



## Role of yoga in the management of digestive system disorders

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### Abstract

A healthy digestive system is the key to total health. Digestive system diseases contribute a big proportion of all pathologies. Yoga is being recognised worldwide as the solution to these problems. Most of the digestive system disorders have a psychosomatic aetiology viz. indigestion, chronic constipation, diarrhoea, irritable bowel syndrome and acid-peptic diseases etc. Yoga exerts dual effect on the body. In addition to physical strengthening, it provides psychological benefits also. It should be implicated as an essential part of life to prevent the manifestation, to alleviate and to decrease the frequency of recurrence of various diseases related to digestive system.

*Key words: Digestive system, Gastro-intestinal disorders, IBS, Yoga, Health*

### Introduction

A healthy digestive system is absolutely fundamental to good physical and mental health. Gastrointestinal disorders like indigestion, nausea, vomiting, irritable bowel syndrome (IBS) etc. are common in the population. Yoga is the science that focuses on bringing harmony between body and mind. It is safe, cost-effective and a natural panacea for pathologies related to digestive system. The present day life styles carry hurry and worry leading to poor digestion. The practice of yoga helps in eradication of these pathologies to promote the state of health. Here is a brief interpretation of the effect of yoga for acquiring and maintaining a healthy digestive system.

#### Aim

To understand the role of yoga in the disorders related to digestive system to prevent and alleviate them.

#### General etio-pathogenesis of digestive system disorders

Most of the digestive system disorders have a psychosomatic aetiology. Digestive system is almost wholly under the influence of autonomic nervous system, which in turn is thought to be governed by limbic area of brain. The emotions and mental processes act directly on the limbic area of brain and via autonomic nervous system these affect the stomach and digestive system.

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Emotional stress leads to stimulation of autonomic nervous system. When the sympathetic system gets fatigued and the parasympathetic system is overactive, diarrhoea results. When the sympathetic system is dominating and the parasympathetic system is underactive, constipation and related disorders precipitate. Excess of stress results in increased secretion of hydrochloric acid and pepsin in the stomach (Call, 2007; Yog rahasya, 2009). This is due to the action of psychic centre of the cerebral cortex which stimulates hypothalamus via limbic system. In hypothalamus, the anterior part activates the vagus nerve which in turn stimulates stomach to increase all its activities, as it is a motor nerve both for muscles and secretory glands. In addition, the posterior part of hypothalamus stimulates the anterior pituitary gland to produce more of ACTH (Adreno-cortico-trophic hormone) to release excess of adreno-cortical hormones. Both ACTH and cortisone also cause excess of gastric secretion and reduce the secretion of mucus. It is the combination of all these factors that ultimately leads to formation of peptic ulcers. In case of chronic peptic ulcer, because of chronic recurrent stressful situations, associated with genetic and environmental susceptibility of a person, there is a prolonged and sustained acetylcholine response. Because of this powerful parasympathetic predominance in these cases, the sympathetic nervous system remains dormant and hence there is a low level of catecholamines and their synthesizing enzymes (Dopamine B. Hydroxylase)



and degrading enzymes (MAO-Monoamine oxidase) both in blood and stomach tissues. Similarly the level of serotonin (5 Hydroxytryptamine) also remains low leading to dysfunction of gastrointestinal tract. Another important neurohumoral disturbance seen in this condition is the high content of histamine and histaminase both in blood and also in the stomach tissues (Sembulingam & Sembulingam, 2010 and Malshe, 2012). Thus, it is this high acetylcholine and histamine level which is responsible for the prolonged and excessive secretion of acid gastric juice resulting in persistence of chronic peptic ulcers. Thus, the treatment should be directed towards bringing down the disturbed neurohumors to normalcy both at the level of central nervous system and also at gastro duodenal level. Rational management of these disorders involves consideration of the entire psychosomatic factors. Autonomic stability depends a great deal on mental and emotional stability, the latter being contributed by are gular practice of yoga.

### Effect of Yoga

Yoga includes all the methods of higher evolution in humanity viz. physical postures, ethical disciplines, breath control and sensory methods etc. Yogasanas are very helpful in digestion in various ways. Practice of yogasanas stimulates the secretion of various hormones required for proper assimilation of food (Das, 2014; Keele *et al.* 2015). Regular practice tends to reduce the stress responses. Yogic relaxation provides deep rest to brain cells and immune cells. Prohibition of killer instinct of immune cells exerts relief in autoimmune pathologies (Karmananda, 2008; Kumar, 2008; Yadav and tater, 2012). Re-Balancing of Autonomic Nervous System provides a total rehabilitation of the entire digestive system. Yoga provides development of relaxation response & allows healing function of Parasympathetic Nervous System. Also the circulation of nutrients is improved. Yogic postures strengthen muscles of digestive system. Yogic breathing exercises and Pranayama improve oxygen supply & cellular metabolism. Not only the physical status is improved, but the mental and emotional stability is also gained; and the stress and

strains get gradually vanished as we learn to combat them with a positive attitude (Mohan, 2005; Munjal, 2015).

