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Health benefits of goat milk

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Abstract

Goats are earliest domesticated animals and are called as “Cow of poor man”. Goat milk has not only high nutritional value but also therapeutic value and dietary characteristics. Goat milk contains higher amount of calcium, magnesium and phosphorus than cow and human milk. Medium chain triglycerides and proteins which are more in goat milk have been recognized as unique lipid and protein with unique health benefits. Goat now has to be fully exploited to get maximum benefit, particularly milk and milk products having medicinal values.

Keywords: Goat milk, nutritional value, medicinal value

Introduction

Goat milk contains protein, lipid, carbohydrate, vitamin and mineral. The superior digestibility of goat milk, the proper composition of fatty acids and its content of bioactive compounds seem to give properties suitable for treating or preventing certain medical conditions. Major role of milk proteins is to supply amino acids and nitrogen to the young mammals and constitute an important part of dietary proteins for the adult. Intact milk proteins have also specific functions such as micelle formation. Furthermore, milk proteins have physiological importance, they facilitate uptake of several important nutrients such as trace elements and vitamins and contain a group of proteins which perform a protective function.

Dietary and medicinal significance of goat milk

Goat milk is considered as an ideal food for all the ages as it contains essential vitamin and minerals. It is one of the key healthy drink.

• Functional Food

Milk and colostrum are rich in bioactive components which are important to regulate weight and hypertension. It also influences digestion and health properties. As goat milk is rich in such components, we can call it as a functional food and nutraceutical drink.

• Anti – inflammatory and Anti – mucosal properties

Goat milk not causes irritation in the gut, because the size of the fat globules of the goat milk is one ninth the size of cow milk fat globules. Goat milk plays a key role in almost all biological reactions and exerts antioxidant and anti-inflammatory effects in the body. This is important as inflammation is the body's primary response to infection and oxidation has been linked to the development of many diseases, including cancer. Furthermore, other factors such as the maintenance of a healthy intestinal micro flora with the help of probiotics and prebiotics (Also contained in goat milk) are essential for protecting against the negative effects of pathogenic infection allergy (Shea *et al.*, 2004) [6].

• Heart Health

Proteins of the goat milk are important source of the angiotensin converting enzyme (ACE), antihypertensive peptide and inhibitory peptides. They are able to control microbial infection and also provide disease defence. Goat milk is better than cow milk in monounsaturated fatty acids (MUFA), polyunsaturated fatty acids (PUFA) and medium chain triglycerides (MCT). These are beneficial for the cardiovascular conditions. Along with these, goat milk has lower level of the cholesterol than cow milk (Haenlein, 2004) [1]. Because of the balanced fatty acid profile of the goat milk, it helps to prevent atherosclerosis, heart attacks, strokes and other heart complications. High potassium content of the goat milk reduces the blood pressure.

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• **Immunity Booster**

Selenium is one of the key component for the immune system functionality. Small amount of the selenium are found in the cow milk, but significant amount of the same found in goat milk. Hence, goat milk and its products are acts as immunity booster and able to protect an individual from illness. Goat milk was able to activate NO release from blood cells as well as triggering of cytokine production (IL-10, TNF-a and IL-6). The NO release could have cardio-protective effects in the milk consumer and also expose antibacterial activity and thereby prevent infections.

• **Prebiotic Supplement**

Goat milk has higher level of the oligosaccharides. These acts as prebiotics in gut and improve the health of the digestive tract (Raynal-Ljutovac *et al.*, 2008) [4]. They are responsible for the beneficial bacteria i.e. *Bifidobacteria* in the intestine. *Bifidobacteria* exert a wide range of health benefits including immune-stimulation, prevention of pathogenic infections, anti - carcinogenic activity and cholesterol lowering activity in addition to improve lactose maldigestion (Russell *et al.*, 2011) [5].

• **Anti - carcinogenic Effect**

Goat milk has a high content of conjugated linoleic acid (CLA) (Jirillo *et al.*, 2010) [2]. Anti - carcinogenic properties of CLA have been reported against mammary and colon cancer (Liew *et al.*, 1995) [3] in animal models, as well as *in vitro* models of human melanoma (Shultz *et al.*, 1992) [7] colorectal and breast cancer. The mechanism by which CLA inhibit tumor development is not fully understood, although perturbation of the eicosanoid - dependent cell signaling systems, anti-oxidative effects and disturbance of the receptor mediated actions of estrogen have all been suggested by fermented goat milk (Jirillo *et al.*, 2010) [2].

• **Nutrient Uptake Efficiency**

As the chemical composition of the goat milk is much closer to that of the human milk, it easily assimilates in the body. Therefore it enhances the bioavailability of the nutrients present into it. Authors reported that, goat milk consumption increases the uptake of Iron and Copper in digestive tract.

Conclusion

The unique characteristics of goat milk have been fairly good surveyed regarding nutritional value and health effects. The superior quality of goat milk, the proper composition of fatty acids, protein and its content of bioactive compounds seem to give properties suitable for treating or preventing certain medical conditions. Goat milk have beneficial effects on malabsorption disorders and inflammatory bowel diseases. Fermented goat milk may reduce the risk cardiovascular disease by anti - oxidative, anti - atherogenic and anti - thrombotic effects. In line with the above fact: there should be awareness creation for the community about the importance of goat milk for their nutrition and medicinal values.

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