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Research Article

### ANALYSIS OF EFFECT OF PROBIOTICS FOR THE MANAGEMENT OF DIFFERENT TYPES OF GASTRIC DISEASES IN PAKISTAN

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**Abstract:**

**Introduction:** Functional medical disorders, by definition, lack objective physical, metabolic, or neurological explanations for their symptom presentations. Diagnosis of these disorders, like diagnosis of psychiatric disorders, is based entirely on subjective complaints.

**Aims and objectives:** The basic aim of the study is to find the role of probiotics for the management of different types of Gastric diseases in Pakistan.

**Material and methods:** This cross sectional study was conducted at DHQ hospital, Narowal during 2018 with the permission of ethical committee of hospital. A wide variety of probiotic species are available, but the most investigated are species of *Lactobacillus* (*L. acidophilus*, *L. rhamnosus*, *L. bulgaricus*, *L. reuteri*, *L. casei*) and *Bifidobacterium*. Additional probiotic species include *Saccharomyces boulardii*, *Streptococcus* and *Enterococcus* species, *Propionibacterium* species, and *Escherichia coli*. We find the role of probiotics in different gastric problems in local population of Pakistan. The data was collected through a questionnaire which describes about the role of probiotics.

**Results:** Probiotics are available in a wide variety of formulations ranging from tablets and powders to yogurts, milk, and juices. Physicians tend to recommend tablets and powders; other formulations are heavily promoted by direct-to-consumer marketing. The role of the diet in health and wellbeing has changed as the science of nutrition has evolved. Research interest is currently directed towards improvement of defined physiological functions beyond the nutritional impact of food, including the potential to reduce the risk of disease.

**Conclusion:** Probiotics are a therapeutic class being increasingly used for a variety of GI disorders. Probiotics appear to alter intestinal microflora and may exert their effect(s) by a variety of mechanisms. Many species of probiotics exist and it is generally accepted that all probiotics are not created equal. Efficacy may be due to a single strain or multiple strains or a combination of different probiotics.

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**INTRODUCTION:**

Functional medical disorders, by definition, lack objective physical, metabolic, or neurological explanations for their symptom presentations. Diagnosis of these disorders, like diagnosis of psychiatric disorders, is based entirely on subjective complaints. This may have contributed to longstanding conceptualizations of functional disorders as fundamentally psychiatric or psychological in origin, cloaking this class of disorders with a negative stigma [1]. Although irritable bowel syndrome (IBS) may be considered an archetype among the functional gastrointestinal disorders, a wide variety of medical syndromes and disorders in many medical subspecialties are also characterized by lack of objective indicators and subjective determination of diagnosis [2]. Non-ulcer dyspepsia, premenstrual syndrome, chronic pain syndromes, tension headaches, fibromyalgia, chronic fatigue syndrome, interstitial cystitis, reflex sympathetic dystrophy, temporomandibular joint syndrome, and various chemical and food sensitivities are examples of functional disorders in many organ systems [3].

Probiotics, defined as “live microorganisms that, when administered in adequate amounts, confer a health benefit on the host”, have the potential to influence the intestinal microbiota. Probiotics may affect intestinal barrier function and exert anti-inflammatory actions [4]. To date, many clinical studies have investigated the effects of probiotics in IBS patients, and more than half of these studies demonstrated that probiotic administration is effective in IBS patients [5]. Due to differences in the study designs (size of the study, duration of the treatment), probiotic doses, and strains used, clinical studies addressing the efficacy of probiotics in IBS are difficult to compare [6]. Several systematic reviews and meta-analyses on the effects of probiotics in IBS patients have been generated, and the majority of results demonstrated that the use of probiotics was beneficial in IBS patients [7]. Despite these findings, some issues concerning probiotic treatment in IBS patients persist; specifically, the type of probiotic used in different studies varied, combination probiotics and single probiotics were both used, and the doses and treatment durations were also different between studies [8].

**Aims and objectives**

The basic aim of the study is to find the role of probiotics for the management of different types of Gastric diseases in Pakistan.

