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# Navigating the Tropical Fat Landscape: A Review Integrating Scientific Research and Ayurvedic Perspectives

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**Abstract**

This review integrates Ayurvedic viewpoints, critically evaluates the metabolic impact, and acknowledges the limits of existing research in order to objectively evaluate the health impacts of tropical fats (clarified butter, coconut oil, palm kernel oil, and palm oil). Dietary recommendations have always advised against consuming saturated fat, but new evidence casts doubt on this advice. The review investigates the potential effects on health outcomes of different types of saturated fat and the overall dietary environment. It also explores the variations in how virgin and processed coconut oil affect metabolism, emphasizing the necessity for comprehensiveknowledge. The way different people react to saturated fats is influenced by their genetic makeup. The body's ability to metabolize dietary lipids is impacted by insulin resistance and metabolic syndrome, which further muddies the waters. Further insights can be gained from Ayurveda, whose dosha concept may correspond with individual variations in fat metabolism. Agni theory places a strong emphasis on the necessity of healthy digestion for the best possible fat usage. Nevertheless, it can be difficult to separate the effects of tropical fats from manufacturing impurities, and studies frequently concentrate only on low-density lipoprotein (LDL) cholesterol levels. These constraints should be addressed in future study, which should also investigate tailored techniques based on metabolic health, genetics, and maybe Ayurvedic dosha analysis. Establishing meaningful dietary suggestions requires an in-depth comprehension of tropical fats in the bigger picture of someone's dietary pattern.

**Keywords:** LDL cholesterol, individualized nutrition, genetic variability, insulin resistance, metabolic syndrome, tropical fats, saturated fat, metabolic effect, Ayurveda based dietary suggestions.

## 1. Introduction

In the continuous conflict around dietary guidelines, saturated fat has frequently played the antagonistic role. Once vilified for its alleged connection to heart disease [1]. , a rising number of people are questioning the validity of the research and are calling for a more nuanced understanding in recent years [2]. We must first make sense of the somewhat perplexing terrain of current dietary standards regulating saturated fat consumption before we can completely comprehend the function of tropical fats in our diets.

The emphasis on reducing overall fat consumption for many years resulted in the demonization of all fats, including saturated fats. This resulted from preliminary studies that revealed a connection between raised low-density lipoprotein cholesterol (LDL-C), the "bad" cholesterol linked to a higher risk of cardiovascular disease (CVD), and saturated fat [3].

Recent studies, however, have shown a more nuanced picture. Although certain research investigations continue to support the detrimental effects of saturated

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fat on LDL-C [4]. , others propose a weaker association or even a lack of impact [5]. The kind of saturated fat may also be important, with some sources maybe less harmful than others [6].

Prominent health groups now support a more balanced approach, prioritizing dietary patterns as a whole above specific nutrient limits [7]. Saturated fat intake should be kept at 5-6% of daily calories, or around 13 grams, according to the American Heart Association (AHA) [8]. The World Health Organization (WHO), in line with many national dietary standards, recommends limiting the consumption of saturated fat to no more than 10% of total caloric intake [9].

Nonetheless, the importance of context is becoming increasingly apparent. For example, the Dietary Guidelines for Americans (DGA) place a strong emphasis on substituting unsaturated fats, especially polyunsaturated and monounsaturated fatty acids, for saturated fat (MUFAs) [10]. This emphasizes how crucial it is to take into account the kind of fat ingested rather than just the amount of saturated fat.

The continuous discussion over saturated fat is also a result of an increasing awareness of the limits of concentrating just on LDL-C levels. The likelihood of CVD is also influenced by other variables, such as levels of HDL-C ("good") cholesterol, triglycerides, and the type and magnitude of LDL particles [11]. Furthermore, there is growing recognition of the influence of dietary patterns on other chronic illnesses such as metabolic syndrome and diabetes, especially type 2 diabetes [12].

In light of these considerations, research is shifting towards assessing the impact of different saturated fat sources within the context of overall dietary patterns [13]. Certain food sources, like dairy and unprocessed meat, may have a lesser impact on CVD risk compared to highly processed foods rich in saturated fat [14]. Ultimately, a more holistic and individualized approach to nutrition is emerging, accounting for factors like metabolic health, physical activity levels, and overall diet quality [15].

The Heart and Stroke Foundation of Canada (HSF) has revised its dietary guidelines, transitioning from a specific limitation on saturated fat intake to an emphasis on a holistic dietary pattern [16]. This revised approach prioritizes unsaturated fats, whole grains, fruits, vegetables, and lean protein sources. This shift acknowledges the potential limitations of focusing solely on individual nutrients like saturated fat and suggests a potentially more comprehensive strategy for promoting heart health by prioritizing overall dietary quality.

