



Review Article

IMPORTANCE OF MIND IN ETIOLOGY AND MANAGEMENT OF GASTROINTESTINAL DISORDER

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ABSTRACT

Ayurveda provides an integrated approach to preventing and treating illness through lifestyle interventions and natural therapies. Nowadays, we all know that stress, anxiety, depression, shows both short and long term effects on the functions of the GIT tracts. Importance of mind in etiology and management of GIT diseases as the gut-brain connection, it can link anxiety to stomach problem and vice versa. Exposure to stress, anxiety, insomnia, depression results in alteration of the brain-gut interactions and ultimately leading to the development of a broad array of GIT disorders including, irritable bowel syndrome and other functional GIT disease. The major effects of stress on gut, alteration in gastrointestinal motility, increase visceral perception, change in gastrointestinal secretions and mast cells are important factors of brain gut-axis that translate the stress signal to release of a wide range of neurotransmitters and pro-inflammatory cytokinins, which may profoundly affect the GIT physiology. We might expect that some patients with GIT conditions might improve with therapy to reduce stress, treat anxiety or depression. The gut brain-axis refers to the physical and chemical connections between gut and brain, mind body therapies like cognitive behavioral therapy, meditation, Yoga, lifestyle, food, behavioral changes are the best management of GIT disorders.

INTRODUCTION

Ayurveda was the first medical science to established the relationship between body and mind and also between physical and mental disorders. According to world health organization depression is the most common causes of YLD (Year Lived with Disability) globally and ranks as one of the leading causes of disability^[1]. MDD (Major Depressive Disorders) is increasingly linked with gut dysregulation in contemporary literature and is a pathology explored within both the Ayurvedic and western system of medicine. According to Madhavanidana,

रोगाः सर्वे अपि मन्दे अग्नौ सुतरामुदराणि च ।
अजिर्णान्मलिनैश्चान्नैर्जायन्ते मलसञ्चयात् ॥ १॥^[2]

Means all disease having their origin from the disturbed Agni digestion/metabolism especially- the abdominal problem (gut related problem/git disease). Agnimandya or errors of digestion leads to Ajeerna (weak digestion) Ajeerna said to be "Sarva roga mula;^[3] means root of all systemic disease. Among the causes of Ajeerna. Ayurveda has included the components of Shoka, Bhayaa krodha etc indicating a physiological causation of systemic/metabolic diseases. Some types of Atisara (diarrohea) is said to be caused by Bhaya and Shoka.

Now we explain what affects mind and how mind affects the git.

Agni- The governing process of digestive system is Agni a Sanskrit word that translate as digestive fire Agni is associated with digestion, metabolisms and the assimilation of nutrients^[4] when Agni disturbed it consider to promote the Aam formation the treatment in Ayurveda revolves around the modulation and management of Agni^[5]. Agni are of 3 types Vishama

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Agni, Tikshna and *Manda agni*. They are associated with an excess of *Vata, Pitta* and *Kapha dosha*. *Manda Agni* refers to hypo metabolisms when it is too low symptoms include depression weakness excessive sleep weakness depression^[6] low *Agni* include *Kapha* aggravation unprocessed, emotions, stress etc.

To explain this process further, one must look at *Ama*, the result of undigested food. *Ama* is defined as a toxic, pro-inflammatory waste product that blocks the body's channels, triggers negative immune reactions and is considered to be a primary cause of internal disease^[8]. The body may also produce *Ama* as a result of externally-manifested diseases^[8]. Psychological distress also produces a psychological form of *Ama* which manifests from misperception and disturbed emotions; giving rise to potentially harmful mental states such as anger, selfishness, and greed^[9]. *Ama* is also regarded as the "root cause of all diseases" and its elimination is one essential component of treatment^[8].

