



Review Article

IMPORTANCE OF MENTAL HEALTH DURING COVID CRISIS: A DESCRIPTIVE STUDY

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ABSTRACT

The global pandemic of Coronavirus (COVID-19), also termed as health emergency affecting nearly 210 countries and territories has led to negative emotions of fear and agony in the general population. The healthcare regulators and the governments have imposed emergencies and lockdowns in their countries which has led to an adverse effect on the mental health of general public ultimately leading to a rise in anxiety, depression, and associated mental illness. The fear and rising COVID-19 crisis is putting extreme limitations on our finite resources. This report aims to improve status of mental health altered as a result of pandemic, emphasizing to help the general public, mitigate the negative emotions to improve the general wellbeing in this detached period of isolation.

With no standard treatment or vaccine yet, the goal is primarily symptomatic relief for those affected and preventive for those at risk. Most countries have curtailed the spread of COVID-19 through measures such as lockdowns, social distancing and voluntary self-isolation. Although necessary, such measures and the disease itself may have an adverse impact on mental health. In view of research from previous pandemic crisis, it is known that such situations are likely to increase stress levels and have negative psychiatric effects. The impact is likely to be felt by the general public, sufferers of COVID-19, their families and friends, persons with pre-existing mental health conditions and healthcare workers. COVID pandemic related psychological distress in the general public, including symptoms of anxiety and depression, is associated with alterations in immune function, including an elevated risk of viral respiratory tract infection.

KEYWORDS: Mental health, Pandemic, COVID-19, *Swasthavrtta*, *Janapadodhwansa*.

INTRODUCTION

According to Ayurveda, every individual has their own unique characteristics or personality called as the *Prakriti* which continues from birth to death. Further, every individual within the same environment doesn't have an equivalent resistivity to an equivalent disease. This resistivity which is also responsible to keep a check over severity and progression of the disease called as *Vyadhikshamatva* (Immunity).^[1]

It can also be viewed as the abode of *Manas* (mind) i.e., *Hridaya/Shiro-hridaya* can be understood as Heart-brain interactions: Exposure to chronic and daily stressors such as quarantine, or severe psychological trauma sort of a significant person in peril of life can affect the circulatory system and therefore the emotional experience of the individual, resulting in an increased risk of developing a cardiovascular disease or mental illness. Subjects with comorbidities between mental disorders and heart diseases are obviously more susceptible to be

influenced by emotional burden due to the spread of COVID-19, with emotional responses characterized by fear, panic, anger, frustration.^[2]

Stress provokes two things, vasospasm in the vascular system and immunosuppression, the suppression of the immune system.^[3]

Physiological aspects of body responses towards stress: Almost any type of physical or mental stress can lead within minutes to greatly enhanced secretion of ACTH and consequently cortisol as well, often increasing cortisol secretion as much as 20-fold. This increase is believed to result from increased activity in the limbic system, especially in the region of the amygdala and hippocampus, both of which then transmit signals to the posterior medial hypothalamus.

Control of cortisol secretion is the excitation of the hypothalamus by different types of stress. Stress stimuli activate the whole system to cause rapid release of cortisol, and therefore the cortisol

successively initiates a series of metabolic effects directed toward relieving the damaging nature of the stressful state.^[4]

What is stress?

According to Ayurveda, *Vatadishariradoshas* of *Alpa-satva* (weakened *Manas*) person becoming impaired vitiate the *Hridaya* (*Shiro-hridaya*), the seat of intelligence, get settled in *Manovahasrotas* and soon disturb the function of *Manas*.

Another view, *Asatmendriyarthasamyoga* (hypo, hyper and dysfunction of bodily organs/systems with respect to food partaking and general code of conduct) leads to aggravation of *Manasikadoshas* (Raja and Tama) and therefore, *Shareerdoshas* causing vitiation of *Sangyavahasrotas* (cellular

entities that abodes consciousness) resulting in mental illness.^[5]

As per contemporary view, Stress can be defined as the degree to which you feel overwhelmed or unable to cope as a result of pressures that are unmanageable. Factors that contribute to stress can vary hugely from person to person and differs according to our social and economic circumstances, the environment we live in and our genetic makeup. When we encounter stress, our body is stimulated to supply stress hormones that trigger a 'flight or fight' response and activate our system. This response helps us to respond quickly to dangerous situations.^[6]

Stress can be categorized as short term and long term: Body response^[7]

Short term	Long term
Feeling nervous, unable to switch off.	Tension headaches and Migraines
Heart beats harder and faster to improve blood supply to major muscles and vital organs.	Serious cardiac problems
Breathing quickens to improve oxygen supply.	Trouble breathing, Hyperventilation and Panic attacks.
Alter GI mobility or GI secretions due rush of stress hormones.	Irritable Bowel Syndrome, Peptic Ulcers, psychogenic dyspepsia and vomiting.
Skin becomes more sensitive and oily.	Psychosomatic disorders like Psoriasis
Sexually inactive or less active.	Infertility Problems in both men and women.
Muscles fatigue easily.	Increased risk of Type 2 Diabetes.

