> edition. Jabalpur (M.P.): M/s Banarsidas Bhanot Publishers.
- [14] Hall J.E. 2010. Guyton and Hall textbook of medical physiology e-Book. Elsevier Health Sciences. Jul 19.
- [15] Sembulingam K., Sembulingam P. 2012. Essentials of medical physiology. JP Medical Ltd. Sep 30.
- [16] Satyanarayana U., Chakrapani U. 2008. Essentials of biochemistry. Book and Allied, Kolkata, India.
- [17] Puri D. 2018. Textbook of Medical Biochemistry E-BK. Elsevier Health Sciences. Apr 12.
- [18] Tóth R.J, Csapó J. 2018. The role of selenium in nutrition–A review. Acta Universitatis Sapientiae, Alimentaria. 11(1), pp.128-44.
- [19] Tortora G.J., Derrickson B.H. 2018. Principles of anatomy and physiology. John Wiley & Sons. May 15.
- [20] Batts K.P. 2007. Iron overload syndromes and the liver. Modern Pathology. 20(1), S31-9.

Research Article

## The Study of *Erigeron Canadensis* in the treatment of Dengue

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**Abstract** From centuries there are many species of plants and animals which have been discovered and are used in the treatment of some or the other disease for serving mankind. Similar to this another specie of a plant was also discovered and was used to treat more than one kind of disease named *Erigeron Canadensis*. It was found that it is affect full in treating a disease named dengue (CDC). It is a plant whose parts grow above the ground usually used for medicines. People use it for many medication purposes but there is no good scientific evidence to support these uses. It was predicted that it may be useful in dengue prevention used in mosquito repellents or for other factors but still there is n't enough information known about *Erigeron canadensis* to know how it might work. The use of *Erigeron, Canadensis* is mostly in urban or local areas worldwide as it is one of the prevention method from dengue.

**Keywords** *Aedes aegypti*; *Erigeron Canadensis*; plant essential oils; medication; Fleabane

### 1. Introduction

#### Dengue (CDC)

Before knowing about the treatment for a specific disease we should be familiar with the basic information about the disease also. Dengue is common in more than 100 countries over the world. It is estimated that about forty percent of the world population live in the areas where there is risk of dengue and yearly 400 million people get infected with dengue. It is a mosquito-borne viral infection which causes severe flu like illness.



### First discovered

Dengue was first recognised in 1950's in Thailand and Philippines but today it is affected in Latin America and Asian countries over the globe and it has become one of the leading causes of hospitalization and death among the children and adults as well.

### The main vector of transmitting virus

The *Aedes aegypti* mosquito is the main vector of transmitting the virus which causes dengue. It was passed on to humans by the bite of female *Aedes* mosquito which transmits the virus while feeding the blood of an infected person. Once the person is infected by the virus it becomes the main multipliers and the carrier as well of the virus.

### Symptoms and prevention

During mild cases of dengue fever many people especially children and teens, may experience no signs or symptoms or when symptoms do occur they usually begin after four to seven days after the person is bitten by the infected mosquito. Some of the symptoms mostly observed are:-

- i. Vomiting
- ii. Nausea
- iii. Pain behind eyes
- iv. Swollen glands
- v. Rash
- vi. Headache
- vii. Muscle, bone or joint pain

Most people recover soon within a week or so but in some cases symptoms worsen and can become life threatening. If you see symptoms and doubt then you should see your health care provider.

### Dengue preventions using plants

In the world the incidence of dengue has increased significantly as we know there is no specific medication or treatment for dengue but there are many precautions from which you can be safe. From the numerous preventions discovered to avoid dengue one of them is the use of *Erigeron Canadensis*. As we know that to avoid mosquito bites one of the best strategies is the use of mosquito repellents as resources increased the interest of using plants as mosquito repellents has increased significantly.

### What is Erigeron Canadensis?

Horseweed is termed as *Erigeron Canadensis* in scientific language. It is also known by other names like Canadian Fleabane, Colt's-Tail, Hogweed and Fleabane etc. The horseweed was boiled to make steam for sweat lodges. During cold it is taken as snuff to stimulate sneezing. It is also burned to create smoke that warded off insects. This plant is termed as a strong competitor of water and is huge nuisance for farmers.



*Erigeron Canadensis*

### Distinguishing Features

Horseweed is a profusely leafy and branched annual plant. It normally has an upright that grows up to a height of seven feet. It emerges from a cluster of basal of leaves which wither afterward. Mature plants are erect and can grow up to 2 metres tall. The leaves of horseweed are lance shaped having a deep green hue. It is distinguished by bracts that contain a brownish inner surface and no red dot at the tip. They are free of hairs found mostly in other species on their bracts.

### Habitat and distribution

*Erigeron Canadensis* is a native plant found mostly throughout the North America and Central America also. It is widespread in North America but has also spread inhabited areas, most of the temperature zone of Asia, Europe or Australia.

### Culture of growing

Horseweed does not require much plant's environment. It prefers to grow in gravel and sand, but then their sizes differ according to the nutrients present in the soil they grow in. When they are grown in poor soil it may be of few centimetres as a dwarf size and when grown in soil which is rich it grows as high as seven feet. All the species in this genus are remarkably adjustable because they possess the aptitude to germinate during spring or at any time in summer however they are also found in abundance in growing in urban locales.

### Other health benefits of *Erigeron canadensis*

Horseweed is an astringent herb which is also useful in treating diarrheal and dysentery. The crushed flowers of *E.canadensis* are inserted in nostrils to cause sneezing, relieving rhinitis. Other Americans also used as a preparation of plant leaves to treat sore throat and dysentery. A decoction is prepared with horseweed which is highly useful in treating bleeding haemorrhoids. It is also employed to treat gastrointestinal disorders. By scientific research it is observed that horseweed is an effective natural medication. In contemporary times, many herbalists continue to recommend this herb for all these purposes.

### How it is useful in dengue prevention?

#### Used as mosquito repellent

*Aedes aegypti* mosquito is an important vector of dengue and many other viruses like chikungunya and yellow fever. By research it was predicted that plant based essential oils may serve as good alternatives to mosquito repellent that are commercially available. By using *Erigeron Canadensis* steam distillation was used from fresh collected aerial parts of plans for extraction of essential oils. For mosquito repellent activity against laboratory reared *Ae. aegypti* by human bait technique was used for testing essential oils. The essential oil of *E.canadensis* exhibited 80% mosquito repellent activity respectively. The *E.canadensis* essential oil completely inhibited the attractiveness of human hands toward female mosquitoes for more than 45 minutes.

This study suggests that the dilute solution of *E.canadensis* essential oil could be used as potent mosquito repellent. For more information you can check the site article.

<https://www.sciencedirect.com/science/article/abs/pii/S0926669019306193>

### Mosquitoes away by smoke

When this herb horseweed is burnt it was observed that mosquitoes fly away from the place where it is burnt as smoke is created when this herb is burnt and people in urban places often use this technique to avoid mosquitoes and dengue.

### Used as insecticide

*E.canadensis* is also used as insecticide as scientific researchers have corroborated the use of this plant as an insecticide, horseweed is also named as *Fleabane* since horseweed produces oil which is similar to turpentine that keeps fleas away or it owns the fact that the tiny seeds of this herb have resemblance to fleas.

