



EFFICACY OF TAKRA IN INTESTINAL DISEASES: - A CONCEPTUAL STUDY

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ABSTRACT Takra is the very common food item of Indians and used as a liquid food item from Vedic period. In Ayurveda their qualities, types, indications are mentioned. It is very important "Anupanhisa" of many ayurvedic formulations. Also, it is used both as food and medicine or Pathya in various disorders because of lots of medical properties. Takra is fundamentally a milk product prepared by fermentation process. In Ayurveda the usefulness of Takra is mentioned in many topics like Arsha, Grahani, Udara etc. along with this also mentioned the Takra in the disturbed condition of Agni. Due to advancement of biotechnology, microbiology and pharmaceutical sciences, numbers of pharmaceutical products are prepared which having same role as Takra in diarrhea, steatorrhea, IBS (irritable bowel syndrome), IBD (Inflammatory Bowel Disease), CD (Crohn's disease) and various intestinal diseases. Takra is natural probiotic diet because of friendly bacteria lactobacillus acidophilus for the intestine and the body are found abundance in these remedies. This article signifies that the role of Takra in widespread intestinal disorders as probiotics.

KEYWORDS : Intestinal disorder, Gut microbiota, Probiotics, Takra.

INTRODUCTION:

In ayurveda compendiums like Caraka Samhita, Sushrut Samhita, Astang hridaya; the utility of Takra have been mentioned abundantly; it is grouped under 'gorasa'varga.^[1] Guna of medicine can be altered by "Sanskara hi Gunaantaradhyanam uchayate" i.e., changing of physical and chemical properties of substance by Sanskara like Techniques employing for formulating this preparation are as Boling, heating, fermentation etc. As it is a fermented dairy product used since ages to gain a lot of nutritional value and health benefits. Takra is prepared by churning process of curd and adding half part of water.

In Caraka samhita, Takra is mentioned in Agrya dravyas. Takra by means of its different gunas, acts as tridosha shamak. Takra is said to be Kashaya, Madura in rasa along with a little bit of amla rasa. Takra is laghu, grahi and agnideepak. Takra does not vitiate pitta dosa, it pacifies the Vata and kapha dosa. Acharya caraka has clear that although Takra is amla but due to its Madhura vipaka, it does not vitiate pitta dosa. It is useful in Vata by Madhura and Amla rasa, saandra guna. It is useful in kapha dosha by kashaya rasa, ushna virya, vikasi and ruksha guna.^[1] Takra also used in Arsha chikitsa as anupana in Charak Samhita.^{[2][6]} In Atisara takra is useful as amruta like beneficial for our body.^[7] Due to its Madhura, amla, saandra, avidaahi, takra use in Arsha, Udara, Grahani Rogaadhikara.^[8]

The sour taste of Takra due to lactic acid bacteria, streptococcus lactis or lactobacillus bulgaricus, one of these two bacteria responsible to create more tartness. The increased acidity level of Takra is due to lactic acid which is produced by lactic acid bacteria. The pH of milk decreases due to increased acidity level of stomach can be minimized with the help of Takra. It prevents the acid of the stomach to come up through esophagus by coating the living of stomach.^[9]

Butter milk is rich in Potassium, Calcium, Phosphorus, Vitamin B12, Riboflavin and as probiotic which help strength of digestive system and immunity of the body.^[4]

GUT MICROBIOTA:

We are surrounded by an important biological system of microorganisms that live in the human body and are beneficial. The human gastro intestinal tract is a complex ecosystem that although

sterile at birth, becomes rapidly colonized by microorganism with a vast microbial population. The diversity increases exponentially moving from the stomach to the colon where the microbial content remains at the highest concentration.

The micro bacteria facilitate digestion and contribute to enhancing resistance against infection differentiation of the host immune system synthesis of nutrients. However little is really systematically known about the body the evidence to evaluate the role of the gut indigenous microorganism and the consequence that may impact progression of metabolic disease. This human microbiota is getting a lot of attention today and research has been already demonstrated that attention of these microbiota may have for reaching consequence.

The human gut microbiome is 10 to the power 14 microorganism population mainly dwelling with in this colon. In healthy colon, there is a continuous mucus coating consisting of two layers i.e. The outer is loosely adherent layer, good for bacterial growth; while the inner is tightly adherent layer, normally sterile.^[10]

Takra as Probiotics:

Probiotics defined as live microorganism which when administered in adequate amounts confer a health benefit on the host. Health benefits have mainly been demonstrated for a specific probiotics strain of following genera like lactobacillus, Streptococcus, E.coli etc. .

