

GHEE: A DELICIOUS PATH TO HEALTHY CHOLESTEROL, SEPARATING FACT FROM FICTION

A CONCEPTUAL REVIEW

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Abstract

Objective: Ghee (clarified butter) holds a vital place in Indian cuisine and Ayurveda, with India being the largest producer and consumer. Containing about 99.5% fat, ghee is rich in MUFA, PUFA, omega fatty acids, cholesterol, and vitamins A, D, E, and K, with its composition varying by milk source. Cow ghee is considered superior due to its favorable qualities and therapeutic value, described in Ayurveda as *Sarvaprānīnām sāmānyataḥ pathyatamaḥ*—wholesome for all. Although often misunderstood as increasing cholesterol or obesity risk, studies reveal that moderate consumption of pure ghee supports lipid balance and overall metabolic health. **Data Source:** This review integrates classical Ayurvedic literature and modern scientific data on ghee's composition and physiological effects. References from *Charaka Samhita*, *Sushruta Samhita*, and *Ashtanga Hridaya* emphasize the therapeutic significance of *Go-ghrta*. **Review methods:** Contemporary studies and nutrition databases were analyzed to evaluate ghee's fatty acid profile, cholesterol content, and influence on lipid metabolism and cardiovascular health. Research focusing on moderate ghee intake (up to 10% of daily calories) was compared to align Ayurvedic insights with modern evidence. **Conclusion:** Findings show that ghee, despite containing cholesterol, aids in maintaining lipid balance and metabolic function. Misconceptions linking ghee with obesity or heart disease are largely unsubstantiated. Modern research confirms that moderate consumption of pure ghee does not adversely affect lipid profiles in healthy individuals. When taken in moderation alongside regular physical activity, ghee enhances metabolic health and remains a nutritious, culturally significant part of a balanced diet.

Keywords: Ghee, Cholesterol, *Go-ghrta*, Ayurvedic aspects of Ghee

Introduction

Ghee (clarified butter) holds a vital place in Indian cuisine and tradition, with its rich flavor and nutritional value making it both a healthy and versatile ingredient. Over centuries, its use in cooking and rituals has expanded, symbolizing purity and nourishment. It is estimated that about 30–35% of India's total milk production is processed into ghee.¹ Despite its cultural and culinary importance, ghee has recently become a subject of debate due to concerns regarding its effect on cholesterol levels. Many now perceive ghee as a contributor to elevated cholesterol; however, this reputation may stem more from misinformation than scientific evidence. This discussion aims to clarify such misconceptions and examine the true impact of ghee on cholesterol metabolism. According to the Codex Alimentarius and the Food Safety and Standards Authority of India (FSSAI), ghee is defined as a product obtained exclusively from milk, cream, or butter, by removing nearly all water and non-fat solids through heating and clarification, resulting in its distinctive flavor, aroma, and texture.^{2,3} Ghee consists predominantly of fat (about 99.5%) and less than 0.5% moisture, making it a concentrated source of milk lipids. India is recognized

as the world’s leading producer and consumer of ghee.⁴Currently, around 28% of the total milk produced in the country is utilized to manufacture approximately one million tons of ghee annually, contributing to an overall national production of about 5.5 million tons per year. The per capita consumption of ghee and butter in India has increased significantly—from 2.7 kg per year in 2007 to 4.48 kg per year by 2020. Clarified butter and ghee together provide roughly 110 calories per person per day, accounting for about 5.5% of the total energy intake in a standard 2,000-calorie diet.⁵Chemically, ghee represents a processed form of milk fat—often referred to as clarified butter or anhydrous milk fat. It is primarily composed of mixed glycerides, along with minor constituents such as free fatty acids, phospholipids, sterols, sterol esters, fat-soluble vitamins, carbonyl compounds, hydrocarbons, and carotenoids (the latter present only in cow-derived milk fat). Additionally, trace elements like calcium, phosphorus, and iron, along with minute amounts of charred casein, are also found in ghee.⁶ Together, these components contribute to its nutritional richness, stability, and therapeutic value, reinforcing ghee’s enduring significance in both traditional diets and modern nutrition.