### Conclusion

Erigeron Canadensis in dengue fever can be of great use for the recovery of a patient. Homeopathy also plays a pivotal role in modern medical sciences. Homeopathic medicines are very useful in the viral, infectious and bacterial diseases.

### Declaration

All the information provided above is for knowledge purpose. If any reader takes Erigeron Canadensis without consulting a homeopath or a medical expert, we are not responsible for any kind of side-effect of loss.

### References

Hahnemann, Samuel (1833). *The homeopathic medical doctrine.*

Commission of Pseudoscience of Russian Academy of science research. Memorandum #2 *Homeopathy as pseudoscience;*

World Health Organization reports. *What is dengue?* Study about the human, the mosquito and the virus.

Canadian Fleabane: *Conyza Canadensis;*

Flora of North America; *Erigeron Canadensis;*

*The use of Homeopathic combination* remedy for dengue fever.

J Jacobs, E A Fernandez, B Merizalde, G A Avila-Montes, D Crothers. 2007. The use of homeopathic combination remedy for dengue fever symptoms: a pilot RCT in Honduras. 96, pp. 22-26. <https://www.sciencedirect.com/science/article/abs/pii/S0926669019306193>



Research Article

# Udana Vata for Immunity

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**Abstract** The main purpose of this paper was to identify the role of 'Udana vata' to increase immunity. The study was divided into Literary Study and Clinical Study. References were studied for different keywords like – Saar, Oja, Bala, Rasayana, Udana vata, etc. So, to prove the concept and for the applied aspect of 'Udana Vata for Immunity' a clinical study was performed on patients at OPD level. Patients were selected keeping in view, the 'desire for maintaining health' as mentioned in Ayurvedic texts. Selected patients for Rasayana were randomly divided into two groups of 25 patients each. The efficacy of the therapy was assessed on the basis of subjective as well as objective criteria.

Traditionally there is no objective assessment criteria is given in texts. Thus, a need aroused to do the same, therefore with the help of modern and traditional knowledge following criteria were developed by me and all patients were examined under following criteria.

1. Saarta scale
2. Bala scale
3. Swara scale
4. Varna scale
5. Smriti scale

An attempt was made to find out the best condition for getting rasayana effects. This study was done only for 'vata- tapik rasayana' (In routine life). There was 72 % marked improved in udana vata group vis a vis only 36% marked improvement in control group. Rasayana are best effective in lehiya form. Oja / Immunity can be improved if lehiya form of rasayana is given in Udana kaal and at udana sthana. Udana consideration is important for best rasayana effects.

**Keywords** *Udana vata; Oja; Rasayana; Bala; Saar; Varna; Swara; Smriti*

## 1. Introduction

The unique and foremost aim of Ayurveda is to maintain the health of a healthy individual. We also understand that in a healthy body only, healthy mind and soul can reside.

The main purpose for a human to maintain their health is to attain '*Moksha*' or *Liberation from the Karmic Cycle*.

The liberation from the Karmic Cycle can only be possible if one's life is quite long enough to complete all works assigned to it. We humans along with completing the destined work, create our own new work by expecting from "*Kaayik* (Physical), *Vaachik* (Speaking) and *Maansik* (Mental) *Karma* (Deeds)". So, to complete the effect of the works in one lifetime we have to live long enough.

Death is always inevitable, either we can blame to the diseases or the accident for it. We can reduce the chances of early death by reducing the death by diseases. "*Rasayana*" branch of Ayurveda helps to achieve this goal by increasing Immunity or "*Oja*".

Ayurveda aimed to increase *Oja* by right diet, lifestyle or by natural supplements. The '*Samhita*' (Classical Texts) has also given lots of formulation to achieve the same.

Immunity plays a vital role for a disease-free society. There are several medicines, food supplements available for immunity enhancement, but most of time we don't see the desired effects of "*Rasayana*" as per the ayurvedic texts.

The knowledge in the texts is limitless we don't understand it is our limit not with 'The science'.

Considering the fact that *Vata* is only '*Doer*' element in the body and out of all *vata*, *Udana* is considered as '*Para*' (Best / Above all). Since *Oja* is also "*Para*" in the body it can establish a direct connection with it.

## 2. Aims and Objectives

- (1) To study in detail the principle of '*Udana Vata*' as described in classical Ayurvedic texts.
- (2) To study in detail the concept of *Rasayana* and *Oja*.
- (3) To study the applied scope of '*Udana vata Sthana and Udana kaal*', as evidenced in classics with appropriate examples.
- (4) To study the effect of '*Udana vata* on Immunity' based on principles.

## Plan of Study

To meet the above said objectives, the study was divided as follows.

- (1) Literary Study
- (2) Clinical Study
- (3) Discussion and Conclusion
- (4) Summary

## Literary Study

1. ***Udano naam yat urdwam upeti pawan uttamah*** [1]  
*Vata* which have '*urdhwa gati*' is named as *Udana Vata*. It is also best in all of the *vata* types.
2. ***Udanasya punah sthanam nabhi urah kantha eva cha*** [2]  
 The existence of the *Udana vata* can be found at navel chest and neck.
3. ***Urah sthanam udanasya nasa nabhi galansh charet*** [3]  
*Vagbhata sutra* adds nose as additional locations of *Udana vata*.

4. **Vaak pravritti prayatna oorja bala varna aadi** [4]  
Bodily functions served by *Udana vata* are – speech / voice, making an effort, energy / vigour, strength, complexion, etc.
5. **Vaak pravritti prayatna oorja bala varna smriti Kriya** [5]  
Initiation of speech, effort, enthusiasm, strength, colour, complexion and memory are the functions of *Udana vata*.
6. **Swasthasya ojas karam yattu tad vrishyam tad rasayanam** [6]  
Generally, those which brings health and increases 'Oja' is known as *Rasayana*.
7. Charka explains that *oja* is "**Sarva dhatu saar rupam** [7]"
8. **Ojah saar yukta** [8]  
Kashyap goes on straight to say that *oja* means *saar*.
9. **Saaro bale sthiransh cha** [9]  
According to amarkosha, *Saar* is the stable strength in a body.
10. According to Dalhana *bala* is - "**Hridi stitha ojah** [10]"
11. While studying the sequence of chapters in Charka Samhita following points are understood as follows [11] –
  - a. First chapter of *Indriya Sthana* is '*Varna Swar Indriya*'
  - b. *Varna* being the work of "*Agni*"
  - c. *Swara* being work of "*Vayu*"
  - d. *Agni* and *Vayu* always remain - hand in hand, means where ever there will be *agni* there will be *vayu*.
  - e. *Mrityu* happens only when '*Jathar Agni*' ceases.
  - f. Over here, *varna* and *swara* being the function of *Udana vata*, it means that *Udana vata* is functions are being '*First symptom of death*'.
  - g. *Rasayana* is the only choice when a patient shows '*Arista*' or *Oja* depletion.
12. While studying the chapter 17 of Charka Samhita following observation were made [12] –
  - a. Diseases discussed in the chapter is "*Kasa Swasa Hikka*"
  - b. All these diseases are *Prana nashini* & *Aashukari* in nature.
  - c. Either one of these is present at death moment
  - d. *Udana vata* is responsible for these diseases.
  - e. *Rasayana* is the only choice in untreatable diseases.
13. **Udana vikrutau punah sayam ashanatam purva kayasya cha bala** dhanarth [13]  
In Astang Sangrah, Vagbhat clearly says that *udana vata kala* is for providing '*bala*'.
14. **Prakritastu balam sleshma...sa chaiva ojah smritah kayesa cha** [14]  
According to Charka – *Prakrit* / Natural *Kapha* or *Sleshma* is *bala* and *oja*.  
In the context here it is referring to "*Avalambak Kapha*" in natural state.