Ayurvedic Psychology and Depression

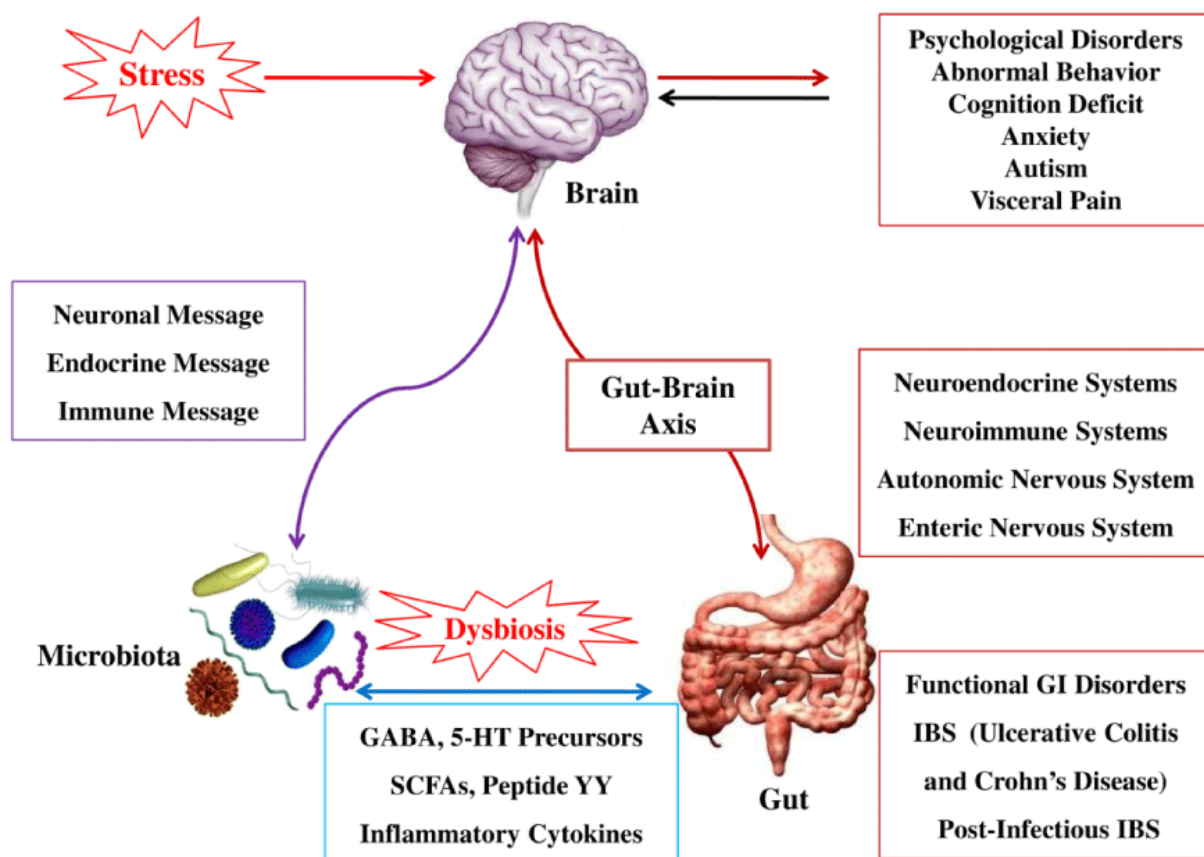
The three constituents/*Gunas* of the mind in Ayurveda are *Sattva* (clarity, balance), *Rajas* (activity, arrogance), and *Tamas* (darkness, inertia)^[9]. The mind is always being affected by these three *Gunas* which, after being further influenced by memory and discernment, is synthesized into experience and the egoic self. *Manas vikruti* is the current state of psychological imbalance which deviates from one's 'normal' functioning^[10]. This means that if someone was naturally *Sattva* 3, *Rajas* 2, *Tamas* 1, a diagnosis of *Tamas* 2 (increased from 1) would indicate an elevation of this state - tending towards inertia^[10]. Factors which affect *Manas vikruti* include diet, lifestyle, stress, relationships, one's response to challenges, and repressed emotions^[7]. If these cognitive energies are left to accumulate over time they can also give rise to imbalance and might cause mental disturbances like "anxiety, depression, and insomnia"^[11]. Although all three *gunas* play a role in psychological health, this review will focus on *Tamas* due to its association with- depression^[10]. Mental illness is mostly considered to arise as a result of an interplay between *Dosha* (biological humors) and the *Gunas* (psychological qualities)^[9]. Imbalances of the three *Doshas* are representative of different cognitive and somatic symptoms: *Vata* being associated with

anxiety and hyperactivity, *Kapha* linked to passivity and lethargy, and *Pitta* connected to strong emotions such as anger^[7].