Nutritional profile of ghee

Ghee is rich in saturated, monounsaturated, and polyunsaturated fats, trans fats, omega fatty acids, cholesterol, and fat-soluble vitamins A, B, D, E, and K, with minimal water content. It provides essential fatty acids and vitamins that the body cannot synthesize. Ghee also contains beneficial components like conjugated linoleic acid (CLA), sphingomyelin, butyric acid, and antioxidants such as vitamin E and beta-carotene (about 600 IU), along with phospholipids, diglycerides, and triglycerides that contribute to its nutritional and therapeutic value.⁷

Table no.1: Amount of nutrients in Ghee per One Tablespoon (15gm) ⁸

Nutrient	Amount (Per 1 Tbsp / 15g)
Calories	~120 to 135 kcal
Total Fat	~14g
Saturated Fat	~9g
Monounsaturated Fat	~4g
Polyunsaturated Fat	~0.5g
Cholesterol	~33mg
Protein	0g
Vitamins	A, D, E, and K (fat-soluble)

Nutrients present in ghee and their functions

Ghee is rich in diverse fatty acids that offer multiple health benefits. It contains short-chain fatty acids like butyric acid, which support gut and immune health, and lauric acid with antimicrobial properties. Palmitic acid provides energy and supports heart health, while stearic acid has a neutral cholesterol effect. Linoleic and conjugated linoleic acids (CLA) promote cardiovascular health, show anti-inflammatory and antioxidant activity, and aid weight management. Medium-chain triglycerides (MCTs) provide quick energy, enhance cognition, and support metabolism. Additionally, omega-3 fatty acids in ghee further contribute to heart, brain, and overall metabolic health. ^{8,9} (Table no.1)

Table no.2: Shows nutrients in ghee and their functions

Antioxidants	Protect cells from oxidative damage, reducing the risk of cancer, arthritis, and cataracts, and help lower the risk of heart disease.
Vitamin A	Supports vision, immune function, and skin health.
Provitamin A (β-carotene)	Possesses antidepressant properties.
Vitamin D	Important for bone health, immune function, and mood regulation.

Vitamin E	Acts as an antioxidant, protecting cells from damage.
Vitamin K	Essential for blood clotting, bone health, and cardiovascular well-being.

Table no.3 Physical properties of ghee ¹⁰⁻¹³

Sl no.	Physical properties	Descriptions
1.	Texture	Grainy, immaculate: solid, semi-solid form, pure desi ghee-semisolid form. ¹⁰
2.	Color	Ghee from buffalo milk-whitish with greenish tinge Ghee from Cow milk- golden yellow color. ¹¹
3.	Odor	Milky sweet
4.	Consistency	Viscous liquid at room temp, solidifies at refrigerated temperatures.
5.	BP & MP	100°C & 32-35 °C ¹²
6.	Solubility	Insoluble in water, soluble in organic solvents.
7.	Smoke point	252°C ¹³

Chemical properties of ghee ¹⁴

The Food Safety and Standards Authority of India (FSSAI) recently published official standards for ghee in the Gazette of India. According to these notified standards, the chemical parameters present in ghee are as follows: - (Table no.4)

Table no.4: Chemical properties of ghee

1. Acid value	0.1-0.5mg KOH/kg
2. Peroxide value	0.1-0.5meq/kg
3. Iodine value	25-38
4. Saponification value	205-235
5. Reichert-Meissl value	not less than 21
6. Polansky value	0.5-1.0

Qualities of ghee ¹⁵

Factors affecting the qualities of ghee depends on Raw-materials (milk, cream, dahi or butter) used for ghee making, Method of preparation, Temperature of clarification, Storage conditions, Type of animal feed, Season etc. Since commercially available milk is often a blend of cow and buffalo milk, evaluating the quality of ghee can be challenging. Key factors such as physico-chemical properties, microbiological standards, certifications and labeling, and proper testing methods play an important role in ensuring ghee quality.