Probiotics are mostly fibers that are non-digestive food beneficially effect that host health by selectively stimulating the growth of the microorganism in the colon generally lactobacilli and bifid bacteria.

Probiotics are usually bacterial components of the normal intestinal flora of human beings e.g., lactobacilli, bifidobacterium. They produce lactate and short chain fatty acids as end products of metabolism.

WHO defined probiotic as a nonviable food component that confer health benefits on the host associated with modulation of microbiota.

Tarka is low in fat and calories, contain several important vitamins, minerals such as vit.B12, calcium, phosphorus.^[10]

Tarka is a natural probiotic diet because of friendly bacteria for the

intestine increased. milk fermented by bacteria that convert lactose acid in to lactic acid.

Lactobacillus acidophilus-

It is a gram positive facultative anaerobic or micro aerophila rod shaped bacteria. They are a major part of the lactic acid bacteria group that can convert hexose sugar in to lactic acid thus providing an acid environment which inhibits the growth of several species of harmful bacteria.

Lactobacillus species are commonly selected as probiotics since they express many crucial properties such as high tolerance to acid and bile, capability to adhere to intestinal surface, with standing low pH gastric juice, inhibiting potentially pathogenic species, resisting antibiotics producing exopolysaccharides and removing cholesterol.

DISCUSSION:-

It has been found that in IBD, IBS, CD, Steatorrhea like gastrointestinal disorder exhibit an imbalance between beneficially bacteria and potentially harmful bacteria i.e., decreased lactobacillus, bifidobacterial, enterococcus species and increased coliforms, clostridium species, suggesting that microbial inhabitants of the human body, may play either a pathogenic or protective role in G. I Disorder.

In intestinal disorder patients had decreased proportions of genera bacterium and lactobacillus and increased ratio of firmicutes : bacteroid i.e., reduced biodiversity.

In IBD- decreased in firmicutes and Bacteroidetes phyla.

In CD- increases in enterobacteria associated with colonic adherent mucus layer particularly invasive E.coli.

In UC- reduction in clostridium spp. And increase in E.coli

Disorders that impair the normal physiological mechanism controlling bacterial proliferation in the intestine predispose to bacterial overgrowth.^[12] Bacteria overgrowth syndrome group- Diarrhea, Steatorrhea, macrocytic anemia which common feature is the proliferation of colonic type bacteria with in small intestine. This bacterial overgrowth arises because of the circular and longitudinal layer of the intestinal muscle are fibrosed and motility is abnormal. The most important are loss gastric acidity, impaired intestinal motility and structural abnormalities that allow colonic bacteria to gain access to the small intestine or provide a secluded haven from peristaltic stream.^[13]

The gut dysbiosis may explain the response to “**Probiotics**” or the non-absorbable antibiotic rifaximin. Probiotics are preparations of microorganisms that have beneficial properties for the host. Prebiotics are substances that promote the growth of such organisms.^[15] Prebiotics and probiotics therapy can lower blood ammonia concentrations, possibly by favoring colonization with acid resistant, non-urease producing bacteria, promote the growth of beneficial bacteria. Hence it also used as a preventive aspect for hepatic encephalopathy like liver diseases.^[14]

Most commercial probiotics products have been derived from food sources, especially cultured milk products i.e., tarka. The list of such microorganisms continues to grow and included strains of lactic acid bacilli, a nonpathogenic strain of Escheria coli, clostridium butyricum etc. The gut microbiota has a significant role in human health and diseases. Dysbiosis of the intestinal ecosystem contributes to the development of certain illness that can reversed by favorable alterations by using Tarka. There are 3 mechanisms by which probiotics appear to exert their beneficial effects i.e., antimicrobial effect, enhancement of mucosal barrier integrity, immunomodulation.^[17]

Based on this data, many trials addressing the use of probiotics “TAKRA” in the context of intestinal disorder have been conducted.

CONCLUSION:-

Ayurvedic text written thousands year back, but the things in that are scientifically today as well. This article is focused on Tarka which is described in Grahani, Arsha rogadhikara in Samhitas which is very scientific to use of probiotics in intestinal disorders i.e., in bacterial

overgrowth syndrome to protect human gut and maintain the biodiversity in the intestine.

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