15. **Urahstha sa viryen trikasya anna viryen cha sah hridayasya cha sleshma sthananam tatrastha eva udaka karmanam avalambanaad avalambak iti uchyate** [15]  
*Avalambak kapha* while staying at “Urah” *Sthana*, because of its *virya* nourishes *trik* and nourishes *Hridaya* (seat of *Oja*) with *aahar rasa*. It also nourishes other four locations of *sleshma* with the help of ‘*Udaka Karma*’.
16. **Deergha ayu smriti medha aarogyam tarunam vayah. Prabhava varna swara deha indriya bala param. Vaak siddhi pranatim kaanti labhate na rasayanat** [16]  
 Functions of *Rasayana* are – longevity, memory, intelligence, immunity, youthfulness, excellent lustre, complexion and voice. Optimum physical and mental strength.
17. **Rasayana formulations** [17]  
 After analysing all of the *rasayana* formulations from *Charka Samhita* it was observed that –
- Every formulation was mixed either with *dahi* (curd)/ *ghee*/ *madhu* Honey)/ *tila* (sesame seeds)/ *sharkara* (sugar).
  - Even ‘*Amalaki churna Rasayana*’– should be mixed with *ghee*/ *madhu*/ *sharkara* to make a *lehiya* (Lickable) form.
  - Lehiya* form is best for *Avalabak kapha*. Since both works on common area.

### Clinical Study

As the definition of Research is either to invent something new or to throw light on old facts & principles which are traditionally proved as truth first by challenging them then critically re-examining & then either accepted or rejected on the basis of evidences found.

So, to prove the concept and for the applied aspect of ‘*Udana Vata* for Immunity’ a clinical study was performed on patients.

### 3. Materials & Methods

All the patients were selected for the present study by keeping in view, the ‘desire for maintaining health’ as mentioned in Ayurvedic texts irrespective of age, sex, religion and economical status. All the patients were treated at OPD level.

### Criteria for Selection

- Patients who came for maintaining their health were chosen.
- Patients were examined to rule out any possible major disease.

### Management of the Patients

All the selected patients for *Rasayana* were randomly divided into the following two groups of 25 patients each.

#### (1) Management group (*Udana Vata* group)

Patients of this group were given ‘*Chyavanprash*’ under following conditions –

- Dose - 10 grams every day once.
- *Anupana* - None.
- *Kala* - *Udana kala* i.e. evening post meal.
- Duration - 30 days.

Patients were also advised not to eat thereafter until complete digestion (*samyak pachan lakshana* was observed). All of the patients were also advised to follow a healthy lifestyle and diet for 30 days

**(2) Control Group (Non - *udana vata* group)**

Patients of this group were given same *rasayana*. The dose, *anupana*, duration and even food and lifestyle were kept the same as that of the Management Group. Only criteria changed was '*Kala*'. In this group the *chyavanprash rasyana* was given in any other *kala* but not in *udana kala*, i.e. except after evening post meal.

**Criteria of Assessment**

For assessing the changes, OPD patients were examined weekly. The suitable scoring method for the symptoms and objectives signs were recorded. The efficacy of the therapy was assessed on the basis of subjective as well as objective criteria.

**Subjective Criteria**

Most of the symptoms & signs of Benefits from *Rasayana*, described in Ayurveda, are subjective in nature. Therefore, individual feeling of wellness was also considered when assessment was done objectively.

The assessment was done before starting the treatment and after 30 days of *rasayana*.

**Objective Criteria**

Traditionally there is no objective assessment criteria is given in texts. Thus, a need aroused to do the same for present times, therefore with the help of modern and traditional knowledge following criteria were developed by me and all patients were examined under following criteria.

- i. Saarta
- ii. Bala
- iii. Swara
- iv. Varna
- v. Smriti

**SAARTA [18]**

For each *dhatu saarta* is calculated as percentage.

- If it is 30 % or less it will in *asaar* category.
- If between 30 % to 60 % it will be in *Madhyama saar* category.
- If it is 70 % or above it will be in *Pravar saar* category.

	<i>Asaar</i>			<i>Madhyama saar</i>			<i>Pravar saar</i>			
Saar Scale	1	2	3	4	5	6	7	8	9	10
Final assessment	27 (54 %)			14 (28 %)			09 (18 %)			

**BALA** [19]

Bala or strength was assessed by ‘METS’ (Treadmill test)

- METS value of less than 3 is *avara* / least bala
- METS value between 4 to 6 is *madhyama* / moderate bala
- METS value of above 7 is *Pravar bala*.

	<b>Avar bala</b>			<b>Madhyama bala</b>			<b>Pravar bala</b>			
<b>Bala / MET Scale</b>	1	2	3	4	5	6	7	8	9	10
<b>Final assessment</b>	20 (40 %)			17 (34 %)			13 (26 %)			

**SWARA (VAAK PRAWRIITI)** [20]

Swara and ‘Shruti scale’ was devised to assess the patients’ voice quality.

- ‘Sa’ taken as 100 Hz for convenience.
- Those who were able to produce ‘Sa’ ‘Re’ were classified as *avar vaak pravritti*.
- Those who were able to produce ‘Sa’ ‘Re’ ‘Ga’ ‘Ma’ were classified as *madhyama vaak pravritti*.
- Those who were able to produce ‘Sa’ ‘Re’ ‘Ga’ ‘Ma’ ‘Pa’ ‘Dha’ ‘Ni’ were classified as *Pravar vaak pravritti*.
- Patients were examined by mobile app for the frequencies.

<b>Pitch</b>	1	2	3	4	5	6	7
<b>Swara</b>	Sadja (Sa)	Rshabha (Re)	Gandhara (Ga)	Madhyama (Ma)	Pañchama (Pa)	Dhaivata (Dha)	Nishada (Ni)
<b>Ref. Frequency (Hz)</b>	100	112.5	125	133.33	150	166.66	187.5
<b>Ratio</b>	1/1	9/8	5/4	4/3	3/2	5/3	15/8
<b>Shruti** (Hz)</b>	261	294	327	348	392	436	490
<b>Final assessment</b>	<b>avar vaak pravritti 32 (64%)</b>						
	<b>Madhyama vaak pravritti 15 (30%)</b>						
	<b>Pravar vaak pravritti 03 (06 %)</b>						

**VARNA / COMPLEXION / SKIN TONE** [21]

- *Prakrit varna* – Skin tone when the skin is healthy.
- *Vikrit varna* – when skin shows signs of diseases.
  - *Neel* – as in argyria / or lack of oxygen /heart diseases
  - *Shyaav* – as in cyanosis / hematoma
  - *Tamra* – as in rakta dusti / **Rosacea / Dermatitis**
  - *Harita* – as Kamala / Microcytic Hypochromic anaemia
  - *Shukla* – as in switra / leukoderma

1	2	3	4	5	6	7	8	9
Avadata	Shyam avadata	Shyam	Krishna	Neel	Shyaav	Tamra	Harita	Shukla
Fair / Light	Light brownish	Brownish	Blackish	Bluish-Grey	Bluish Purple	Coppery Reddish	Greenish Yellowish	Whitish
Prakrit / Natural tones				Vikrit / Unnatural tones				
28 patients				22 patients				

### SMRITI / MEMORY [22]

Initial capacity of memorising number of decimal places of 'pi' was taken as base score. After the completion of the *Rasayana* therapy a new set of pi numbers were provided of the same length and patients were asked to memorise further than that.