Agmark ghee ¹⁶

This refers to a type of grading or certification for ghee, exclusively issued by the Government of India. “AG” stands for “Agriculture,” and “MARK” denotes a “certification mark”. It is applied to agricultural, livestock, and horticultural products.

There are three categories: Special (red label), General (green label), and Standard (chocolate label). This certification ensures that the agricultural product adheres to defined minimum quality standards. (Table no.5)

Table no.5: Shows different parameters of three categories of Agmark ghee

Parameters	Special grade	General grade	Standard grade
Baudouin Test	Negative	Negative	Negative
Butyro refractometer reading at 40°C	40.0-43.0	40.0-43.0	40.0-43.0
Reichert Meissl value	Not less than 28.0	Not less than 28.0	Not less than 28.0

Polenske value	1.0-2.0	1.0-2.0	1.0-2.0
Moisture content	Not more than 0.3%	Not more than 0.3%	Not more than 0.3%
Percentage of free fatty acid	Not more than 1.4	Not more than 2.5	Not more than 3.0

Ayurvedic aspects of ghee

Ghee can be equated with *Ghrta*, also known as *Sarpi* or *Ajya*. Its significance in Indian diets has been acknowledged since prehistoric times due to its high nutritional value, pleasant aroma, and desirable texture. *Ghrta* is listed among the *Chathurvidha Sneha* in the *Nityasevaniya Ahaara*, highlighting not only its benefits as a daily nourishing food but also its safety for regular consumption. It is considered an *Ajasrika Rasayana*, meaning that when used daily, it nourishes all the *Dhatu*s and enriches the body with essential nutrients. Ghee is also believed to possess *Medhya* properties, supporting cognitive functions. Due to its *Yogavahitva*, medicated *Ghrta* acquires the therapeutic properties of its added ingredients while retaining its inherent qualities.

Ghrta possess –*Madhura rasa*, *Snigdha*, *Guru guna*, *Sheeta virya*, *Madhura vipaka*.

Karma includes- *Medhya*, *Agnivardhaka*, *Viśāpaham*, *Chakṣuṣyam*, *balyam*, *rochaka*, *ayu*, *bala*, *ojo vardhaka*, *vayasthapaka*, *dhatuposhaka* etc¹⁷

Ghee helps balance *Vata* through its *snigdha* (unctuous) quality, pacifies *Pitta* due to its *madhura rasa* (sweet taste) and cooling effect, and reduces *Kapha* when combined with *Kapha*-reducing herbs. For *Pitta* pacification, it is recommended in small doses over a longer period, whereas larger quantities are used to balance *Vata*.¹⁸

Table no.6: Comparison of *Goghrtā*¹⁹ and *Puranaghrta*²⁰

Go-ghrta	Puranaghrta
<i>Madurarasa</i>	<i>Katu, tiktha rasa</i>
<i>Sita virya</i>	<i>Sita virya</i>
<i>Madura vipaka</i>	<i>Katu vipaka</i>
<i>VP hara</i>	<i>Uragandham</i>
<i>Vishapaham, balyam, Chakshushyamagryam</i>	<i>Laksharasanibham</i>
<i>Gunotharam</i>	<i>3D hara</i>
	<i>Agrya- Unmada</i>

Go-ghrta is considered the superior type of *Sneha*, described as “*Sarvaprāninām sāmānyataha pathyatama*”, meaning it is generally suitable for consumption by all living beings.²¹ In Ayurvedic texts and tradition, unless otherwise specified, the term *Ghrta* refers to *Go-ghrta*, which is regarded as the best choice for both dietary and medicinal use. In Ayurveda, 10 year old *Ghrta*, known as *Purana Ghrta*, is considered highly potent and particularly effective in the management of *Unmada* (mental disorders).²² (Table no.6)

