

Probiotics in clinical practice: panacea or predicament?

Madam, Probiotics are live microorganisms that are now being increasingly employed in the therapy of a number of diseases (Figure). These agents are believed to favourably tip the microbial balance in the body.¹ Apart

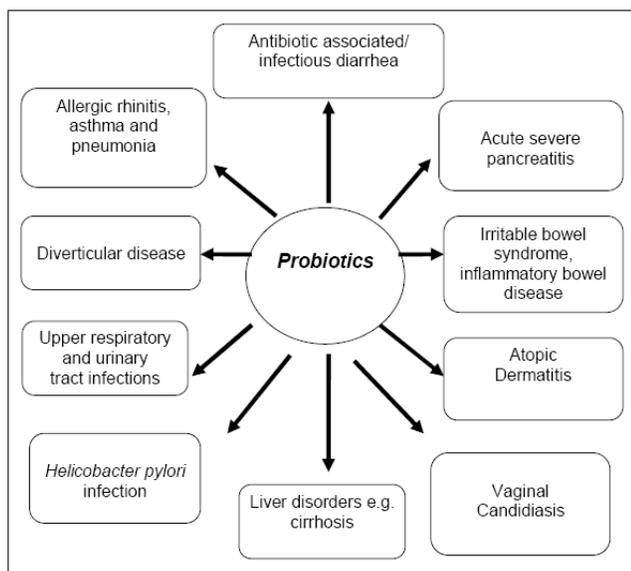


Figure: Probiotics have been used in a number of disease states.

from their myriad therapeutic uses, the prophylactic use of these agents has also been studied extensively in conditions such as colorectal cancer, persistent primary vesicoureteral reflux in children and recurrent vulvovaginitis. Potential alleviation of symptoms of aging, fatigue and autism with the use of probiotics has also been suggested,² although more research is needed before this is definitively proven.

Although the exact mechanism of action of probiotics remains speculative, currently postulated modes include favourable modification of the microenvironment, competitive antagonism of other pathogens and stimulation of immunomodulatory cells in the human body.¹ The

microorganisms being used mostly as probiotics include various *Lactobacillus* species, *Bifidobacterium* species and *Saccharomyces boulardii*.³

Today medical science is facing the escalating problem of resistance of microorganisms against conventional antibiotics. In addition, the use of some antibiotics is associated with undesirable side effects; making clinicians think twice before opting for some of these agents.⁴ Probiotics may, therefore, have the potential to replace antibiotics in the future by overcoming these hurdles. They could potentially become the "antibiotics" of the future. However, it is important to be mindful that microorganisms can turn rogue in the human body by virtue of their fickle nature and propensity to undergo mutations. Therefore, clinical studies of the highest standard are needed to document the safety of microorganisms being used as probiotics. In addition, regulatory standards to govern the manufacturing process of these agents are an important consideration, particularly in a developing country like Pakistan. Rather than indiscriminately using them in every health problem encountered (Figure), we must consider using specific microorganism strains for achieving specific health targets.^{4,5}

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