

PROBIOTICS; AN ALTERNATIVE FOR GERDAiswarya Rajan*¹, Shinu C.² and Fathima Nihala N. P.³¹Department of Pharmacy Practice, Al Shifa College of Pharmacy, Kerala, India.²Associate Professor, Department of Pharmacy Practice, Research Scholar, Al Shifa College of Pharmacy, Kizhattur, Malappuram, Kerala, India.³Research Scholar of Alshifa College of Pharmacy, Kizhattur, Malappuram, Kerala, India.***Corresponding Author: Aiswarya Rajan**

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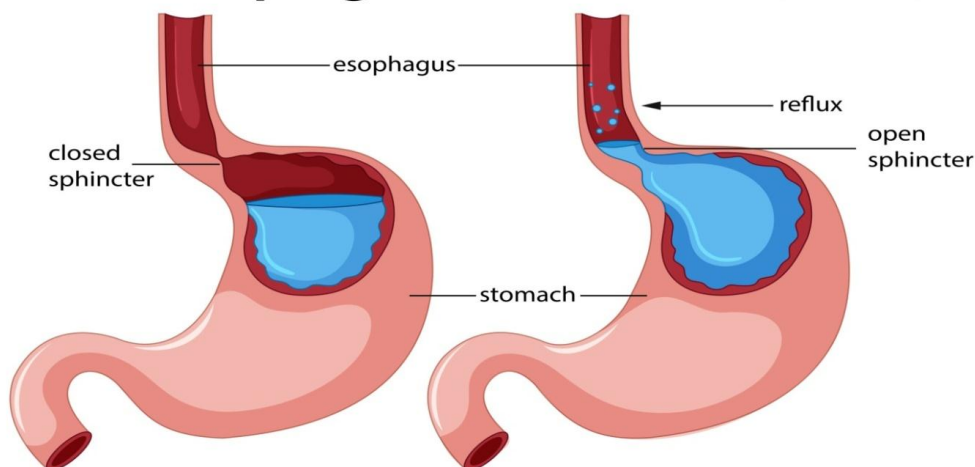
ABSTRACT

Probiotics are the live microorganism that improves the gastrointestinal health by maintaining a healthy gastrointestinal flora. The objective of this review was observing the use of probiotics as an alternative therapy for GERD. Recently 'Proton pump inhibitors' are commonly used for gastro esophageal reflux disease. Always bad bacteria cause gastric problems. Probiotics is the good bacteria that improve digestion, dysbiosis and inflammation like gastro intestinal symptoms. Probiotics found to correct dysbiosis, inflammation and strengthen the gut barrier. Probiotics provides a better gastrointestinal quality of life.

KEYWORDS: GERD, proton pump inhibitors, regurgitation, dysbiosis.**INTRODUCTION**

Gastro esophageal reflux disease (GERD) is commonly seen in our community. GERD generally affects esophagus and duodenum. Proton pump inhibitors are commonly used for GERD. These classes of drugs are

used for many gastro associated disease conditions. It is also used in peptic ulcer disease and H- pylori infection and dyspepsia as well as in preventing damage of GI flora associated with the use of NSAID and Acetyl salicylic acid.

Gastroesophageal reflux disease (GERD)**Figure 1: mechanism of GERD.**

The World gastroenterology organization defines Gastro esophageal reflux disease as 'troublesome symptoms sufficient to impair an individual's quality of life, or injury or complications results from the retrograde flow of gastric contents into esophagus or oropharynx and/or respiratory tract'.^[1] Commonly PPIs are used for the GERD because of its high efficacy and decreased level

of side effects when short term use. When long term uses of PPIs cause many of the adverse effects to patients.^[2] Many of the prescription with PPIs are not for correct indications that may be lead to so many health problems. Less severe gastrointestinal problems not require PPIs therapy. Inappropriate indication use of PPIs causes so many problems. Most of the studies show positive

outcomes and generally dyspeptic symptoms persist one to three months in the patients with or without regurgitation or heartburn. Diagnosis and investigation of GERD are based on the questionnaires, including the Gastro intestinal symptoms rating scale (GSRS)^[12] and frequency scale for symptoms of GERD (FSSG).^[13]

ACID reflux occurs when the sphincter muscle at the lower end of your esophagus relaxes at the wrong time, allowing stomach acid to back up into our esophagus. This can cause heartburn and other signs and symptoms. Frequent or constant reflux can lead to gastro esophageal reflux disease (GERD). This acid reflux always irritate the lining of esophagus. This leads to mucosal damage .The underlying cause of GERD is multifactorial and can result from stress, poor diet, impaired digestion, dysbiosis, hiatal hernia and esophageal sphincter dysfunction etc.

COMPLICATIONS

Over time, chronic inflammation in your esophagus can cause:

Narrowing of esophagus (esophageal structures): Damage of the lower esophagus from stomach acid process scar tissue to form. This scar tissue narrows the food pathway, leading to problem with swallowing

An open sore in the esophagus (esophageal ulcer): Stomach acid can wear any tissue in the esophagus; causing open sore form. An esophageal ulcer can bleed, cause pain and make swallowing difficult.

Precancerous changes to the esophagus (barrette esophagus): Damage from an acid cause changes in the tissue lining the lower esophagus. These changes are associated with an increased risk of esophageal cancer.

