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Probiotics and Benefits

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***Abstract*: There are many microorganisms which have nutraceutical properties. Lactobacillus bacteria, Bifido bacterium Streptococcus Salvarius and yeasts like Saccharomyces boulardii give health benefits due to their action. They are probiotics and prebiotics. probiotics are live microbial food or feed supplements that benefit human and animal health by the microbial balance in the intestine. Probiotic are available in dairy products like yoghurt. It helps to fight against pathogens. Prebiotics promote the growth of probiotics in the form of specific substrates. Prebiotics include dietary fibre and fruto oligosaccharies. Microorganisms used as probiotics mainly include bacterial strains of gram positive bacteria belonging to the types Lactobacillus, Enterococcus, Pediococcus, and Bacillus. Researchers found that potentially carcinogenic agents (food dyes, aflatoxins, pesticides, nitrites) and cancer-causing agents in non-foods (smokeless tobaccos, medications) are bioactivated by enzyme systems in gut bacteria. These bioactivations which can lead to cancer are promoted at a higher rate in GI systems with imbalanced floral populations. Hence probiotics should be consumed every day to protect from carcinogens**

***Keywords*: Probiotics, probiotics, bacteria.**

1. Introduction

A food that contains good bacteria that may keep healthy that is probiotics. probiotics are live bacteria and yeast that are good, especially in digestive system. Probiotics are often called “good” or “helpful” bacteria they help to keep the gut healthy. probiotics work is to inhibit the growth of bad bacteria, promote good digestion, reduce toxins and boost the immune system.

1. *Bacterial balance:* Our lower gastrointestinal tract is home to 100 trillion microbes, these microbes helps to digest food and fight against harmful bacteria and regulate our immune system. Such helpful microbes are “good bacteria”. Most germ killing antibiotics may disrupt the balance, which leads to diarrhea. Imbalance also lead to certain auto immune disease and allergies.
2. *Probiotics supplements:* Probiotics supplements are available like,

- Capsule
- Tablets
- Powders
- Liquid extracts

Probiotics are available: In foods and drinks that contain probiotics are,

- Soy drinks
- Yogurt
- Acidophilus milk
- Butter milk
- Soft cheese
- Tempeh
- Kimchi
- Unpasteurized sauerkraut

Probiotics during pregnancy: Use of probiotics during pregnancy is common. It does not produce harmful effect during expecting, or lactating, mothers. However, the bad bacteria attack the body, good bacteria attack destructive invaders. One assumption is they help to reduce bad bacteria in the body, which can lower the potential of certain infections or other health concerns.

Probiotics for infant: prevent from Eczema, Baby thrush, Constipation, Diarrhea. Not necessary for infants whose diet only consists of breast milk. Only after the child starts on a diet of solid food, probiotics are usually given. A new born child has a sterile intestine, which means that there is no bacteria present in the gastrointestinal tract. These bacteria are actually unnecessary at the time, as the baby is not exposed to any other food than breast milk. If the child undergoes periods of severe vomiting or diarrhea or has recently under taken a long course of antibiotics, they can take probiotics. some preliminary evidence to suggest probiotics may help to prevent from necrotizing enterocolitis or death of intestinal tissue in infants born weighing more 1,000 grams.

Probiotics for children: Children who consuming probiotic foods mainly yogurt early on while having diarrhea from acute viral gastroenteritis experienced a shorter duration of diarrhea by about one day. Consumption of probiotics may cause bacteremia, fungemia, and sepsis in children with lowered immune systems who are already ill. probiotics helps to prevent from viral diarrhea which is caused by rota virus, in children’s. persistent diarrhea is an important cause of morbidity and mortality in children under five years old, probiotics are effective in treating persistent diarrhea in children. probiotics can alter and prevent changes in the intestinal micro flora caused by antibiotics.

Probiotics role in cancer: Probiotic strains are also responsible for maintaining the balance between the quantity of other participants of natural intestinal micro flora and their metabolic activity. Cancer-preventing strategy involving probiotic bacteria, chiefly lactobacillus and bifitobacillus ,could be linked to the binding and degradation of potential carcinogens .Now-a-days obesity has been established as a colon cancer risk factor .Animal based models have established

a relation between altered microbial composition to the development of diabetes ,obesity and insulin resistance in the host systems by several mechanisms like altered fatty acid metabolism. Consumption of probiotic food in diet helps to prevent from colon cancer.

Types of probiotics: Most of the probiotics fall in to one of the two categories:

1. Lactobacillus
2. Bifidobacterium

Lactobacillus: Found in yogurt and other fermented foods. Preventing diarrhea, including infectious types such as rotaviral diarrhea in children.

Health effects by lactic acid bacteria:

- Enhancement of immunity and improved resistance to infectious illnesses and cancers
- Better utilization of calcium, phosphorous and iron.
- Source of energy in the process of respiration.
- Lactic acid bacteria can degrade cholesterol during its transit through the bowel thus reducing the risk of atherosclerotic heart disease.

Bifidobacterium: Found in yogurt and cheese. Help in constipation, Irritable bowel syndrome(IBS), Ulcerative colitis and lung infections.

Health effects by bifid bacterium:

- Bifid bacteria help to produce other important chemicals, including B vitamins and healthy fatty acids.
- It helps to prevent infections from other bacteria such as E.coli.
- Bifid bacteria may help to control the immune system and help gut to prevent from infections.
- The best way to increase levels of bifid bacterium in a gut is to eat a wide range of fiber rich fruits, vegetables, whole grains, nuts, seeds and fermented foods.

Probiotics role in skin: Skin is the largest organ of the body and is constantly exposed to physical, chemical, bacterial, fungal challenges. It is well known that probiotics are helpful for specific disorders. Probiotic bacteria therapy can have great potential in preventing and treating the skin diseases including eczema, atopic dermatitis, acne, and allergic inflammation or in skin hypersensitivity, uv-induced skin damage, wound protection, and as cosmetic product.

Probiotics in cosmetic: Probiotics include various strains of uniquely helpful bacteria that occur naturally on skin and that can be applied in probiotic skin care products. For making the cosmetic product there will be a uses of lactobacillus, bifid bacterium, vitreoscilla, and various ferments and prebiotic sugars such as xylitol and fructoligo saccharides.

Probiotics are prohibited: It can be dangerous if patient have severely weakened immune system. Because many therapies for cancer such as radiation and chemotherapy damage immune system, which could allow these bacteria to spread to other tissues and cause problems

2. Conclusion

In general, probiotic foods and supplements are thought to be safe, for most people, though some people with immune system problems or other serious health conditions shouldn't take them.

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