**MATERIAL AND METHODS:**

This cross sectional study was conducted at DHQ hospital, Narowal during 2018 with the permission of ethical committee of hospital. A wide variety of probiotic species are available, but the most investigated are species of *Lactobacillus* (*L. acidophilus*, *L. rhamnosus*, *L. bulgaricus*, *L. reuteri*, *L. casei*) and *Bifidobacterium*. Additional probiotic species include *Saccharomyces boulardii*, *Streptococcus* and *Enterococcus* species, *Propionibacterium* species, and *Escherichia coli*. We find the role of probiotics in different gastric problems in local population of Pakistan. The data was collected through a questionnaire which describes about the role of probiotics.

**Statistical Analysis**

Statistical analysis (Anova Test and Post Hoc) was performed using the SPSS software program (17.0). All results were expressed as the mean  $\pm$  standard deviation (SD). As P value  $<0.05$  was considered to be statistically significant.

**RESULTS:**

Probiotics are available in a wide variety of formulations ranging from tablets and powders to yogurts, milk, and juices. Physicians tend to recommend tablets and powders; other formulations are heavily promoted by direct-to-consumer marketing. The role of the diet in health and wellbeing has changed as the science of nutrition has evolved. Research interest is currently directed towards improvement of defined physiological functions beyond the nutritional impact of food, including the potential to reduce the risk of disease. This is also the focus for probiotic research. The future probiotics will have more thoroughly clarified mechanisms to either control specific physiological processes in the evolution of disease in at-risk populations or in the dietary management of specific diseases. Probiotic functional foods can be defined as products containing specific probiotic microbes with scientifically proven clinical efficacy for the final product intended for human use. The development of probiotic functional foods requires new criteria for strains appropriate to specific indications.

Probiotics are live microbial food supplements or components of bacteria which have been shown to have beneficial effects on human health. Recent research has expanded the definition of probiotics, as it has been shown that genetically engineered microbes and non-viable microbes may equally

possess such potential. However, normalisation of the properties of unbalanced indigenous microflora by specific strains of the healthy gut microflora forms the rationale of probiotic therapy. Oral introduction of probiotics has been shown to reinforce the various lines of gut defence: immune exclusion, immune elimination, and immune regulation. Probiotics also stimulate non-specific host resistance to microbial pathogens and thereby aid in their eradication. The application of probiotics currently lies in reducing the risk of diseases associated with gut barrier dysfunction<sup>9</sup>.

### DISCUSSION:

There is good evidence to support the efficacy of *S. boulardii* and LABs and the combination of the two for AAD, VSL#3 for pouchitis, and *B. infantis* 35624 for IBS. Probiotics decrease the duration of symptoms in acute infectious diarrhea. Probiotics, including *E. coli* Nissle 1917, LGG, and VSL#3 are as effective as standard therapy (mesalamine) in inducing or maintaining remission in UC or CD<sup>10</sup>. When added to standard therapy, probiotics do not provide additional benefit compared with standard therapy alone. Most probiotics tested to date are not more effective than placebo in inducing or maintaining IBD remission.

Probiotics have been shown to be safe in immunocompetent hosts in an outpatient setting. However, administration of probiotics to immunocompromised, chronically ill, hospitalized patients with GI disorders, and indwelling catheters may predispose them to probiotic sepsis<sup>11</sup>. Specifically, in GI disorders in which gut permeability and gut immunity may be compromised, adding probiotics may increase translocation of bacteria into the bloodstream. Until further studies become available on safety of probiotics in hospitalized patients, we caution their use in this setting<sup>12</sup>.

### CONCLUSION:

Probiotics are a therapeutic class being increasingly used for a variety of GI disorders. Probiotics appear to alter intestinal microflora and may exert their effect(s) by a variety of mechanisms. Many species of probiotics exist and it is generally accepted that all probiotics are not created equal. Efficacy may be due to a single strain or multiple strains or a combination of different probiotics.

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