RISK FACTORS

- Obesity
- Hiatal hernia
- Pregnancy
- Connective tissue disorder
- Delayed stomach emptying

PROBIOTICS

Probiotics are live microorganisms that provide health benefits when consumed; generally it improves and restores the normal gut flora. Probiotics has a prominent role in the health of upper gastrointestinal tract .Some studies shows that the probiotics are efficacious for the gastrointestinal reflux disease by decreasing the frequency and symptoms probiotics is in controlling regurgitation and heartburn.^[4, 5]

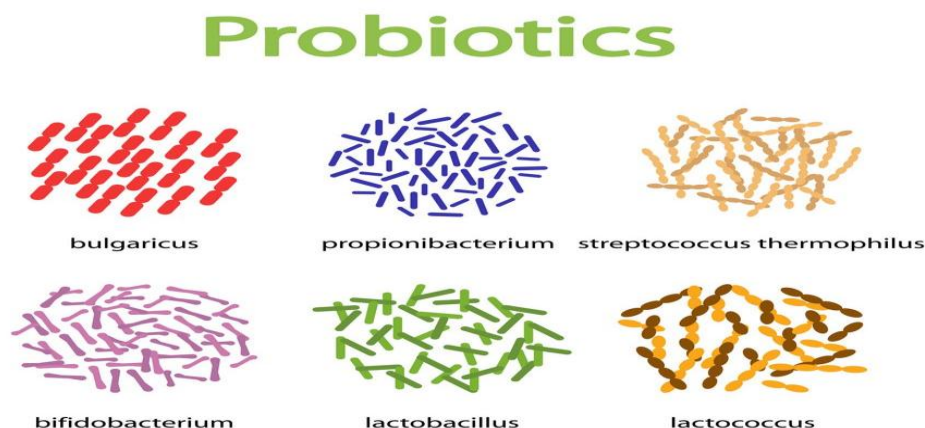


Figure: 2

Probiotics can be found in dairy products, such as yogurt. They can also be taken as supplements. Probiotics provide several types of benefits. They can help with digestion and protect against harmful bacteria. They also useful in:

- Treat irritable bowel syndrome
- Treat diarrhea
- Speed up the treatment for certain intestinal infections
- Prevent stomach ulcers from forming
- Prevent or treat vaginal infections
- Prevent or treat urinary tract infections

ACID REFLUX AND POOR GUT HEALTH

When our gut contain more bad bacteria than the good bacteria, it effects the stomach acid level and that causes chance to opportunistic pathogen and infection. These types of infections cause reflux symptoms and that are worsened by gut dysbiosis and bacterial over growth. These bad bacteria begin to ferment carbohydrates. This fermentation causes symptoms like gas, poor GI motility. Pressure in abdomen leads to weakness of the lower esophageal sphincter. These all effects causes to acid reflux.

ACID REFLUX TREATED WITH PROBIOTICS

Acid reflux is firstly treated with the cause not the symptoms. That means restore your body's natural

stomach acid production and eliminating bad bacterial overgrowth. Probiotics is the best remedy for this. Probiotics restores the balance of good bacteria in our gut. When decreased level of healthy bacteria causes indigestion that causes fermentation of the undigested food and causes gas. This gas can push the stomach acid up to the esophagus, this leads to acid reflux. Probiotics supplementation helps to reduce the incidence of bacterial overgrowth in patients with acid reflux and improves their abdominal symptoms. Probiotics are also valuable in preventing the dysbiosis. Proton pump inhibitors are usually prescribed for to treat GERD, the most common side effects if PPI users is the imbalanced gut flora.^[1] Probiotics are also helps to protect the gut against the H pylori infection by producing antimicrobial substances that prevent it from growing.^[7] Probiotics also helps to stabilize the gut mucosal barrier and reducing inflammation. Generally probiotics cures the GERD symptoms.

TYPES OF PROBIOTICS THAT HELP IN GERD

There are so many types of probiotics that helps in GERD and each strain of probiotics have differ effect in our body. Probiotics reduce regurgitation, less reflux or heartburn, fewer upper GI symptoms like nausea and gas. The most helpful species of probiotics for GERD is *Lactobacillus acidophilus*. This bacteria is well tolerated and shown repeatedly help with acid reflux. The probiotic strain of *bifidobacterium lactis* HN019 has been shown in human clinical trials to reduce GI symptoms such as: regurgitation, nausea and vomiting whilst improving gut microbial composition.^[9] Symptoms such as these are common alongside acid reflux, meaning that this strain could be of interest to many reflux suffers, to support the overall health of the GI tract.

Depending on the nature of your digestive symptoms, probiotics are an important way to help restore normal digestive function and alleviate your acid reflux. Overtime, as the probiotics work to rebalance our gut, we can understand there is no longer need of PPI.

CONCLUSION

Probiotic are very effective against GERD. Probiotics should be the first choice for the GERD symptoms, only when it is ideal to determine the actual cause of reflux. This may involve testing, as well as we should be aware of the types of foods that trigger such reflux symptoms.

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- Picture sources: figure 1; <https://www.sonosif.com/clinical-apps/gastroesophageal-reflux-disease/>
- Figure 2; <https://www.vectorstock.com/royalty-free-vector/microscopic-probiotics-set-good-bacteria-and-vector-22534873/>