Negative psychological states have a bidirectional impact on the body and, in particular, the homeostasis of *Agni*^[12]. In other words, if *Agni* is disturbed through physical means, such as eating foods which cause imbalance, then psychological difficulties like insomnia and disturbed thoughts will likely ensue. The same is true from a top-down perspective, implying that emotional imbalance caused by *Rajas* or *Tamas* can disturb *Agni*, possibly leading to pathology^[12].

In an anthropological study on 'appropriating depression in Ayurvedic psychiatry', Lang & Jansen (2013) wrote on the recent 'scientification' of Ayurveda, stating that it is now common for Ayurvedic psychiatrists to draw from the classical theories of *Dosha unmada* (mental illness resulting from *Dosha* imbalance) whilst reinterpreting them into a modern framework^[13]. In the same paper it was identified that depression is commonly associated with an imbalance of two of the three *Doshas*, *Vata* and *Kapha*, depending on the symptomatology^[13].

As discussed previously, Ayurvedic medicine has long been familiar with the interconnection between psychological well-being and gut homeostasis. In relation to this understanding, the GI system is scientifically understood to be particularly sensitive to stress activation. One biological explanation for this interaction has been linked to the stimulation of the hypothalamic-pituitary-adrenal (HPA) axis through the stress response. Corticosteroids are released as a result of HPA activation which have the ability to impact the composition of microbial communities within the gut^[14]. In a 2016 study, Kanuri et al. found that it was common amongst patients with irritable bowel syndrome (IBS) to have a prior history of physical, sexual, and emotional abuse^[15]. Comorbid mood disorders (anxiety and depression) were also identified as being a potential mediator for IBS, suggesting a resilience to those with stronger emotional coping skills^[15]. Most importantly, this study demonstrates the effect of stress upon the GI system which, when left untreated, can cause further inflammation and mood function.



The bidirectional communication is done by immune, endocrine, humoral and neural connections between the gastrointestinal tract and the central nervous system.^[16] More research suggests that the gut microorganisms influence the function of the brain by releasing the following chemicals: cytokines, neurotransmitters, neuropeptides, chemokines, endocrine messengers and microbial metabolites such as "short-chain fatty acids, branched chain amino acids, and peptidoglycans".^[17] The intestinal microbiome can then divert these products to the brain via the blood, neuropod cells, nerves, endocrine cells and more to be determined.^[18] The products then arrive at important locations in the brain, impacting different metabolic processes. Studies have confirmed communication between the hippocampus, the prefrontal cortex and the amygdala (responsible for emotions and motivation), which acts as a key node in the gut-brain behavioral axis.^[19]

Management of Gut disease by managing psychological problems. There are both psychological and physiological ways to manage stress

Get Regular Exercise: Physical activity relieves tension and stimulates the release of chemicals in our brain called endorphins, which act as natural pain killer. Endorphins improve sleep, which can help relieve stress, according to anxiety and depression.

Consider Psychotherapy: Cognitive behavioral therapy is a technique that has been proven to help reduce anxiety and stress by helping you learn to replace negative distorted thoughts with positive ones.

Choose Stress-Busting foods: Research found that eating disorders and obesity can be associated with psychological stress. cortisol, a hormone released by the adrenal glands also, increase appetite. Physical or emotional distress increases the intake of food high in fat sugar, but certain foods that have been shown to reduce anxiety. Salmon contains omega 3 fatty acids, which are natural mind boosters, vit c lowers bp and almond help to check cortisol level

Yoga: It is a mind body practice combines physical poses with breathing techniques and medication. *Pranayama aashana* are effective tools to eradicate psychosomatic disease.

