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Probiotics and Gastrointestinal Diseases Ehsan Shahverdi

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Editorial

There is a vast ecology of microbes that are necessary for health in intestinal tract, but this tract also have the potential to contribute to the development of diseases by different mechanisms. Intestinal epithelial barrier function disturbances or defect in intrinsic immune, can lead to increased antigens uptake that stimulate the immune system. So inflammatory response occurred [1-4].

Intestinal microbes may cause widespread diseases so their interactions with the host are the subject of recently researches. Planned manipulation of the intestinal microflora with a therapeutic intention are of the main parts of these researches. The greatest experience has been in the inflammatory bowel diseases included ulcerative colitis and Crohn disease, although clinical trials in several other conditions are emerging.

There are four general methods to modify the intestinal microflora: antibiotics administration, prebiotics, probiotics and fecal transplant (bacteriotherapy). Synbiotics (combination of these methods) is also conceivable.

Because a vital role for intestinal microbes in health and disease has been distinguished in alternative and complementary forms of medicine so interest in these approaches has extended above the clinical sciences [5].

In Hedin et.al case control study, 51 percent of ulcerative colitis patients and 43 percent of patients with Crohn disease used probiotics compared with 21 percent of healthy controls [6]. According to this study patients with IBD use probiotics to manage their health but frequently select strains without evidence of efficacy in IBD. Patients depend on nonclinical sources of data and often do not reveal probiotic use. In comparison, systematic efficacy evaluation of the probiotics is relatively recent.

Probiotics are microorganisms with beneficial properties. Foods, especially cultured milk products are sources of most commercial products. The list of such includes variety of lactic acid bacilli (eg, *Lactobacillus* and *Bifidobacterium*), *Streptococcus salivarius* and *Clostridium butyricum*, a nonpathogenic strain of *Escherichia coli* (eg, *E. coli*) and *Saccharomyces boulardii*.

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Strains of bacteria that have been genetically engineered to produce and discharge immunomodulators (such as interleukin-10, trefoil factors, or lipoteichoic acid), that can impact the immune system [7-9]. Implication of restoring levels of protective commensal bacterial species that are decreased in some disorders like Crohn disease, has been advanced recently [10-12].

Efficacy of probiotics in several gastrointestinal diseases has been reported in studies of probiotic species (given alone or in combination) [13-17]. Therapeutic effect of probiotics has also been suggested in some disorders such as antibiotic-related diarrhea, *Clostridium difficile* toxin-induced colitis, infectious diarrhea and irritable bowel syndrome (IBS). But the best studied of which are the inflammatory bowel diseases [18, 19].

Beneficial effects of probiotic products, particularly probiotic yogurt on function of intestine in patients with UC and CD have been confirmed in several studies.

Therefore, probiotic therapy designed to correct the intestinal flora is expected to be useful for preventing colitis.

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