- If the person was able to memorise maximum up to 30 decimal places then he was labelled as '*Alpa Smriti*' person
- If the person was able to memorise maximum from 31 up to 60 decimal places then he was labelled as '*Madhyama Smriti*' person
- If the person was able to memorise maximum from 61 up to 100 decimal places then he was labelled as '*Uttama Smriti*' person

Smriti Scale	<i>Alpa Smriti</i>			<i>Madhyam Smriti</i>			<i>Uttama Smriti</i>			
Number of decimal places	10	20	30	40	50	60	70	80	90	100
Number of patients	48 (96 %)			2 (4 %)			0 (0%)			

### 4. Observations

**Table 1: Age wise Distribution of 50 Patients**

Age group	UV 25	NUV 25	Total 50	%
<i>Baal</i>	0	0	0	0
<i>Madhyama</i>	20	22	42	84
<i>Vridha</i>	5	3	8	16

**Table 2: Deha Prakriti DISTRIBUTION OF 50 PATIENTS**

Deha Prakriti	Udana Vata 25	Non Udana Vata 25	Total 50	%
<i>Vata</i>	15	14	29	58
<i>Pitta</i>	8	10	18	36
<i>Kapha</i>	2	1	3	6

**Table 3: Manas Prakriti DISTRIBUTION OF 50 PATIENTS**

<i>Manasa</i>	UV	NUV	Total	%
<i>Prakriti</i>	25	25		
<i>Saatvik</i>	5	5	10	20
<i>Rajasik</i>	12	13	25	50
<i>Tamasik</i>	8	7	15	30

**Table 4: Satva DISTRIBUTION OF 50 PATIENTS**

<i>Satva</i>	UV	NUV	Total	%
	25	25	50	
<i>Pravara</i>	7	6	13	26
<i>Madhyam</i>	8	10	18	36
<i>Avara</i>	10	9	19	38

**Table 5: Sex wise DISTRIBUTION OF 50 PATIENTS**

<i>Sex</i>	UV	NUV	Total	%
<i>Male</i>	7	5	12	24
<i>Female</i>	18	20	38	76
<i>Other</i>	0	0	0	0

**Table 6: Socio – Economic status wise DISTRIBUTION OF 50 PATIENTS**

<i>Socio – economic status</i>	UV	NUV	Total	%
	25	25	50	
<i>Lower</i>	8	8	16	32
<i>Middle</i>	11	10	21	42
<i>Upper</i>	7	8	15	30

**Table 7: Education wise DISTRIBUTION OF 50 PATIENTS**

<i>Education</i>	UV	NUV	Total	%
<i>Illiterate</i>	6	7	13	26
<i>SSC</i>	3	1	4	8
<i>HSC</i>	7	8	15	30

**Table 8: Saar wise DISTRIBUTION OF 50 PATIENTS**

<i>Saar</i>	UV	NUV	Total	%
	25	25	50	
<i>Asaar</i>	12	15	27	54
<i>Madhyama</i>	8	6	14	28
<i>Sarva</i>	5	4	9	18



**Table 9: Bala wise DISTRIBUTION OF 50 PATIENTS**

Bala	UV	NUV	Total	%
	25	25	50	
Avara	12	8	20	40
Madhyama	4	13	17	34
Pravar	9	4	13	26

**Table 10: Swara wise DISTRIBUTION OF 50 PATIENTS**

Swara	UV	NUV	Total	%
Avara	15	17	32	64
Madhyama	9	6	15	30
Pravar	1	2	3	06

**Table 11: Varna wise DISTRIBUTION OF 50 PATIENTS**

Varna	UV	NUV	Total	%
	25	25	50	
Prakrit	15	13	28	56
Vikrit	10	12	22	44

**Table 12: Smriti wise DISTRIBUTION OF 50 PATIENTS**

Smriti	UV	NUV	Total	%
Alpa	24	24	48	96
Madhyam	1	1	2	4
Uttam	0	0	0	0

**Assessment Parameter**

- Marked Improved – if patients improved 2 levels. (e.g. from *avar* to *pravar*)
- Moderately Improved - if patient improved to next higher level. (e.g. from *avar* to *madhyam*)
- Improved – if only slight change, but patient remains in same level. (e.g. from *madhyam* to *madhyam* but still slight improvement)
- Unchanged – when there is no change in pre and post *rasayana*.

**5. Results**

Results are tabulated considering the maximum change obtained in which parameter.

**Udana Vata group (25)**

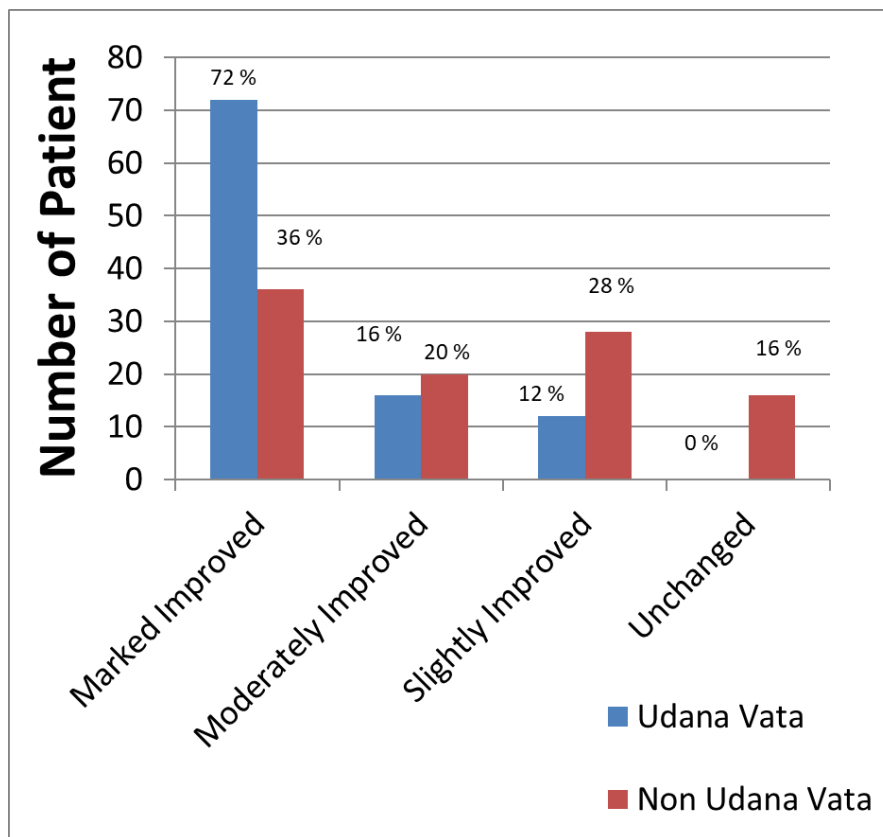
Parameter	Marked Improved	Moderately Improved	Improved	Unchanged
	18 (72 %)	4 (16 %)	3 (12 %)	0 (0%)
Saar	8	2	1	0
Bala	4	1	1	0