The field of dietary recommendations pertaining to saturated fat is changing. While some groups continue to support restriction, others stress the significance of context and anemphasis on general dietary patterns that give whole foods and unsaturated fats priority [17]. The importance of saturated fat, especially that found in tropical sources, will surely continue to be evaluated as studies on the intricate interaction between food and heart health keeps shedding light [18]. The unique makeup of tropical fats, their possible health implications, and their place in the changing dietary guidelines will all be covered in this paper.

## 2. Historical perspective on the restriction of saturated fat intake

Research on nutrition and how it affects health has long been the basis for the restriction of saturated fat consumption. The mid-1900s saw the beginning of the contemporary period of worry over saturated fats, sparked by new findings between food and cardiovascular disease (CVD) [19, 26].

Pioneering research like Ancel Keys' Seven Countries Study raised awareness of the connection between food and CVD in the 1950s and 60s. Blood cholesterol levels, the risk of coronary artery disease, and the intake of saturated fat were found to be positively correlated in this seminal study and others [20, 27]. These results caused a paradigm change in dietary advice, with legislators and

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public health authorities starting to support consuming less saturated fat in order to lower cholesterol and lessen the risk of cardiovascular disease [28].

The notion that saturated fats, which are normally solid at ambient temperature, elevate LDL cholesterol—the so-called "bad" cholesterol linked to a higher risk of heart disease—was the basis for the initial focus on saturated fat [21, 29]. This resulted in the creation of dietary guidelines that suggested consuming more foods high in unsaturated fats, such fish, nuts, seeds, and vegetable oils, and consuming less foods elevated in saturated fats, like butter, lard, red meat, and full-fat dairy products [22, 30].

These first guidelines were supported by observational and environmental investigations that demonstrated a link between cholesterol levels, the risk of CVD, and the consumption of saturated fat. The use of rudimentary nutritional analysis techniques, the neglect to take into consideration confounding variables, and publication bias are among the methodology shortcomings that critics have since brought to light in these studies, and they may have affected the perception of the strength of the relationship between consumption of saturated fat and the likelihood of CVD [23, 31].

Dietary recommendations worldwide continue to support the notion that lowering consumption of saturated fat is good for heart health, notwithstanding these objections. Saturated fats' function in cardiovascular disease, nevertheless, has been under increasing scrutiny and discussion over the past few years. A number of studies have cast doubt on the association between consumption of saturated fat and the risk of CVD, arguing that the risk of heart disease may be more significantly influenced by variables including metabolic wellness and the quality of one's diet as a whole [24, 32].

All things considered, an older viewpoint on the limitation of saturated fat consumption emphasizes how intricate and dynamic dietary guidelines are. The assumption that cutting back on saturated fat consumption might lower cholesterol and lower the risk of heart disease was backed by early research, but more recent studies have cast doubt on this theory, highlighting the need for a deeper awareness of saturated fats' function in health [25, 33].

### 2.1 Methodological flaws in early studies linking saturated fats to cardiovascular disease

There had been technical errors in several of the initial research investigations that linked saturated fat consumption to cardiovascular disease (CVD), raising doubts about the robustness of the relationship between cardiac wellness and consumption of saturated fats [34, 38].

A significant critique pertains to the techniques employed in evaluating food consumption. To determine participants' consumption of saturated fats, dietary assessments and food frequency investigations were used in many early research. These techniques could not correctly reflect actual food patterns and are subject to recollection bias. Furthermore, these studies frequently failed to take into consideration dietary modifications over time, which might have resulted in exposure being misclassified [35, 39].

An additional constraint of earlier research is its dependence on data collected via observation, which is limited to demonstrating relationships and not causality. Studies using observational data are unable to account for every possible confounding variable, such as additional dietary elements or lifestyle choices, which might affect the association between consumption of saturated fat and the chance of developing CVD [36, 40].

Beginning studies also frequently examined overall fat consumption as opposed to particular fat kinds. This method ignores the many impacts that various fat types might have on wellbeing. Saturated fats, for instance, do not all have an identical effect on cholesterol levels; in fact, some may even

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have good or unbiased effects. Saturated fats have been linked to an increase in LDL cholesterol [37, 41].

Furthermore, early research occasionally failed to differentiate between the various sources of saturated fats. They did not, for instance, distinguish between fats derived from plant sources, like coconut and palm oil, and animal ones, such red meat and dairy products. Due to differences in their fatty acid content, various forms of saturated fats may have varied health impacts [42, 43].

