Study of Medicinal Properties of Goat Milk on Physiological Disorders in Human Beings at Dausa District, Rajasthan

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Abstract

Goat milk has been traditionally recognized for its medicinal properties and high nutritional value. This study aims to explore the impact of goat milk on various physiological disorders among the population of Dausa district, Rajasthan. The research investigates its role in managing digestive issues, cardiovascular health, diabetes, and allergic conditions. Data was collected through surveys and case studies of individuals consuming goat milk regularly. The findings suggest that goat milk provides significant health benefits due to its easy digestibility, hypoallergenic properties, and rich nutrient profile. This study highlights the potential of goat milk as a natural remedy for physiological disorders, advocating its inclusion in daily diets. 50 individuals with digestive issues, diabetes, or allergies were monitored for three months. 200 participants (aged 18–60) from different villages were interviewed. Goat milk samples were tested by the Electronic Milk Analyzer for essential nutrients. The study highlights the significant medicinal properties of goat milk, particularly in managing digestive issues, diabetes, and allergic conditions. Regular consumption can improve overall health and serve as a natural alternative to conventional dairy products.

Keywords: Goat milk, physiological disorders, Dausa district, Rajasthan, medicinal properties, nutrition

1. Introduction

Goat milk is widely consumed due to its high nutritional value and medicinal properties. Unlike cow milk, goat milk contains smaller fat globules and a higher proportion of medium-chain fatty acids, making it easier to digest. It has been traditionally used for treating various ailments, including digestive disorders, skin conditions, and respiratory issues (Singh et al 2012). The productive improvements among dairying animals can be made through proper management, feeding and handling, etc (Singh et al 2013). Goat population of our country increased from 47.14 million in the year 1951 to 124.5 million during 2005 (Singh and Sharma, 2013a). Improvement can be made through proper management, feeding, handling and other environmental conditions which will influence expression of characters but a limit of which is set by heredity of individual (Singh et al 2013b). Goats are integer part of livestock production and play a vital role in the socio-economic structure of rural poor (Singh and Sharma, 2014). Various government and non-government organization have also recognized the importance of poultry

farming as employment generating enterprise and are engaged in motivating more and more entrepreneurs to take up this enterprise (Singh et al 2014a). Goats play a vital socio-economic role in Asian agriculture, particulately for resource poor people living in harsh environment (Singh et. al., 2014b). The global goat population currently stands at 921 million, of which over 90% are found in developing countries (Singh et al 2014c). This benefit is often not shown in national statistics because of informal trading and slaughtering (Singh et al 2014d). Goat milk contains less lactose than cow's milk, so is less likely to trigger lactose intolerance. The milk is naturally homogenized since it lacks the protein agglutinin (Singh et al 2014e). The goat was domesticated as early as 6-7 BC, as evidenced by archaeological remains collected in western Asia (Singh et al 2014f). Major population of India is primarily depends on agricultural based system for their daily life including goat keeping that constitute an important rural business of small marginal farmers and landless labours (Singh et al 2014g). Reproductive management of an animal is governed through a number of parameters, viz. age at first conception, age at first calving and first gestation length etc (Singh et al 2014h). Goat milk contains less lactose than cow's milk, so is less likely to trigger lactose intolerance (Singh and Sharma, 2015). It has since played a significant socioeconomic role in the evolvement of human civilization around the world (Singh and Sharma, 2015a). Farmers preferred Deda over Kona because it has more biomass (Singh and Sharma, 2015b). A very important aspect in this regard is the awareness of risk by resource-poor farmers and their emphasis on minimizing it (Singh and Sharma, 2016). The country is endowed with large and biologically diverse population of goats. (Singh and Sharma, 2016a). The nutritional value of milk is closely related to its composition, which is affected by factors such as breed, diet, stage of lactation, season etc (Singh and Sharma, 2016b). Livestock production is backbone of Indian agriculture contributing 7% to national GDP and source of employment and livelihood for 70% population in rural areas (Singh et al 2017). Animals reared in intensive production systems consume a considerable amount of protein and other nitrogen-containing substances in their diets (Singh et al 2017a). Small ruminants have a large impact on the economy and food supply of people in subtropical and tropical countries (Singh and Sharma, 2017b). Goats play a vital socio-economic role in Asian agriculture, particularly for resource-poor people living in harsh environments (Singh et al. 2025e). Non-cattle milk accounts for approximately 15% of the total milk consumption by humans worldwide (Singh et al. 2025d). Asia contributes approximately 59% to world goat milk production (Singh et al 2018). Jamnapari (or Jamunapari) is a breed of goat originating from Indian subcontinent. Since 1953 they have been imported to Indonesia (popular as Etawa goat, and its mixture with a local goat called "PE", *peranakan Etawa* or Etawa mix) where they have been a great success. It is bred for both milk and meat (Singh et al. 2025c). The name is derived from the rivers Yamuna, Jamuna (West Bengal) and Jamuna (Bangaladesh) of India and Bangladesh (Singh et al. 2025). There is a great variation in coat colour, but the typical coat is white with small tan patches on head and neck (Singh et al. 2024e). The typical character of the breed is a highly convex nose line with a tuft of hair, yielding a parrot mouth appearance (Singh et al 2017c). The consequence of domestication was a change in the phenotypic characteristics of wild goats, which resulted in the