<b>Swara</b>	2	0	0	0
<b>Varna</b>	3	1	1	0
<b>Smriti</b>	1	0	0	0

**Non - Udana Vata Group (25)**

Parameter	Marked Improved	Moderately Improved	Improved	Unchanged
	9 (36 %)	5 (20 %)	7 (28 %)	4 (16 %)
<b>Saar</b>	4	2	2	0
<b>Bala</b>	3	1	2	1
<b>Swara</b>	0	0	1	1
<b>Varna</b>	1	2	2	1
<b>Smriti</b>	1	0	0	1

**Chart of Results obtained by Clinical Study**



**6. Discussion**

This is the most important part of any research work. It comprises the discussion of important points from Conceptual Study as well as the results obtained from Applied Study. Discussion is nothing but the logical reasoning of observations. If all the points are discussed with proper reasoning then they help to draw proper conclusions. It is a bridge which connects the findings with conclusions. Only a properly done discussion can fulfil the purpose of research work i.e. to draw some conclusion from the findings and results. Therefore, discussion is the main substratum of any type of research work.

- Though the number of patients was very less but an attempt was made to find out the best condition for giving rasayana effects.
- This study was done only for *vata- tapik rasayana* (In routine life) give rasayana in *udana kaal* only. If *kuti praveshik* (Special life for rasayan) is needed than only best to give in *abhakta kaal*.
- *Medhya rasayana* were only which *udana vata* were not in *lehiya* form but were in the *sanchaar* areas of the.
- Further extensive studies should be carried out with more detailed parameter for analysis of minor details.

## 7. Conclusion

Conclusions are the essence of whole study. In Ancient Research Methodology it is described as "*Nigamana*". In the discussion part of the study, the work is discussed on the basis of concepts, supported by data and logical reasoning. The conclusions drawn from the scientific discussion are as follows:

1. *Rasayana* are best effective in *lehiya* form.
2. Immunity can be improved if *rasayana* is given in *udana vata sthana*.
3. *Oja* can be improved if *lehiya* form of *rasayana* is given at *Udana kaal* in *udana sthana*.
4. *Udana* consideration is important for best *rasayana* effects.

## References

- [1] Shastri Kaviraja Ambikadutta ed, *Susruta Samhita (Sans)*, Part 1, 11<sup>th</sup> ed, *Nidana, Vata Vyadhi Nidan*, 1/14, *Chaukhambha Sanskrit Sansthan, Varanasi*, 1997, pg.229.
- [2] Dr. Tripathi Brahmanand, Dr. Prabhakar J. Deshpande ed, *Charaka Samhita of Agnivesa, (sans)*, Vol 2, 6th ed, *Chikitsa, Vata Vyadhi Chikitsa*, 28/7, *Chaukhambha Surbharati Prakashan, Varanasi*, 1999, pg.934.
- [3] Taradutta panta ed, *Astanga Hridayam (sans)*, 4<sup>th</sup> ed, *Sutra, Doshabhediya*, 12/5, *Chaukhambha Sanskrit Series, Varanasi*, pg.86.
- [4] Dr. Tripathi Brahmanand, Dr Prabhakar J. Deshpande ed, *Charaka Samhita of Agnivesa, (sans)*, Vol 2, 6th ed, *Chikitsa, Vata Vyadhi Chikitsa*, 28/7, *Chaukhambha Surbharati Prakashan, Varanasi*, 1999, pg.934.
- [5] Taradutta panta ed, *Astanga Hridayam (sans)*, 4<sup>th</sup> ed, *Sutra, Doshabhediya*, 12/6, *Chaukhambha Sanskrit Series, Varanasi*, pg.86
- [6] Dr. Tripathi Brahmanand, Dr. Prabhakar J. Deshpande ed, *Charaka Samhita of Agnivesa, (sans)*, Vol 2, 6th ed, *Chikitsa, Rasayana*, 1/1/5, *Chaukhambha Surbharati Prakashan, Varanasi*, 1999, pg.04.
- [7] Dr. Tripathi Brahmanand, Dr. Prabhakar J. Deshpande ed, *Charaka Samhita of Agnivesa, (sans)*, Vol 2, 6th ed, *Chikitsa, Grahani*, 15/3, *Chaukhambha Surbharati Prakashan, Varanasi*, 1999, pg.550.
- [8] Satyapala bhisagacharya ed, *Kashyap Samhita (sans)*, 9<sup>th</sup> ed, *Sutra, Lakshana* 28, *Chaukhambha Sanskrit Sansthan, Varanasi*, 2004, pg. 54

- [9] Definition from Amarkosha.
- [10] Dalhan commentary on Sushruta Samhita (Sans), Part 2, Uttar Tantra, 41/19.
- [11] Dr. Tripathi Brahmanand, Dr. Prabhakar J. Deshpande ed, Charaka Samhita of Agnivesa, (sans), Vol 2, 6th ed, Chaukhambha Surbharati Prakashan, Varanasi, 1999.
- [12] Dr. Tripathi Brahmanand, Dr. Prabhakar J. Deshpande ed, Charaka Samhita of Agnivesa, (sans), Vol 2, 6th ed, Chikitsa 17, Hikka Swasha Chikitsa, Chaukhambha Surbharati Prakashan, Varanasi, 1999.
- [13] Lalchandra Shastri ed, Astanga Sangraha (sans), Vol.1, 4<sup>th</sup> ed, Sutra, Bhesaj Vicharniya, 23/16, Sri Baidyanath Ayurveda Bhavan Ltd., 1996, pg. 683.
- [14] Dr. Tripathi Brahmanand, Dr. Prabhakar J. Deshpande ed, Charaka Samhita of Agnivesa, (sans), Vol 2, 6th ed, Chikitsa 17, Hikka Swasha Chikitsa, Chaukhambha Surbharati Prakashan, Varanasi, 1999.
- [15] Lalchandra Shastri ed, Astanga Sangraha (sans), Vol.1, 4<sup>th</sup> ed, Sutra, Dosha bhediya, 20/6, Sri Baidyanath Ayurveda Bhavan Ltd., 1996, pg. 616.
- [16] Dr. Tripathi Brahmanand, Dr. Prabhakar J. Deshpande ed, Charaka Samhita of Agnivesa, (sans), Vol 2, 6th ed, Chikitsa, Rasayana, 1/1, Chaukhambha Surbharati Prakashan, Varanasi, 1999.
- [17] Dr. Tripathi Brahmanand, Dr. Prabhakar J. Deshpande ed, Charaka Samhita of Agnivesa, (sans), Vol 2, 6th ed, Chikitsa, Rasayana, 1/1, Chaukhambha Surbharati Prakashan, Varanasi, 1999.
- [18] Saarta Scale – created & derived from - Dr. Tripathi Brahmanand, Dr. Prabhakar J. Deshpande ed, Charaka Samhita of Agnivesa, (sans), Vol 1, 7th ed, Vimana, 8/102, Chaukhambha Surbharati Prakashan, Varanasi, 2000. pg.763.
- [19] Bala Scale created & derived from - Dr. Tripathi Brahmanand, Dr. Prabhakar J. Deshpande ed, Charaka Samhita of Agnivesa, (sans), Vol 1, 7th ed, Vimana, 8/121, Chaukhambha Surbharati Prakashan, Varanasi, 2000. pg.771.
- i) M. Jette. K. Sidney. G. Blumchen - Metabolic Equivalents (METS) in Exercise Testing, Exercise Prescription, and Evaluation of Functional Capacity, Clin. Cardiol. 13, 1990. pg.555-565.
- [20] Shruti (Music)- *Wikipedia*, Wikimedia Foundation, 27 June 2017, en.wikipedia.org/wiki/Shruti\_(music)
- [21] Varna Scale created and derived from - Dr. Tripathi Brahmanand, Dr. Prabhakar J. Deshpande ed, Charaka Samhita of Agnivesa, (sans), Vol 1, 7th ed, Indriya, 1/8 - 10, Chaukhambha Surbharati Prakashan, Varanasi, 2000. pg.989-990.
- [22] Smriti Scale created based upon - Raz A, Packard MG, Alexander GM, et al. A slice of pi: an exploratory neuroimaging study of digit encoding and retrieval in a superior memorist. *Neurocase*. 2009; 15(5) pg.361-372.