Psycho-Neuro-Immune Mechanism^[8]

Psycho/physical –stress or Inflammation
 Causes Cytokines production [Cytokine storm as evidenced in COVID-19 PATHOGENESIS]
 Results in trigger of stress hormones which further alters HPA axis and SAM axis causes Sickness, fever, loss of appetite, change in sleep pattern.
 Restraint stress also alters innate and adaptive immune responses to viruses causing suppression of Pro-Inflammatory and Anti-inflammatory cytokines

[IL-1]especially, Stimulates Hypothalamus to produce CRH and alter HPA axis, resulting in **Anxiety and depression**. Also Up regulation of IL-6 reduce production of antibodies against viruses.

Abbreviations:
 **HPA= hypothalamic pituitary axis
 **SAM=sympathetic adrenal medullary axis
 **CRH= corticotropin releasing hormone

**IL-1=interleukin-1
 **IL-6=interleukin-6

In a human study Few medical students were inoculated with HEP-B Vaccine and virus specific T cell response measured over 6 months, it is observed that both antibody and virus specific T cell response down regulated in those who have less stress and anxiety and more social support.

Causes of Deteriorating Mental Health During COVID Pandemic

Just the very fact of somebody's wondering if he's positive for COVID is like having a stigma and something that is threatening his life which affects, of course, his behavior. We know very well that panic

leads to bad behavior and to psychosomatic problems as well, and that brings on.

The most common emotion faced by all is Fear. Fear of being left alone, ending up with life catching infection, Unemployment, Socio-economic crisis, fear of losing closed ones. It makes us anxious, panicky and may even possibly make us think, say or do things that are unusual.

But the need of the hour is to understand and cooperate with the norms charged by our health care systems.

- Understanding the importance of Lockdown.
- Handling Social isolation (Physically not mental isolation is appreciated here)
- Focus on facts, reject rumors and theories.
- Handling emotional problems (Doing self-care, meditation and self-introspection.)
- AVOID what is NOT advisable (Addiction, judging COVID infected people and if get infected, practice self-isolation.)
- Emotional issues after recovery (People who do not understand the illness well may actually keep you at a distance, which is also very stressful and isolating.)
- Recognize mental health problems in your near and dear ones. i.e.,

1. Changes in sleep patterns
2. Difficulty in sleeping and concentrating
3. Worsening of health problems
4. Increased use of alcohol, tobacco or drugs.

Ayurvedic views to enhance general well being

Strengthening body and mind to get appropriate stress response and deal with various stressors, including infection, is the prime objective of Ayurveda practice.

In *Charaka Samhita*, epidemic management and immunity is mentioned as the ability to resist disease and avoid its progression to maintain equilibrium of the body.

1. Following *Swasthavritta*, including medicated water prepared using spices like dry ginger (*Zingiber officinale*), *Yashtimadhu* (*Glycyrrhiza glabra*), and nut-grass (*Cyperus rotundus*) rhizomes; *khus* (*Vetiveria zizanioides*) and Indian Sarsaparilla (*Hemisdesmus indicus*) roots; coriander (*Coriandrum sativum*) and fennel (*Cuminum cyminum*) seeds; and cinnamon (*Cinnamomum verum*) and catechu (*Acacia catechu*) barks.^[9]
2. Those with co-morbidities or associated risk factors may consider *Pancakarma* (Cleansing Therapies).

3. Use of *Rasayana* therapy for rejuvenation and proper nutrition of *Dhatus* (tissue elements), and as immune modulators.^[10]
4. Use of warm water as a measure for improving digestion of *Ama* as occurs before onset of fever in Covid patients (suspected/confirmed), *Ama* is a pro-inflammatory product of impaired metabolic disorders. The presence of *Ama* is linked to increased susceptibility to infections. The pathogenesis of fever begins in *Aamashaya*, and for its treatment, *Pacaka* (digestive), *Vamaka* (emetic) and *Apatarpak* (depleting/catabolic) are administered. Taking warm water, downward movement of *Vata* (flatus) occurs alongside stimulation of *Agni* (digestive enzymes) causing easy digestion and getting rid of unwanted accumulated *Kapha*.

Manasikachikitsa (Psychotherapies) in Ayurveda

As most of the diseases develop due to combined psychological and somatic factors, therapies prescribed in Ayurveda are:

1. *Satwavajaya Chikitsa* (Psychiatric Measures): It's done by restraining the mind from desiring unwholesome objects and thus the cultivation of *Gnana*, *vigyana*, courage, memory and *Samadhi*(concentration). Nowadays, It is a way out to avoid getting indulge in stressful situations and emotional disturbances.
2. *Daiva Vyapashrya chikitsa* (Spiritual Therapy): this involves use of *Mantra* (incantations), *Aushadha* (sacred herbs), *Mangala* (propitiatory rites), *Bali* (offerings), *Homa* (sacrifices), *Niyama* (vows), *Prayschitta* (ceremonial penitence), *Upvasa* (fasting), *Swastharyana* (prostrations), *Pranipata- Gamana* (going pilgrimages).
3. *Adravyabhuta Chikitsa*/or *Upayas* (psychic therapies): *Bhayadarshan* (causing fright), *Vismapana* (causing surprise), *Vismarana* (the obligation of memory), *Kshobhana* (Administration of shock), *Harshana* (causation of elation of spirits), *Bhartsana* (threats), *Vadha* (thrashing), *Bandhana* (bindings), *Swapna* (induction of hypnosis), *Samvahana* (gentle massage).
4. *Rasayana* or *Acharrasayana* (immunomodulators, targeting best nutrition to *Dhatus* and good code of conduct).
5. *Yuktivyapashrya chikitsa* (Symptom oriented management through involved *Dosha* pacifying drugs).^[11]