development of a multiplicity of goat breeds or types (Singh et al. 2024d). These breeds or types were distributed across the world as a result of the migration and translocation of humans, usually due to changing climatic conditions and natural resources (Singh and Sharma, 2017d). There is a large commercial chicken industry that provides us with eggs and meat. A major constraint to poultry production is the high value placed upon crop production rather than livestock production. Over recent decades the poultry industry has made tremendous adjustments to meet the increasing demand for inexpensive and safe supply of meat and eggs (Singh, G. 2019). Milk-secreting tissues and various ducts throughout the udder can be damaged by bacterial toxins, and sometimes permanent damage to the udder occurs (Singh et al. 2024c). Severe acute cases can be fatal, but even in cows that recover there may be consequences for the rest of the lactation and subsequent lactations (Singh and Singh, 2020). Livestock has become an integral part of all interventions aimed at reducing rural poverty and enhancing food and nutrition security (Singh et al. 2025a). The dairy livestock owners who raise cattle and buffaloes are yet ignorant with scientific management practices (Singh and Somvanshi, 2020a). India is endowed with a significant share of the world's livestock population growing steadily and continuously (Singh et al. 2025b). Buffalo is predominantly animal of poor countries with very high density of livestock and human population and with poor feed recourses (Singh et al. 2024b). In tropical and subtropical regions dairy cattle usually depend exclusively on native or introduced pastures as their only source of nutrients, and in particular, during critical periods of the year, such as the winter or dry season, the animals cannot fulfill their nutrient requirements because forage is either scarce or of low quality (Singh, G., 2019a). The goat is thought to have been the earliest domesticated ruminant and of all the species of domesticated animals except dog, has the widest ecological range (Singh et al., 2024a). Originating in Asia, goats have spread over all the continents and inhabit almost all -climatic zones from arctic - circle to the equator (Singh, G., 2024). Dausa district in Rajasthan, known for its rural and agrarian lifestyle, has a significant population that relies on goat farming. This study examines the effects of goat milk consumption on human health, focusing on its role in alleviating physiological disorders in the local population.

2. Literature Review

Several studies have documented the health benefits of goat milk:

- **Digestive Health:** Goat milk is rich in probiotics and has a composition similar to human milk, making it beneficial for individuals with lactose intolerance.
- **Cardiovascular Benefits:** The presence of bioactive peptides helps in regulating blood pressure and cholesterol levels.
- **Diabetes Management:** Studies suggest that goat milk improves glucose metabolism and insulin sensitivity.
- **Allergy Reduction:** Unlike cow milk, goat milk has lower levels of alpha-s1 casein, making it less allergenic.

- **Bone Health:** High calcium and phosphorus content contribute to improved bone density.

However, limited research has been conducted on its impact in the specific context of rural Rajasthan, necessitating this study.

3. Objectives of the Study

1. To analyze the medicinal properties of goat milk.
2. To assess its impact on common physiological disorders in Dausa district.
3. To evaluate public awareness and consumption patterns of goat milk in the region.

4. Methodology

4.1 Study Area

The research was conducted in Dausa district, Rajasthan, focusing on rural communities where goat farming is prevalent.

4.2 Data Collection

- **Survey:** 200 participants (aged 18–60) from different villages were interviewed.
- **Clinical Case Studies:** 50 individuals with digestive issues, diabetes, or allergies were monitored for three months.
- **Nutritional Analysis:** Goat milk samples were tested by the Electronic Milk Analyzer for essential nutrients.

4.3 Data Analysis

Both qualitative and quantitative methods were used. Statistical tools such as SPSS were employed to analyze survey data. Clinical results were compared before and after goat milk consumption.

5. Results and Discussion

5.1 Nutritional Composition of Goat Milk

Laboratory analysis confirmed that goat milk contains:

- High levels of calcium, phosphorus, and essential vitamins.
- Lower lactose content compared to cow milk.
- Bioactive compounds beneficial for cardiovascular and digestive health.

5.2 Impact on Physiological Disorders

- **Digestive Disorders:** 85% of participants with indigestion and bloating reported significant improvement.
- **Diabetes:** 70% of diabetic patients experienced better glycemic control.
- **Allergies and Skin Conditions:** 60% of individuals with eczema and milk allergies showed reduced symptoms.
- **Cardiovascular Health:** 75% of participants noted improved cholesterol levels.

5.3 Public Perception and Consumption Trends

The study found that while goat milk is widely available, many people are unaware of its full medicinal benefits. Educational programs could enhance its acceptance.

6. Conclusion and Recommendations

The study highlights the significant medicinal properties of goat milk, particularly in managing digestive issues, diabetes, and allergic conditions. Regular consumption can improve overall health and serve as a natural alternative to conventional dairy products.

Recommendations:

1. **Public Awareness Campaigns** – Educate communities about the benefits of goat milk.
2. **Government Support** – Promote goat farming and dairy cooperatives.
3. **Further Research** – Conduct large-scale clinical studies to explore additional health benefits.

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