**Research Article**

## COVID-19 and Homoeopathic Intervention- A Case Report

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**Abstract** Studies are going worldwide to develop an effective method for treatment against the global pandemic of COVID-19 but unfortunately no treatment method has been declared as a specific therapeutic approach against COVID-19. History stands as evidence where homeopathy intervention has been beneficial in both preventive and curative aspects of various epidemics. Holistic symptomatological aspect based on generalities enables Homeopathy to be effective in any disease condition. Selection of homeopathic remedy is always on basis of the totality of symptoms and in most cases the changes occurring in cellular and molecular level are not required except in few occasions of dose and potency determination. This concept of healing through homoeopathy is different from other conventional methods of treatment where molecular pathogenesis is the fulcrum of the drug protocols. Hence, in the era of fight to discover vaccine against COVID-19, the following case report shows how a COVID-19 positive individual with mild symptomatology of vomiting, fever, malaise, heaviness of head and loss of taste, recovers with prescription of Bryonia alba 200, followed by Tuberculinum 200, 1M and 10M and at the same time RT-PCR for SARS-CoV-2 becomes negative in the duration of two weeks. Therefore, this case report demonstrates why Homoeopathic intervention should be emphasized in the management of this international crisis.

**Keywords** *Coronavirus disease; Bryonia; Tuberculinum; RT-PCR***Abbreviations** OPD = Outpatient department; CO = Complain of; HO = History of; Contd = continued; st quo = status quo; RT-PCR = Real time PCR;

### 1. Introduction

The novel Coronavirus disease 2019 (COVID-19) is caused by Severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) which has now turned into a global pandemic since its origin from Wuhan city of Hubei Province in China in December 2019 [1]. The spread of COVID-19 is rapid. Transmission is from close contact and droplet. There is scarce evidence to suggest airborne transfer. The mean incubation period is about 3–9 days with a range between 0–24 days. About 44 % of transmission is estimated to occur before symptoms arise [2].

This disease manifests with a wide clinical spectrum ranging from asymptomatic patients to septic shock and multiorgan dysfunction [3]. According to the standard issued by Nation Health Commission of the People's Republic of China (6th edition), patients were divided into mild, common, severe and critical types based on the severity of the presentation [4]. The disease may be classified into mild (symptoms are mild, with no abnormal radiological findings), moderate (fever, cough, and other symptoms are present with pneumonia on chest CT), severe (respiratory distress, respiratory rate  $\geq$  30/min, oxygen saturation on room air at rest  $\leq$  93%, partial pressure of oxygen in arterial blood/ $F_{I_{O_2}} \leq$  300 mm Hg), and critical (respiratory failure occurs and mechanical ventilation is required, shock occurs, other organ dysfunction is present, requiring ICU monitoring and treatment) [5].

The most common symptoms include fever (82.2%) and cough (61.7%). These symptoms are similar to other viral respiratory diseases. However, the presentation of myalgia, sore throat, nausea, vomiting, and diarrhea may also suggest the infection. The most common comorbidity is hypertension (30.7%). This is followed by diabetes mellitus (14.3%) and cardiovascular diseases (11.9%) [2]. Severe organ dysfunction such as shock, acute respiratory distress syndrome, acute heart injury, and acute kidney injury can lead to death [6].

The preventive and curative aspect of Homoeopathy is well known in several viral epidemics [7]. Historically, Homoeopathy gained prominence following its usefulness for the management of the epidemics of Spanish Influenza, Chikungunya, Japanese Encephalitis, and Dengue Fever. In 1918, Spanish Flu pandemic infected 20% of the world population and killed about 30 million people. Homoeopaths treated 6602 cases with 55 deaths which is less than 1% and of 24,000 cases treated allopathically with mortality rate 28.2%. *Gelsemium sempervirens* was the common remedy used during the epidemic (*Bryonia alba*, *Arsenic album*, *Baptisia* and *Eupatorium perfoliatum* were used occasionally) [8, 9]

Recently a cluster-randomized double-blind, placebo-controlled trial was conducted in Kerala, India for prevention of Chikungunya during an epidemic outbreak in 2007. *Bryonia alba* 30C as genus epidemicus proved better than placebo in decreasing the incidence of Chikungunya in Kerala [10]. Since 1990 Japanese Encephalitis became an uncontrollable problem in India (especially Andhra Pradesh). Owing to doubtful efficacy of the existing vaccine the government chooses to adopt homoeopathic prophylactics (consisting of *Belladonna*, *Calc carb* and *Tuberculinum* separately administered in specific days at particular intervals). After its commencement in 1999 and till 2004, there appeared a drastic reduction in morbidity and mortality [11]. In a clinical trial supported by the Central Council for Research in Homoeopathy (CCRH) in patients with Dengue Hemorrhagic fever, add on Homoeopathic treatment has shown early improvement in platelet count and decrease in hospital stay by 2 days [12]. Hence it is evident that Homeopathy has been used successfully to manage epidemic diseases (also viral epidemic diseases) since the time of Hahnemann.

## 2. Case report

A 30 years male patient ND, reported in the OPD on 01.07.2020 with symptoms of fever (101°F) with history of vomiting (2 times) in last night. The vomitus was mainly containing undigested food particles with yellowish tinge. There no evidence of cough or shortness of breath or any signs of dehydration. However, there was severe weakness and patient wanted to lie down always and ailments was increasing on any kind of movement.

### Past history

Patient had history of chronic bronchitis from childhood till the age of 11 years, for which allopathic and homoeopathic medicines were taken. He also suffered from migraine around the age of 15 years from which he suffered for 2 years and was healed by consuming homoeopathic medicines.

### Family history

Father, uncle, and cousin brother suffered from tuberculosis (pulmonary). Grandfather died of throat cancer and grandmother died of liver carcinoma. Mother suffers from pyorrhea and urinary tract infections occasionally.

