

CAMEL MILK: NATURE'S MEDICINAL TREASURE FOR HUMAN HEALTH

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Camel is known as the “Ship of the Desert,” but its milk is often called the “**White Gold of the Desert**” because of its exceptional nutritional and medicinal properties. Camel milk has been used for centuries by desert communities such as Raikas, Rabaris, and Maldharis. Today, scientists around the world are recognizing camel milk as a highly nutritious and health-promoting food.

India has a rich camel population, especially in arid and semi-arid regions of Gujarat and Rajasthan. Although camel numbers are decreasing, awareness about the value of camel milk can help improve the livelihood of camel breeders and farmers.

WHY CAMEL MILK IS SPECIAL ?

Camel milk is different from cow and buffalo milk because it contains:

- Low cholesterol and low sugar
- Higher vitamin C content
- Rich minerals like calcium, iron, zinc, magnesium, and potassium
- Protective proteins such as lactoferrin, lysozyme, lactoperoxidase, and immunoglobulins
- Easily digestible nutrients
- Strong antioxidant and disease-fighting properties

These unique characteristics make camel milk useful not only as food but also as a natural health-supporting product.

CHEMICAL COMPOSITION OF CAMEL MILK

1. Water Content: Camel milk contains high water content, especially during dehydration conditions. This helps desert people and calves survive in water-scarce regions.

2. Protein: Camel milk contains high-quality proteins that are easily digestible. It is rich in:

- Casein proteins
- Whey proteins
- Immune-protective proteins

Unlike cow milk, camel milk does not contain beta-lactoglobulin, which is mainly responsible for milk allergies.

3. Fat: Camel milk fat is naturally homogenized and contains beneficial fatty acids, including omega fats and polyunsaturated fatty acids. The small fat globules improve digestibility and absorption.

4. Lactose: Camel milk contains lactose in smaller and easily digestible forms. Therefore, many lactose-intolerant people can consume camel milk comfortably.

5. Minerals: Camel milk is rich in:

- Calcium
- Phosphorus
- Iron
- Zinc
- Magnesium
- Potassium

Its iron and zinc levels are higher than cow milk, helping improve immunity and blood health.

6. Vitamins: Camel milk is an excellent source of vitamin C, B-complex vitamins, and antioxidants. Vitamin C content is several times higher than cow milk, making it highly beneficial in hot desert climates where fruits and vegetables are limited.

IMPORTANT PROTECTIVE COMPONENTS IN CAMEL MILK

- **Lactoferrin:** Lactoferrin prevents the growth of harmful bacteria and supports immunity. It also shows anti-cancer and antiviral properties.

- **Lysozyme:** Lysozyme destroys harmful bacteria and protects the digestive system.
- **Lactoperoxidase:** This enzyme acts against disease-causing microorganisms and supports body defense mechanisms.
- **Immunoglobulins:** Camel milk contains unique small-sized antibodies that easily penetrate tissues and strengthen immunity.

MEDICINAL AND HEALTH BENEFITS OF CAMEL MILK

- 1. Helpful for Diabetes:** Camel milk contains insulin-like proteins that help control blood sugar levels. Research has shown that regular consumption of camel milk may reduce insulin requirements in diabetic patients.
- 2. Improves Liver and Kidney Function:** Camel milk supports liver and kidney health by improving important body enzymes and reducing stress on organs.
- 3. Reduces Cholesterol:** The presence of orotic acid in camel milk helps reduce cholesterol levels and improves heart health.
- 4. Beneficial for Arthritis:** Camel milk contains lactoferrin, which helps remove excess iron from joints and may reduce arthritis-related inflammation.
- 5. Supports Wound Healing:** Proteins in camel milk help repair tissues, increase collagen formation, and improve wound healing.
- 6. Useful in Autoimmune Diseases:** The small-sized antibodies in camel milk can penetrate tissues effectively and may help strengthen the immune system in autoimmune conditions.
- 7. Better Choice for Lactose Intolerant People:** Because of its easily digestible lactose and unique protein structure, camel milk is suitable for many people who cannot tolerate cow milk.
- 8. Helps Prevent Milk Allergy:** Camel milk lacks beta-lactoglobulin, the major allergenic protein found in cow milk. Therefore, it is considered safer for children suffering from milk allergies.

9. Helpful in Autism: Studies have shown that camel milk may improve behavior, communication, and motor skills in autistic children because of its protective proteins and different casein structure.

10. Antiviral Properties: Camel milk contains antibodies and protective proteins that may help fight viral infections such as rotavirus and hepatitis viruses.

11. Strong Antimicrobial Activity: Camel milk naturally fights bacteria, viruses, fungi, and parasites due to its bioactive proteins.

12. Anti-Cancer Potential: Research indicates that camel milk proteins, especially lactoferrin, may inhibit the growth of cancer cells such as breast cancer, liver cancer, colon cancer, and leukemia cells.

13. Useful in Tuberculosis (TB): Camel milk has shown positive effects in TB patients by improving appetite, body weight, and immunity.

14. Helpful in Crohn's Disease: Protective proteins in camel milk may help reduce intestinal infections and inflammation associated with Crohn's disease.

15. Anti-Ageing Benefits: High vitamin C and antioxidant content help protect skin from wrinkles, dryness, and free radical damage.

16. Cosmetic Uses: Camel milk is increasingly used in soaps, creams, lotions, and cosmetics because it helps soften skin and treat skin disorders like acne, eczema, psoriasis, and dermatitis.

ECONOMIC IMPORTANCE FOR FARMERS

Camel milk provides an excellent opportunity for progressive farmers and camel breeders because:

- Demand for camel milk is increasing worldwide
- Camel milk products such as chocolates, ice cream, powder, cosmetics, soaps, and medicinal products have good market value
- Camel milk often sells at a higher price than cow milk
- Camel rearing is suitable for arid and drought-prone regions

The use of camel milk by companies such as Gujarat Cooperative Milk Marketing Federation under the Amul brand has further increased awareness about its value.

CONCLUSION

Camel milk is not just a traditional food of desert communities; it is a highly nutritious and medicinal natural product with immense health benefits. It supports

immunity, helps manage diabetes, improves digestion, fights infections, and offers anti-ageing and cosmetic benefits. There is tremendous scope for camel milk production, value-added products, and marketing in India. Proper awareness, scientific research, and organized marketing can help improve the income of camel breeders and promote sustainable livestock farming in arid regions.

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