Researches also shows that yoga can lower blood pressure and heart rate.

Meditation: Many meditation techniques that can help focus on an object, activity to help achieve calmness

Develop time: Management skills- an important part of stress reduction is self care and time management.

- **According to Ayurveda how we manage stress to manage gut problems**
- **Mansika rasayana**

- Mind rejuvenators in the form of diet, medicines, behavioural patterns, activities, exercises, etc.
- *Dincharya, Ritucharya, Ratricharya, Sadvritta, Sadaachara, Acharya Rasayana*- Advices regarding daily. Being in circle of goodness, adaptability to the community, good behaviour, activities which acts as rejevenators etc have positive effect in healing psychosomatic illness,

Vyayama

Physical and mental exercises corrections in the errors related to *Trayoupstambha* –Ayurveda helps in helping the people to correct the imbalance *Trayopashatmbhas* i.e., *Aahara Nindra Brahamcharya* and hence reestablish the body –mind-equilibrium.

MATERIAL AND METHODS

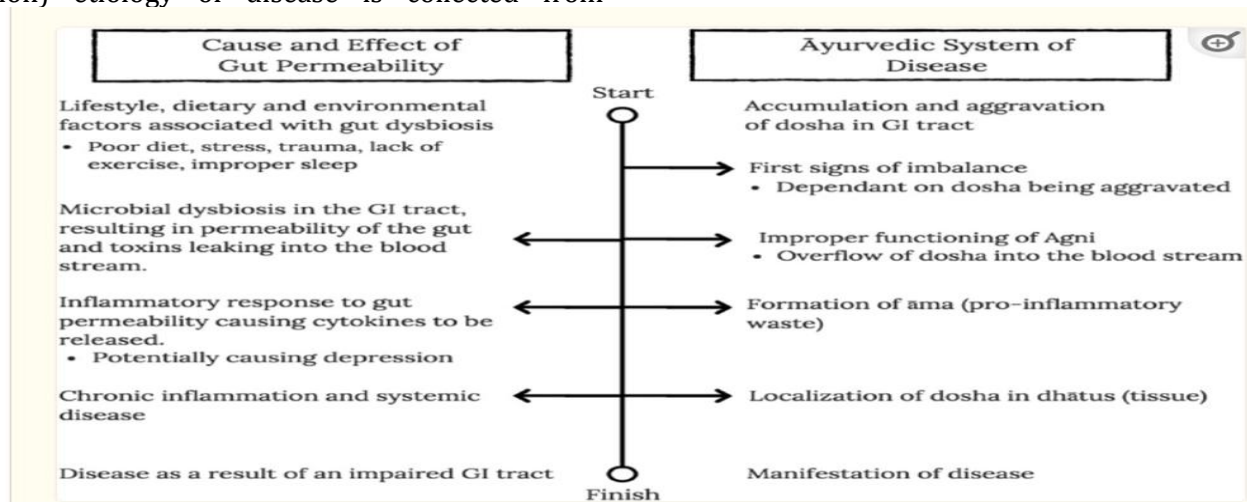
Literature review of importance of mind (*Satva, Rajas, Tamas* effect on *Agani* and *Aam* formation) etiology of disease is collected from

Ayurvedic *Samhitas, Madhava* nidana journal, articles on the Google and from study of literature from library.

Modern review of importance of mind (stress anxiety depression) in etiology and management of gasterointestinal disorders modern pathology, medicines book google etc.

CONCLUSIONS

- Stress and depression were related to FD, IBS, and reflux esophagitis.
- Depression was also linked to IBS, IBD, PUD and adenoma carcinoma of stomach and colon.
- Stress and depression were independent risk factor for FD.
- Depression was an independent risk factor for Gastric adenoma/carcinoma.



RESULTS

- Stress and depression are related to various digestive diseases and they may be predisposing factors for FD and IBS.
- Depression may also be a cause of gastric cancer.
- Psychological evaluation of gastroenterology patients may be necessary, but more study is needed. GIT disorders
- Meditation, yoga and mind relaxing therapies are useful in the managements of GIT disorders.

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