Early research has also demonstrated publication bias, with publications that find a positive correlation between consumption of saturated fat and the likelihood of CVD getting released more frequently than those that find no correlation or a negative correlation. The actual impact of consuming saturated fat on the cardiovascular system may be overestimated as a result of this bias [44, 45].

To sum up, there are a number of technical problems with the early research that linked saturated fats to cardiovascular disease, which cast doubt on the strength of the relationship. To completely comprehend the association between saturated fat consumption and coronary artery disease uncertainty, additional study is necessary, even if these studies offered insightful information about the possible function of saturated fats in heart wellness [46, 47].

### 2.2 Evolution of dietary guidelines and their impact on public health perceptions

Public health attitudes have been greatly impacted by the complicated and occasionally controversial process of developing dietary guidelines addressing saturated fat consumption [48,54].

In the past, dietary recommendations have advocated reducing the consumption of saturated fat on the grounds that it elevates low-density lipoprotein (LDL) cholesterol levels, a known risk factor for cardiovascular disease (CVD) [49,55,56]. Earlier recommendations emphasized cutting back on overall fat consumption and emphasizing the substitution of unsaturated fats for saturated fats. To lower the risk of CVD, for instance, the American Heart Association (AHA) and the Dietary Guidelines for Americans have long recommended lowering the consumption of saturated fat [50,57].

But the scientific community's view on saturated fats has changed recently. Investigations have cast doubt on the relationship between the consumption of saturated fat and the risk of cardiovascular disease (CVD), arguing that dietary patterns and the kind of fat ingested may be more significant factors than the total amount of saturated fat [51,58,59].

Dietary recommendations have changed as a result of this advancement in scientific knowledge. The 2015–2020 Dietary Guidelines for Americans, for instance, eliminated the earlier advice to restrict total fat consumption to no more than 35% of total calories and placed more emphasis on the need of selecting healthful fats, such as unsaturated fats, while limiting trans and saturated fats [52,60].

The general public's perspective of saturated fats and their impact on health has not changed much in spite of these developments. Despite mounting evidence to the contrary, many individuals continue to hold the belief that saturated fats are fundamentally dangerous and should therefore be shunned [53,61].

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The views of public health may be significantly impacted by dietary rules. Inaccurate information or out-of-date recommendations may result in unneeded limitations on diets and perhaps hazardous eating habits [66,67]. As a result, it's critical that dietary recommendations be supported by the most recent scientific data and that the general public is informed about them [68,69].

## 3. Impact of Tropical Fats on Metabolism

Tropical fats are used extensively in modern cooking and food processing, and they have long been mainstays in traditional diets. Examples of these fats include coconut oil, palm kernel oil, palm oil, and clarified butter (ghee) [70]. In contrast to fats from other sources, these fats contain distinct fatty acid compositions that may have different metabolic consequences [71].

### 3.1. Synopsis of Typical Tropical Fats

Ghee, or clarified butter: Indian cuisine has long utilized ghee, a form of clarified butter, in its cooking. It may be used for cooking at high temperatures because of its high smoke point and plenty of saturated fats [72].

Coconut Oil: Due to its alleged health advantages, coconut oil has become more and more well-known in recent years. It contains a lot of saturated fats, especially medium-chain triglycerides (MCTs), which are digested by the body differently from long-chain triglycerides (LCTs), which are present in other types of fat [73].

Palm oil and palm kernel oil: The fruits of the oil palm tree are the source of both types of oil. They include unsaturated fats in addition to their high content of saturated fats. Processed meals frequently include these lipids [74].

### 3.2. Current Studies Cast Doubt on the Link Between Consumption of Saturated Fat and Cardiovascular Risks

Although there has long been evidence linking saturated fats to a higher risk of cardiovascular disease (CVD), new research has called into doubt this connection. Certain studies indicate that the kind of saturated fat and the overall dietary pattern could be more significant factors in predicting an increased likelihood of CVD than the consumption of saturated fat in its whole [75].

For instance, a 2010 meta-analysis that was published in the American Journal of Clinical Nutrition revealed no compelling evidence to back up the claim that consuming saturated fat increases the possibility of attack or cardiovascular heart disease [76].

### 3.3. Variations in the Metabolic Impact of Processed and Virgin Coconut Oil

The differences in the metabolic consequences of virgin (unrefined) and processed (refined) coconut oil have attracted attention in a single field of study. Compared to processed coconut oil, virgin coconut oil has greater concentrations of antioxidants and polyphenols, which may be good for your health [77,80].

According to studies, virgin coconut oil may enhance insulin responsiveness and raise HDL cholesterol levels, or the "good" cholesterol, both of which may be beneficial for metabolic health. To completely comprehend the metabolic consequences of various forms of coconut oil, additional study is necessary [78,81,82].