According to *Sushruta* with Delhana’s commentary, *Purana Ghrta* is classified based on its age: ghee aged 10 years is termed *Purana Ghrta*, ghee aged 10–100 years is called *Prapurana Ghrta*, ghee aged 100–111 years is known as *Kumbha Sarpi*, and ghee aged over 111 years is referred to as *Mahasarpi*.²³ (Table no.7)

Table no.7: Action of *Purānaghrta* according to years²⁴

1 year	<i>Swalpam Abhiṣyantih, tridoṣanuth</i>
Above 1 year-4 year	<i>Anabhiṣyanthi</i>
5 years	<i>Kaśāyānurasam</i>
10 years	<i>katu anurasam, laghu</i>
Above 10 years	<i>Rasāyanam</i>

Health benefits of ghee²⁵

Ghee offers a wide range of health benefits that support overall well-being. It enhances digestion by promoting gastrointestinal motility and provides nourishment through essential nutrients and vitamins. By aiding calcium mobilization, ghee supports bone development and density while protecting arteries from calcification. It also contributes to weight management by assisting in the elimination of excess fat and promotes faster wound healing.

Regular consumption of ghee helps slow the aging process, stimulates brain function, and may help prevent neurological disorders. Additionally, it enhances cognitive abilities such as intelligence and learning skills, improves eyesight, and helps prevent eye irritation.

Preparation of ghee ²⁶

Ghrta can be classified into two types based on its method of preparation: *Ksheerottitha* and *Dadhyodhita*. The process used to prepare commercially available ghee closely resembles that of *Ksheerottitha Ghrta*. (Table no.8)

Table no.8: Shows types of preparation of Ghee

Properties	<i>Ksheerottitha ghrta</i>	<i>Dadhyodhita ghrta</i>	Benefits
Acid value	3.86	5.89	<i>Ksheerottitha ghrta</i> more stable
Saponification value	233.09	233.51	<i>Dadhyodhita ghrta</i> has more capacity to reduce bad cholesterol
Iodine value	30.34	32.25	More unsaturated fat bonds present in <i>dadhyodhita ghrta</i>
Free fatty acid	1.93	2.94	<i>Dadhyodhita ghrta</i> good for dietary regimen
Guna	<i>Atyantha seetala, grahi, used in netra roga</i>	<i>Alpabhishtyandi, alakshmi hara, ayushya, balya, medhya etc</i>	<i>Dadhyodhita ghrta</i> good for therapeutic effects

The table no.8 compares *Ksheerottitha Ghrta* and *Dadhyothita Ghrta*. *Ksheerottitha Ghrta* shows a lower acid value, indicating greater stability, while *Dadhyothita Ghrta* has higher saponification and iodine values, reflecting a richer presence of unsaturated fat bonds and better potential to reduce bad cholesterol. The higher iodine value also suggests greater polyunsaturated fatty acid (PUFA) content, which helps regulate blood cholesterol and supports healthy energy levels. With more free fatty acids, *Dadhyothita Ghrta* is well suited for dietary use. Overall, *Dadhyothita Ghrta* is considered both therapeutically beneficial and nutritionally valuable.²⁷

Cholesterol

Cholesterol is an essential component of cell membranes and acts as a precursor for the synthesis of steroid hormones, vitamin D, and bile acids. Beyond its structural function, which contributes to membrane stability and fluidity, cholesterol is also vital for regulating cellular functions.²⁸⁻³⁰

Cholesterol is derived from

Cholesterol is obtained from the diet—such as egg yolks, meat, and whole-milk dairy products—through de novo synthesis, and from the hydrolysis of cholesteryl esters. There are five main types of cholesterol, with HDL and LDL being the most significant. LDL is considered “bad cholesterol” as it transports cholesterol and cholesteryl esters into various tissues. In contrast, HDL, or “good cholesterol,” helps reduce the risk of heart disease by removing excess cholesterol from the body. Free cholesterol is collected from tissues by plasma HDL and transported to the liver for elimination via reverse cholesterol transport.³¹