MATERIALS AND METHODS

This review is to evaluate the pandemic situation of covid-19, to understand the range of adverse effects on psychological status of the general public during this socio-economic crisis. Previous

work done on COVID-19, its pathogenesis, its impact on the general public physically as well as mentally, published on PubMed, Google Scholar, and Elsevier has been considered and reviewed. Few interventions to cope with this outbreak have been described after reading few authentic Ayurveda texts.

DISCUSSION

Most major component of COVID crisis preventive measures is wearing a mask. Wearing a mask, staying indoors in poor ventilated situations, causes conditions of hypoxia. Chronic hypoxia because of daily practice of such isolative measures, develop chronic long standing headaches. And it's evident that 90% of all headaches are psychosomatic in nature.

Also, Poor psychological state, including stress and depression are known to extend the danger of acute respiratory infections. Thus, one should adopt basic measures like *Pranayama* (special technique of breathing) known to enhance the status of mental health as well as lung function.

Important is, not just stress can deteriorate body functions but, physical health also can impair psychological state. Symptoms of anxiety and depression (16-28%) and self-reported stress (8%) are common psychological reactions to COVID -19 pandemic and are associated with acute increase in severe inflammatory markers.

Clinical presentations of COVID 19 are often understood as *Tridoshaprakopa*, *Janpadodhvasa janya vyadhi* and *Sannipata/ Vishamajwara*. It also involves the psyche of a person thus making his/her psychological state poor. Similar to Acquired and natural immunity, Ayurveda has the concept of immunity (*Bala*) as *Sehaj* (natural), *Kalaj* (chronobiological) and *Yuktikrit* (Acquired). This again varies with the psycho-physical constitution of a person.

Bala, *Prakriti* and *Kapha* are sort of words used as synonyms of *Ojas*.

Charak has mentioned that the *Kapha* in its *Prakritaavastha* (normal state) then promotes strength, lubrication, virility, immunity, resistance and stability in the sort of *Ojas*. Consistent with Sushruta, *Ojas* is the fine essence of all the *Dhatu*s and thus being the superfine essence of *Shukradhatu* (reproductive tissue) which are liable for biological strength, vitality and immunity within the body, makes a Person physically active. Our physical, mental and spiritual strength is completely hooked into *Ojas*. This is our best safeguard against mental and physical disease.^[12-13]

Based on this idea, Potential mechanism of *Ashwagandha* (*Withania somnifera*) in prophylaxis of COVID-19 is studied as Anti-viral, Immunobooster,

maintaining vascular integrity and for the management of pyrexia, inflammation and conserving alveoli from viral invasion related clinical targets.^[14]

To add on, avoid *Nidanas* (causative factors/ exposure to risk factors), Use *Ahara*, *Vihara* (Yoga, *Vyayama* etc) and regime i.e., *Ojaskara* so as to achieve essence of all *Saptadhatu*s and increased immunity and follow (*Swasthavrtta*) code of conducts mentioned earlier, for better Quality of life.

CONCLUSION

There is a well-reported relation between the central nervous system (CNS) and the immune system. Growth hormone and prolactin are required for the eventual development of mature lymphocytes and for the upkeep of immunity. These hormones enable lymphocytes to react to antigen, which is delivered as an adherence signal in the context of major histo-compatibility surface molecules of antigen-presenting cells. The activation process is completed by cytokine signalling, after which lymphocyte proliferation; differentiation and functional maturation happens. Interleukins, hormones and growth factors may all function as cytokines. Steroid and thyroid hormones control nuclear transcription factors as their receptors, and thus are powerful regulators of lymphocyte signaling at the nuclear level. The bioactive sorts of thyroid hormone and of several steroid hormones are generated locally by immunocytes that function both at systemic and native levels. Glucocorticoids are major regulators of cytokine production and alpha-melanocyte-stimulating hormone, functions as a strong cytokine antagonist. The hormones secreted or regulated by the pituitary gland therefore regulate every level of immune activity, including the competence of lymphocytes to respond to immune/ inflammatory stimuli, signal transduction, gene activation, the assembly and activity of cytokines and other immune effectors functions.^[18]

Under stress, CNS releases stress hormones that perturb the balance and stability kept by many factions of the immune system, with serious health consequences. Understanding complex physiological changes that occur in stressful situations including psychological disturbance and neuro-immune dysregulation is very important for achieving a good quality of life and a better come back overcoming this COVID crisis socially and economically to take care of physical as well as mental health hand in hand.

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