### Personal history

Patient by occupation is a pharmacist working in DACRRI (H), Kolkata and by profession he is a health worker. He had habit of smoking (4 cigarettes per day) and history of occasional alcohol intake. He is unmarried and had hobbies of reading books and listening to music.

### Generals

Patient is good-natured and well-behaved. During the acute phase he was looking severely exhausted and debilitated. There was a strong desire for water with dryness of mouth and fauces. Stool was hard and unsatisfactory since morning. Sweating was not occurring much and skin was dry and heated.

### Local and systemic examination

Ectomorphic constitution, with height = 175 cm, weight = 65 kg (BMI = 21). Chest examination revealed normal chest movements on both sides, resonant lung fields, breath sounds was bronchial, and no added sounds was elicited. Skin imparted a heat sensation on touching and on measurement temperature was 101°F as measured orally.

### 3. Analysis of the case

After analyzing the symptoms of the case, the characteristic generals and particular symptoms were considered for framing the totality. Extreme thirst for water with dryness of mouth, fever with weakness, least motion aggravation, wants to be quiet and prefers to lie down, perspiration scanty with dryness of skin, hard stool and bilious vomiting included in totality. Considering the above symptomatology, Kent Repertory was preferred and using HOMPETH software [13], systemic repertorisation was done. The repertorisation chart is given in the following Table 1.

Table 1: The repertorisation chart

Remedy Name	Bry	Ars	Nit-m	Phos	Lyc	Rhus-a	Sulph	Bell	Phac	Nit-ac	Coc	Graph	Sil
<b>Totality</b>	19	14	13	11	9	9	9	8	8	7	7	7	7
<b>Symptom Covered</b>	7	6	6	4	6	6	4	4	4	4	3	3	3
[KT] [Fever]Motion.Wants to be quiet in any stage:	3												
[KT] [Fever]Perspiration Absent:	3	3	1	2	2	2	2	3	2	1	1	2	1
[KT] [Stomach]Vomiting Food,Bile,then:	2		2					1					
[KT] [Stomach]Thirst Extreme:	3	3	3	3	2	2	3	2	2	2	3	2	3
[KT] [Stool]Hard:	3	2	3	3	3	1	3	2	2	3	3	3	3
[KT] [Generalities]Weakness,ervation (see lassitude,weariness)Fever:During:	2	3	2	3	1	2	1		2	1			
[KT] [Generalities]Weakness,ervation (see lassitude,weariness)Rising:On:	3	3	2		1	2							

*Bryonia alba* 200 was prescribed as it covered all symptoms and scored highest in the table as well. *Arsenic album* which has now gain popularity as a Homeoprophylaxis [14] is in the second position. However, curative and preventive drugs need not be the same which is again proved from this comparative analysis. Moreover in the study reports of eighteen COVID-19 positive patients in Hong

Kong, homoeopathic medicines such as *Bryonia alba* and *Gelsemium sempervirens* was used successfully in 4 and 12 cases respectively [15]. Hence, *Bryonia alba* 200 4 doses was prescribed in 30 ml aqua dist in fractional dosage format and was advised to take 10 drops, four times daily (QDS). On the 4<sup>th</sup> day of illness, medicine was changed to *Tuberculinum* 200, as fever was no more present and few symptoms were persisting. Use of this nosode was made basically due to indications from past history and family history of the patient [16]. Subsequently, the potency was raised to 1M and 10M for complete restoration of health.

Follow-Up Date	Indications for Prescription	Medicine with Doses
02.07.2020	Fever subsided, weakness was marked, appetite decreased, new CO - heaviness of head	<i>Bryonia alba</i> 200 10 drop x QDS x contd
03.07.2020	Fever re-appeared in the evening (100°F), weakness increased along with bodyache, appetite not improved, heaviness of head persisting	<i>Bryonia alba</i> 200 10 drop x QDS x contd
04.07.2020	Fever again subsided (98.2°F), heaviness of head decreased but was persisting	<i>Bryonia alba</i> 200 10 drop x QDS x contd
05.07.2020	Heaviness of head – st quo, weakness decreased to some extent, new CO - loss of taste, discomfort in the chest (O/E – no chest congestion, no added sounds)	<i>Tuberculinum</i> 200 4 doses in 30 ml aqua dist 10 drop x QDS x contd
06.07.2020	Heaviness of head – st quo, weakness – st quo, loss of taste – persisting, discomfort of chest - decreased	<i>Tuberculinum</i> 200 10 drop x QDS x contd
07.07.2020	Test was advised as symptoms were standstill. Nasopharyngeal and oropharyngeal swabs were collected for qualitative RT-PCR	<i>Tuberculinum</i> 200 10 drop x QDS x contd
08.07.2020	Heaviness of head – st quo, weakness – decreased, appetite – increased, loss of taste – persisting, discomfort of chest – almost disappeared	<i>Tuberculinum</i> 200 10 drop x QDS x contd
09.07.2020	Patient tested positive for SARS-COV-2. Heaviness of head – st quo, weakness – decreased, appetite – increased, loss of taste – persisting	<i>Tuberculinum</i> 1M 2 doses in 30 ml aqua dist 10 drop x BD x contd
10.07.2020	Patient was called from Kamarhati Municipality for further management. Patient responded by saying that he prefers home isolation as he is doing well and is under strict surveillance for his home physician. Accordingly he was permitted to stay safe at home and if any complications aroused then he should inform the authorities. CO = Heaviness of head – st quo, weakness – much decreased, appetite – increased, taste – slightly reappearing	<i>Tuberculinum</i> 1M 2 doses in 30 ml aqua dist 10 drop x BD x contd
11.07.2020	Heaviness of head – st quo, weakness – decreased to great extent, appetite – improving well, taste – much perceivable now	<i>Tuberculinum</i> 1M 2 doses in 30 ml aqua dist 10 drop x BD x contd
12.07.2020	Patient was improving in all aspects, but the heaviness of the head was still persisting	<i>Tuberculinum</i> 10 M 1 doses in 30 ml aqua dist 10 drop x OD x contd
23.07.2020	Patient now totally asymptomatic now and was under observation in home isolation	Repeat RT-PCR test for SARS-COV-2 was advised.