Functions ³²

Cholesterol plays several vital roles in the body. It maintains cell membrane fluidity and structural integrity, ensuring proper cellular function. It serves as a precursor for steroid hormones, including sex and placental hormones, and supports the synthesis of bile salts, bile acids, and vitamin D. Cholesterol is essential for brain function and aids in neurotransmitter production, contributing to efficient nerve signaling. It also participates in various cell signaling pathways, regulates immune cell activity, and supports wound healing and tissue repair.

Additionally, cholesterol facilitates the transport and absorption of fat-soluble vitamins, thereby maintaining overall physiological balance and health.

Cholesterol synthesis³³

Cholesterol is primarily synthesized in the liver, accounting for about 70–80% of total production, with sources equally divided between dietary intake and endogenous biosynthesis. Its synthesis from Acetyl CoA occurs through five key steps, mainly regulated by the enzyme HMG-CoA reductase. During fasting, reduced activity of this enzyme lowers cholesterol production, while mevalonate serves as a feedback inhibitor. Cholesterol is transported in plasma as lipoproteins, and approximately 1 gram is eliminated daily, about half as free cholesterol. A major portion of bile salts is recycled to the liver via enterohepatic circulation, maintaining cholesterol homeostasis essential for cell membrane integrity, hormone production, and vitamin D synthesis. Ghee, being a natural source of cholesterol, directly enters the body's cholesterol pool, bypassing the HMG-CoA reductase-regulated synthesis step. It contributes to the formation of cholesteryl esters and free cholesterol, which are utilized for hormone synthesis and maintaining cell membrane structure. Therefore, ghee's role in cholesterol metabolism is significant and reflects its physiological importance rather than harm.

Then why we should avoid ghee in our daily life? Ghee is often misunderstood due to prevailing myths. Here described some Arguments against ghee and cholesterol they are....

- Ghee is high in cholesterol & It increases bad cholesterol levels
- Ghee is bad for heart & increases risk of heart disease.
- Low-fat or fat-free ghee is healthier
- Ghee clogs arteries, Ghee slows metabolism, Hence ghee causes constipation
- Ghee increases body fat & causes obesity
- Ghee is unhealthy & should be avoided.

The scientific facts behind the intake of ghee producing cholesterol or not: -

Some studies regarding ghee, cholesterol and heart diseases-

A study by Karamadi S. Nirmala *et al.* (2016) reported that 5% curd ghee was superior to 5% milk cream ghee, producing significant reductions in total cholesterol, LDL, VLDL, triglycerides, and the cholesterol ratio. Currently, most commercial ghee is produced using cream separation methods from milk, comparable to *Ksheerothita Ghrta*. Although *Dadhyothita Ghrta* shows better cholesterol-regulating properties, industries prefer ghee made by cream separation due to its simpler production process and greater stability.³⁴ Vijay Kumar *et al.* (2000) investigated ghee's hypocholesterolemic mechanism in male Wistar rats fed diets containing 2.5% or 5.0% ghee for eight weeks. Results showed increased bile constituent excretion and decreased LDL, total cholesterol, and triglyceride levels, suggesting a lipid-lowering effect of ghee.³⁵ Similarly, Hari Sharma *et al.* (2010) examined ghee's influence on microsomal lipid peroxidation and serum lipid profiles in Fischer rats. The study demonstrated that ghee fatty acids help regulate cholesterol by raising HDL and lowering LDL levels. A diet containing 10% ghee did not significantly alter liver lipid peroxide levels, indicating that moderate ghee consumption is unlikely to raise the risk of free radical-related diseases such as cardiovascular disorders, neurodegenerative conditions, or cancer.³⁶