### Scientific evidence

A small randomized controlled study conducted at All India Institute of Medical Sciences (Delhi) compared the effect of Yogasanas and pranayama with the antidiarrhoeal drug 'loperamide' in twenty two males with diarrhoea prominent Irritable Bowel Syndrome. Both Yoga and the drug proved effective in reducing bowel symptoms as well as anxiety levels at the end of two months study. Yoga, however, showed additional beneficial effects, shifting the balance of autonomic nervous system towards the parasympathetic branch and, for this reason, was judged to be more effective than the drug. A small randomized controlled trial was conducted on thirteen patients suffering from Irritable Bowel Syndrome (IBS) at State University of New York at Albany. At the end of six weeks, the yoga meditation group experienced better relief than controls. At the end of one year of meditation, significant reduction in pain and bloating was noted, that are thought to be the most distressing symptoms of IBS. Another randomized controlled study of one hundred patients with IBS was conducted at Banaras Hindu University. The patients were divided into three groups. One group was given drug treatment, one a Yoga program, and one a combination of drugs and yoga. The Yoga intervention consisted of asanas, pranayama, kriyas (yogic cleaning techniques), and meditation. The drug therapy included anti-anxiety drugs, antispasmodics and fiber supplements. After an initial two weeks training, the thirty six members of yoga group and twenty eight members of combined group were asked to practice half an hour per day for the next two months. Both drugs and yoga used alone proved significantly effective in reducing abdominal pain, constipation, diarrhoea, anxiety and other symptoms. In general, yoga proved more effective than medicine alone. The combination of yoga and modern drug therapy was consistently more effective than either modality alone, eliminating essentially all symptoms within six weeks, with the benefits persisting at conclusion of the study.



### Yoga and medicine

Yoga and Medicine work hand in hand to safely re-establish health. Only yoga can truly bring about and maintain total health. It is essential that before undertaking yoga therapy, a full medical examination be performed by a qualified practitioner. This is imperative in order to sort out the exact condition that we are dealing with. Also to foresee and evaluate the gravity of associated complications and to decide whether yogic or medical treatment should be adopted as the first line of approach. In a diseased state, on medications; it is advisable not to exercise or quit the medications abruptly without consulting an expert or a doctor.

### Yoga diet

Diet is a tool for health and healing. It is an integral part of yoga. From yogic point of view fresh food is the best, because food loses prana or life energy, when it is canned or processed. Yoga emphasizes to maintain the state of health and vital resistance by taking food in necessary quantities at correct times. It is imperative to develop self awareness while eating food (Bhatt, 2013; Singhal, 2009). Be regular with meal times and strictly avoid eating between meals. Eat slowly and masticate the food thoroughly. Avoid eating late at night. At all costs, spicy and heavy foods, smoking and alcohol should be avoided. Yoga recommends the intake of vegetarian diet, fresh whole natural foods; in balanced proportions. Yoga diet is best suited for detoxification of the body. In general, food should be taken as whole and in most simple form as possible. It should be planned according to the season and from as close to the source as possible. Ideally, it should be free from chemical additives. Avoid junk food and pre-packed eatables.

### Instructions and precautions in practice

Yoga is an integral part of the renowned ancient health science- Ayurveda. It has both the preventive as well as curative potential. Outcomes depend a great deal on how we practice it. To maintain the rhythm of breathing (inhalation and exhalation) according to the specific postures is very vital in its practice. It requires thorough guidance of related techniques from an expert. Preferably on an empty stomach, in a peaceful environment and on regular basis; it should be adopted as a part of daily routine

activities. It is suggested to be practised after a gap of 4-5 hours of taking meals. It is advisable to be done on a smooth surface of ground or floor on a mat. As yoga is a non-competitive practice, so prior assessment of the abilities and body status is a must. Yoga is person and disease specific. According to requirement and suitability it is to be adopted and practised. Always beware of wrong methods of practice and be aware of your stamina and requirements also. It is to be started with zeal, progressed gradually and maintained patiently (Suman, 2007; Udapa, 2007).

### Limitations

Like every science, it has the limitations. Yogasanas are not advisable to a number of patients suffering from concomitant diseases like heart diseases, hypertension, chronic osteoporosis, pregnancy etc. At no time overstretching and straining is advisable while practising it.

### Conclusion

Good digestion is the key to radiant health. Yoga has a proven potential to improve and maintain healthy state of digestive system in a natural way and should be practised under proper supervision and guidance. There are a number of clinical studies validating the efficacy of yoga in ailments pertaining to digestive system. Fundamental principle of yogic management is to relieve the psychological factors; to activate and utilize the body's inherent healing energy. It should be implicated as an essential part of life to prevent the manifestation, to alleviate and to decrease the frequency of recurrence of various pathological conditions. Yoga is an incredible practice to improve health and quality of life.

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