Sample was collected on 24.07.2020 and report was received on 26.07.2020. The reports are as follows:

		<small>KRL: CB-31/1, Premises No.-031-0199, Action Area I C, New Town, Kolkata- 700156, Tel: +91-33-3988-5050                  Regd. Office/National Reference Lab: Dr. Lal PathLabs Ltd., Block E, Sector-18, Rohini, New Delhi - 110085                  Tel: +91-11-30244-100, 3988-5050, Fax: +91-11-2788-2134, E-mail: lalpathlabs@lalpathlabs.com                  Web: www.lalpathlabs.com, CIN No.: L74899DL1995PLC065388</small>	
L51 - ZENITH SUPER SPECIALITY HOSPITAL 9/3Feeder road(Rathtala) Belgharia,(M) -03325444390			
Name : N D Lab No. : 285430476    Age: 30 Years    Gender: Male A/c Status : P    Ref By : Dr. PARTHA PRATIM PAL	Collected : 7/7/2020 12:00:00AM Received : 8/7/2020 11:21:51PM Reported : 9/7/2020 10:51:02AM Report Status : Final		
SRF ID : 1930300036559			
Test Name <b>SARS-COV-2 (COVID -19) QUALITATIVE PCR *</b> (Real Time PCR)	Results Nasopharyngeal / Oropharyngeal Swabs Positive		
Type of Specimen			
Result			
Condition of specimen received / Quality on arrival: Good Quality Specimen / In Cold Chain			

		<small>KRL: CB-31/1, Premises No.-031-0199, Action Area I C, New Town, Kolkata- 700156, Tel: +91-33-3988-5050                  Regd. Office/National Reference Lab: Dr. Lal PathLabs Ltd., Block E, Sector-18, Rohini, New Delhi - 110085                  Tel: +91-11-30244-100, 3988-5050, Fax: +91-11-2788-2134, E-mail: lalpathlabs@lalpathlabs.com                  Web: www.lalpathlabs.com, CIN No.: L74899DL1995PLC065388</small>	
L51 - ZENITH SUPER SPECIALITY HOSPITAL 9/3Feeder road(Rathtala) Belgharia,(M) -03325444390			
Name : N D Lab No. : 287289590    Age: 30 Years    Gender: Male A/c Status : P    Ref By : Dr.PARTHA PRATIM PAUL	Collected : 24/7/2020 12:00:00AM Received : 26/7/2020 2:10:57AM Reported : 26/7/2020 11:02:32AM Report Status : Final		
SRF ID : 1930300054809			
Test Name <b>SARS-COV-2 (COVID -19) QUALITATIVE PCR *</b> (Real Time PCR)	Results Nasopharyngeal / Oropharyngeal Swabs Negative		
Type of Specimen			
Result			
Condition of specimen received / Quality on arrival: Good Quality Specimen / In Cold Chain			

#### 4. Discussion

Currently, the treatments include supportive care and no specific anti-virals or vaccine has been developed, as this is primarily dependent on the severity of the illness. From a research standpoint, various drugs are being developed at an extremely quick pace and new targets are being identified every day, and also numerous drugs are also undergoing clinical trials. Researchers are very curious about how to provide the best protection to the public before a vaccine can be made available. Indian medicinal herbs are a promising field for treatment of various illnesses [17] Ayurveda and Siddha practices originated in India and are still widely used among the Indian population. By identifying certain phytochemicals, it is possible to effectively characterize medicinal herbs that could help to

alleviate the infection. Hence, by repurposing the Indian medicinal plants, more innovative treatment options can be penned down for their role in defeating this viral transmission. At a time of worldwide anxiety, it is imperative to find long term solutions to prevent the transmission of such pandemics. So, it's time for all the citizens to join hands together to fight against coronavirus by practicing self-hygiene and social distancing [18].

## Conclusion

With no established conventional specific treatment or vaccine available for COVID-19 infection, evidence-based homoeopathy medicine should be considered with proper documentation. Although the use of homeopathy medicine by us shows shows potential effects in the treatment of COVID-19 infection in an individual COVID patient but control randomized trials need to be conducted to substantiate the findings.

## References

- [1] Ali I., Alharbi O.M. 2020. COVID-19: Disease, management, treatment, and social impact. *Science of the Total Environment*. Apr 22:138861.
- [2] Siordia Jr J.A. 2020. Epidemiology and clinical features of COVID-19: A review of current literature. *Journal of Clinical Virology*. Apr 10:104357.
- [3] Cascella M., Rajnik M., Cuomo A., Dulebohn S.C., Napoli R.D. Treasure Island, FL: StatPearls Publishing; 2020. Features, Evaluation and Treatment Coronavirus (COVID-19)
- [4] Zhao D., Yao F., Wang L., Zheng L., Gao Y., Ye J., Guo F., Zhao H., Gao R. 2020. A comparative study on the clinical features of COVID-19 pneumonia to other pneumonias. *Clinical Infectious Diseases*. Mar 12.
- [5] Wang Y., Wang Y., Chen Y., Qin Q.J. 2020. Unique epidemiological and clinical features of the emerging 2019 novel coronavirus pneumonia (COVID-19) implicate special control measures; *Med Virol*.
- [6] Wang D., Hu B., Hu C., Zhu F., Liu X., Zhang J., Wang B., Xiang H., Cheng Z., Xiong Y., Zhao Y. 2020. Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus–infected pneumonia in Wuhan, China. *Jama*. 323(11), pp.1061-9.
- [7] Homoeopathic Perspectives in COVID-19 Coronavirus Infection- Fact Sheet. Central Council for Research in Homoeopathy. Ministry of AYUSH, Government of India. 2020. Last accessed on 21.08.2020 available at: <https://www.ccrhindia.nic.in>
- [8] British Homoeopathic Society (Meeting). 1918. Discussion on the treatment of influenza and its complications as seen in the present epidemic. *British Homeopath Journal*, 8(12), pp.305-312.
- [9] Baker, W.F. 1920. Research work in Gelsemium sempervirens and Bryonia alba in influenza. *Journal of American Institute of Homeopathy*, 12, pp.695-698.
- [10] Nair, K.R.J., Kumar, J.R., Aggarwal, A., Varanasi, R., Nayak, D., Padmanabhan, M., Oberai, P., Singh, H., Singh, V.P. and Nayak, C. 2014. Homeopathic Genus Epidemicus 'Bryonia alba' as a prophylactic during an outbreak of Chikungunya in India: A cluster-randomised, double-blind placebo-controlled study. *Indian Journal of Research in Homoeopathy*, 8(3), pp.160-165.

- [11] Golden, I. 2016. A practical handbook of Homoeopathic Immunization. 1st Asian edition. B. Jain Publishers, New Delhi. pp.80, 81.
- [12] Nayak D., Chadha V., Jain S., Nim P., Sachdeva J., Sachdeva G. et al. 2019. Effect of Adjuvant Homeopathy with Usual Care in Management of Thrombocytopenia Due to Dengue: A Comparative Cohort Study. *Homeopathy*, 108(3), pp.150-157.
- [13] Shah J. 2005. Hompath Classic-Homeopathic Software. Version 8.0 Premium. Mumbai.
- [14] Azis S.P., Kaur H. 2020. Enabling use of Homoeopathy in India's preparedness for pandemic/epidemic situation like COVID-19. *Indian Journal of Research in Homoeopathy*, 14 (2), p.143.
- [15] To K.L., Fok Y.Y. 2020. Homeopathic clinical features of 18 patients in COVID-19 outbreaks in Hong Kong. *Homeopathy*.
- [16] Boericke W. 2000. New Manual of Homoeopathic Materia Medica & Repertory. Augmented edition based on Ninth edition. New Delhi: B. Jain Publishers (P) Ltd.
- [17] Balachandar V., Mahalaxmi I., Kaavya J., Vivekanandhan G., Ajithkumar S., Arul N., Singaravelu G., Kumar N.S., Devi S.M. 2020. COVID-19: emerging protective measures. *Eur Rev Med Pharmacol Sci.*, 24(6), pp.3422-5.
- [18] Hassan S.A., Sheikh F.N., Jamal S., Ezeh J.K., Akhtar A. 2020. Coronavirus (COVID-19): a review of clinical features, diagnosis, and treatment. *Cureus*. 12(3).