Some studies regarding ghee, obesity & unhealthy-

An animal study titled "Comparison Between the Effect of Cow Ghee and Butter on Memory and Lipid Profile of Wistar Rats" by Y.S. Karandikar *et al.* (2016) evaluated the impact of cow ghee and butter on memory and lipid metabolism, emphasizing cholesterol's vital role in brain function, as the brain contains over 2% cholesterol by weight. Cow ghee, due to its lipoidal nature, can easily cross the blood-brain barrier. The study observed that cow ghee promoted weight reduction, stimulated gastric acid secretion to aid digestion, and enhanced nutrient absorption. Although butter and ghee share similar compositions, they differ in free fatty acid profiles. Butter contains more myristic acid, a cholesterol-raising component, whereas ghee has less, leading to smaller increases in triglycerides (TG) and VLDL levels in rats fed with cow ghee compared to butter.³⁷

Deepshikha Kataria *et al.* (2024) investigated ghee's effects on gastrointestinal (GI) health, noting that its fatty acids support digestion and gut immunity. Short-chain fatty acids (SCFAs) strengthen the intestinal wall and promote digestive efficiency, while medium-chain triglycerides (MCTs), conjugated linoleic acid (CLA), SCFAs, and omega-3 polyunsaturated fatty acids (n-3 PUFAs) enhance energy metabolism and induce satiety, thereby helping regulate energy intake.³⁸

Snehapana effect on cholesterol

Snehapana, a central therapeutic practice in Ayurveda, employs ghee as a key medicinal agent. Several studies have investigated its effects on cholesterol levels. A clinical study by Mohd Imtiyas at the Department of Panchakarma, VPSV AVC Kottakkal (2012), titled -A Randomized Clinical Trial to Assess the *Samyaksnigdha Lakshana* Obtained by Plain Ghee Versus *Tiktaka Ghrta* in Psoriasis, evaluated 30 participants divided into three groups using a random number table. Group A received homemade *Go Ghrta*, while Groups B and C were administered market-sourced *Go Ghrta* and *Tiktaka Ghrta*, respectively. The study concluded that plain ghee used as *Sodhanartha Snehapana* significantly reduced total cholesterol and LDL levels, with no significant changes in triglycerides or HDL, demonstrating its lipid-lowering potential.³⁹

A prospective interventional study by Kaarna Munisekhar *et al.* (2022), titled Lipid Profile in Healthy Human Volunteers Before and After Consuming Ghee, assessed fasting serum lipid levels before and after daily consumption of 35 g of desi cow ghee for six weeks. The results indicated a significant decrease in total cholesterol (TC) and LDL-C levels, confirming that moderate ghee intake does not cause dyslipidemia and is safe for healthy individuals.⁴⁰

An animal study by Dr. Honey Jones (2017), Physico-Chemical and Pharmacological Evaluation of *Go-Ghrta* with Respect to Its Ageing, CNS Activity, and Antioxidant Property, examined *Go-Ghrta* samples of varying ages—*Navaghrta*, 1, 4, 8, 13, 22, and 52 years—to assess physico-chemical properties, CNS activity, and antioxidant potential. The study revealed that aged *Ghrta* did not elevate serum cholesterol; notably, 52-year-old *Ghrta* significantly decreased total cholesterol, suggesting that prolonged aging may enhance its lipid-lowering properties.⁴¹ (Table no.9)

Table no.9: Shows Physico-Chemical and Pharmacological Evaluation of *Go-Ghrta* with Respect to Its Ageing, CNS Activity, and Antioxidant Property

