

## Kefir - what is it and why do we need it?

Previously we looked at gut dysbiosis (*sometimes called candida*). We saw that antibiotics kill off good bacteria as well as harmful bacteria. That leaves room for harmful yeasts in the gut to grow and take over. They feed on sugar and refined carbohydrates like white flour. So - it's important to put replace the good bacteria.

Yoghurt contains a lot of good bacteria - but only one or two strains (*or types*) of them. Kefir is similar to yoghurt - but it contains up to 70 different strains of helpful bacteria and yeasts. In Sweden, Norway, Finland, Germany, Greece, Austria, Brazil, and Israel you will find kefir on the supermarket shelves next to the milk. In the former Soviet Union, kefir accounts for 70% of the total amount of fermented milk consumed. It's the reason that people in these countries don't get tummy bugs like we do.

But you won't find kefir in English supermarkets - it's just not part of our thinking. That's a pity! Antibiotics wouldn't cause the long-term problems that they do if we were all drinking kefir every day. The friendly bacteria that were killed off by the antibiotics would immediately be replaced by the kefir.

### **A traditional food**

Kefir is a traditional food that has been attributed with exceptional health promoting and curative properties since the beginning of recorded history. It is a fermented milk beverage, rich in protein, calcium, vitamin B12, niacin, and folic acid. Consuming kefir can boost the immune system, alleviate symptoms of diarrhoea and chronic constipation, and lower the risk of colon cancer

Kefir has been used in former Soviet Union hospitals since the early 1900s, to treat conditions such as digestive disorders, cancer, tuberculosis, and even atherosclerosis. Dr. Elie Metchnikoff, a Russian immunologist who received the Nobel Prize in 1908 for discovering phagocytosis, was intrigued by the exceptional longevity exhibited by populations in former Soviet Union hospitals in the northern Caucasus.

Fermented milk products were the staple of the diet of these populations, and Dr. Metchnikoff theorised that the lactic acid bacteria in the fermented milk were responsible for these populations' exceptional health and longevity. He believed that there was a connection between disease and the microorganisms in the digestive system, and theorised that bacteria in the fermented milk products consumed by these populations competed with the harmful microorganisms in their digestive tract.

### **Validated by modern research**

In recent years, research has led to a better understanding of the properties of probiotics and the manner in which they adjust internal flora and improve the environment of the digestive system. Probiotics have been effective in the treatment of people with inadequate lactose digestion, because the probiotics convert the lactose in the milk to lactic acid, making the milk they ferment almost lactose-free. Research has shown that probiotics can contribute to the general health of their host by resisting the colonisation of the digestive system by harmful microorganisms, and contributing to the nutrition of the host, and enhancing immunity.

Kefir has been studied extensively and has demonstrated anti-inflammatory and immune-enhancing properties in animal and human trials. It has also demonstrated antibacterial and anti-fungal properties. These and other claims about the health promoting and therapeutic properties of fermented milk products have been validated by sound, evidence-based, scientific research. Much of the scientific data is available online.

Like yogurt, kefir is a probiotic food, containing lactic acid bacteria. Probiotic (*means life-promoting*) foods contain live microorganisms that can survive in the digestive tract where they confer a health benefit on the host. The main contribution of probiotic foods is in alleviating symptoms of ailments associated with the digestive and immune systems. The lactic acid bacteria in fermented milk products convert the lactose in milk to lactic acid. The conversion process lowers the pH in the fermenting milk, which inhibits the growth of spoilage bacteria and gives these fermented milk foods a longer shelf life .

## **Gastrointestinal conditions**

Some studies have already produced results offering enough evidence to warrant the use of probiotic foods like kefir in the treatment of gastrointestinal disturbances. One example is diarrhoea, which can be caused by a variety of conditions. Probiotics help in preventing diarrhoea and in reducing its duration. This includes conditions like infant's diarrhoea, IBS, colitis, Crohn's disease, gastroenteritis, and traveler's diarrhoea. At the same time, consuming kefir has shown good results in alleviating the symptoms of constipation in patients suffering from chronic constipation.

Probiotics have been particularly effective in reestablishing beneficial intestinal microflora in patients who have taken a course of antibiotics ("*antibiotic*" is the opposite of "*probiotic*"). Kefir has demonstrated efficacy against *Helicobacter pylori* (*associated with gastritis, peptic ulcers, and gastric cancer*), against *Bacillus cereus* (*responsible for food borne diseases*), against *Salmonella typhimurium*, *Listeria monocytogenes*, and against the yeast *Candida albicans*.

## **Cancer prevention**

A number of studies have shown that by suppressing the growth of bacteria that convert pro-carcinogens into carcinogens in the digestive system, kefir and other probiotic foods may have preventative effects against cancer. Lower rates of colon cancer have been observed in populations consuming large quantities of fermented dairy products.

Kefir has shown anti-mutagenic effects (*by decreasing  $\beta$ -glucuronidase*) that may lower the risk of colon cancer and play a role in the prevention of the disease. Long time consumers of kefir may reduce their risk of developing colon cancer. Probiotics found in kefir have stimulating effects on the immune system by improving phagocytosis and by increasing the numbers of T-lymphocytes and NK cells. They also have an indirect effect on the immune system by forming bioactive peptides in the process of fermentation.

## **Reducing intolerances and heart benefits**

Consuming kefir and probiotic foods has been found effective in reducing the symptoms of food intolerances and lowering blood sugar levels, blood lipid levels, and high blood pressure. In animal studies, kefir demonstrated a significant lowering effect on levels of LDL cholesterol, and on blood pressure (*due to a peptide produced during fermentation that has ACE-inhibiting properties and can be used as an anti-hypertensive agent*). In humans the consumption of kefir by hypertensive patients led to a recorded lowering of the systolic and the diastolic blood pressures and of heart rate, suggesting that probiotic foods could play a role in the prevention of certain heart diseases.

## **Commercial kefir inferior to home-made**

Commercial kefir is manufactured from a starter and is inferior to that fermented at home. The spectrum of beneficial microorganism present in commercial kefir is far more limited. Most of the store-bought, bottled kefirs do not contain live yeasts, which changes the nature of their fermentation and consequently their microflora (*the secondary compounds they produce*) and their properties.

The starter grains used for home fermenting look like small clusters of cauliflower. Each grain is a dynamic living ecosystem containing symbiotic consortia of bacteria and yeasts held together by a matrix of proteins, lipids, and polysaccharides. This symbiosis responsible for kefir's tangy taste," and accounts for many of its health promoting and medicinal properties.

As long they are "fed" regularly, the grains can be used indefinitely. Since well-tended kefir grains are potentially everlasting, the living ecosystem in your kefir grains may be the very same one that traveled in a shaky goat-skin bag tied to the back of a horse hundreds of years ago, fermenting milk for a north Caucasian prince.

**Note:** Kefir grains can ferment any fresh milk, but they can also be used to ferment soy, rice, or almond milks. Full fat cow's milk, however, definitely makes the nicest kefir.

**See separate leaflet for instructions on making kefir**

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