Types	TC	TRIGLYCERIDES	HDL	LDL	VLDL
Navaghrta	Mild decrease	Moderate decrease	Moderate increase	Moderate increase	Mild decrease
1 year	Mild decrease	Moderate increase	Mild increase	Moderate increase	Moderate increase
4 year	Mild decrease	Moderate increase	Moderate increase	Moderate decrease	Mild increase
8 year	Moderate decrease	Moderate decrease	Moderate increase	Moderate increase	Moderate decrease
13 year	Moderate decrease	No effect	Moderate decrease	Moderate decrease	Mild decrease
22 year	Moderate decrease	Marginal increase	Marginal decrease	Moderate decrease	Mild increase
52 year	Significant lowering	Moderate decrease	Moderate decrease	Moderate decrease	Moderate decrease

Discussion

Research indicates that ghee's antioxidants help reduce oxidative stress, while its balanced fatty acid profile supports heart health. Although often considered risky due to its high saturated fat content, ghee predominantly contains medium-chain triglycerides (MCTs), which are metabolically neutral and do not promote fatty deposits.

Additionally, components such as DHA, fat-soluble vitamins, conjugated linoleic acid (CLA), antioxidants, and omega-3 fatty acids contribute to its health benefits. One theory suggests that while lipid peroxidation can make fats atherogenic, animal-derived saturated fats like ghee are resistant to oxidation and do not promote plaque formation. *Ghrta* is classified into *Ksheerothita* and *Dadhyothita* types, with the latter being more effective in cholesterol management; however, *Ksheerothita Ghrta* is more commonly produced due to its simplicity and stability. Studies, including Kaarna Munisekhar et al. (2022), show that consuming 35 g/day of desi cow ghee for six weeks does not induce dyslipidemia, confirming its safety and dietary suitability.⁴⁰

Sneha saaro ayam purusha”

Man is essentially composed of *Sneha* and responds positively to it.⁴² At the level of *Jatharagni*, ghee helps regulate *Samanavayu*, *Pachaka Pitta*, and *Kledaka Kapha*, thereby supporting neurohormonal activity, digestive enzyme and hormone secretion, and overall digestion. Small amounts of *Go-ghrta* in the daily diet are beneficial, while excessive intake may impair digestion and produce *Ama*, which can be managed with medicated ghee after *Dipana-Pachana* therapy. The *Rochana* property stimulates saliva production, aiding carbohydrate breakdown, while its *Snigda* and *Mrudukara* qualities lubricate the digestive tract for smooth digestion. With predominance of *Jala* and *Agni Mahabhutas*, ghee enhances liver function and normalizes enzymes. Its *Medo-vrdhi* property elevates HDL cholesterol, removes excess cholesterol from cells, and transports it to the liver for elimination. Ghee's *Rasayana* effects maintain *Dhatu* quality, supporting health, longevity, immunity, strength, and optimal nourishment from *Ahara Rasa*, enhancing *Bala*, *Varna*, *Ojas*, and *Indriya* function.⁴³

Conclusion

Ghee is rich in polyunsaturated fatty acids (PUFAs) and conjugated linoleic acid (CLA), and is also a good source of short-chain saturated fatty acids (SCFAs), which are easily digestible and beneficial for heart health. SCFAs enhance the excretion of dietary cholesterol and bile acids via the gastrointestinal tract, contributing to the minimal increase in serum cholesterol and LDL levels observed with ghee consumption. Ghee also contains abundant antioxidants, including vitamins A and E and carotenoids, which help prevent lipid peroxidation. Its quality depends on the method of preparation and the type of milk used, with cow ghee considered superior due to its nutritional profile. Moderate inclusion of ghee—up to 10% of daily caloric intake—alongside regular exercise is safe for healthy individuals without raising cholesterol levels. Those with lifestyle-related disorders or other health conditions should consult a doctor for guidance on appropriate medicated ghee. In Ayurvedic therapy, particularly *Snehapana*, cow milk-derived ghee is preferred due to its distinct phytochemical composition and proven clinical efficacy, unlike commercially available ghee from mixed milk sources. Moderate consumption (1–2 tablespoons per day) may help reduce LDL cholesterol and support overall health, making ghee a beneficial addition to a balanced diet.

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