In the final analysis, there is ongoing discussion over the relationship between the consumption of saturated fat and the risk of cardiovascular disease, despite the fact that tropical fats have distinct fatty acid compositions that may have distinct metabolic

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consequences from fats derived from other sources. To completely comprehend the metabolic impacts of tropical fats and how they affect health, more study is required [79,83,84].

## 4. The Individual in the Fat Equation: Genetics and Ayurveda

Variations in genetic makeup greatly influence an individual's reaction to saturated fats. Individual genetic variations can impact metabolic pathways and the human body's use and processing of saturated fats [85]. Certain genetic variants, including those linked to cholesterol metabolism (APOE gene, for example), might affect how saturated fats are digested, which may cause individual variations in cholesterol levels and cardiovascular risk [86].

Genetic variables and the consumption of saturated fat interact in a complicated and diverse way. Genetic differences may affect how well the body responds to saturated fat consumption by regulating cholesterol levels, which may have an effect on cardiovascular health [87]. Saturated fats may also interact with genetic markers linked to oxidative damage and inflammatory conditions, which might further impact health consequences [88].

Comprehending the significance of genetic variability in reactions to saturated fats is vital for tailored dietary advice. Individual genetic profiles may be used to customize dietary recommendations, which can improve health outcomes and lower the risk of cardiovascular disease [89]. It's crucial to draw attention to the gaps in our knowledge of nutrigenetics, though. Even while this line of study shows promise, it is still difficult to pinpoint all pertinent genetic differences and how they precisely interact with dietary components like saturated fats [90].

Furthermore, metabolic reactions are greatly influenced by environmental variables as well as heredity, including general food patterns, levels of physical activity, and lifestyle [91]. Therefore, while creating customized nutrition plans, it is crucial to take these elements into account in their entirety. Individuals can make decisions by considering ecological and inherited factors [92]. \

### 4.1. Role of insulin resistance and metabolic syndrome in modulating the effects of dietary fats:

When it comes to regulating the effects of dietary fats, especially tropical fats, insulin resistance and metabolic syndrome are important factors. These illnesses have the potential to drastically change the body's reaction to dietary lipids, which can have an effect on the risk of cardiovascular disease and metabolic wellness [93,99].

A characteristic of the metabolic syndrome, insulin resistance is the result of the body's cells not responding to insulin as well as they should, which raises blood sugar levels. This illness may have an impact on the body's lipid metabolism, especially with regard to saturated fats. When consuming excessive amounts of saturated fat, people with insulin resistance may be more likely to acquire dyslipidemia, which is characterized by higher triglyceride and LDL cholesterol levels [94,100].

Dietary fats have a negative effect on health that is further aggravated by metabolic syndrome, a group of disorders that includes high blood pressure, abnormal cholesterol levels, and abdominal obesity. People who have metabolic syndrome have a higher chance of heart disease, and they may react differently than people without the condition to fats in food, especially those found in tropical foods [95,101].

Personalized nutrition recommendations require an understanding of how metabolic syndrome and insulin resistance affect how dietary lipids are absorbed. Dietary approaches that emphasize unsaturated lipids and minimize consumption of saturated fats may be beneficial for those with insulin resistance or metabolic syndrome [98,102]. Furthermore, lifestyle modifications like consistent exercise and weight control might

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enhance insulin sensitivity and lessen the detrimental impact of dietary lipids on metabolic health [96,97,103].

### 4.2. Ayurvedic perspectives on somatotypes and metabolic genetics

According to the age-old medical system Ayurveda, well health is a state of equilibrium within the physical, mental, and spiritual realms. The three doshas (Pitta, Kapha, and Vata) are fundamental to Ayurvedic philosophy (Table 1). They reflect distinct permutations of the five fundamental elements (earth, fire, water, and air) and regulate diverse aspects of the body, including metabolism. It is thought that these doshas affect not just physical traits but also metabolic functions, such as the metabolism of fat [104,105]. Dosha theory provides a distinctive viewpoint on individual variations in fat metabolism. People who have a prominent Pitta dosha, for instance, may have a more effective metabolism, whereas those with a predominant Kapha dosha may likely to havea slower metabolism and acquire weight. Knowing one's dominant dosha can assist in customizing dietary and lifestyle suggestions to promote the best possible metabolic health [106,107].

Additionally, Ayurveda stresses the value of balance in all facets of life, including nutrition. Eating in accordance with one's dosha is the foundation of the Ayurvedic diet, which aims to preserve equilibrium and ward off illness. For instance, to regulate their metabolism, those with a prominent Kapha dosha may be advised to steer clear of heavy, greasy meals and instead concentrate

**Table 1:** Six Tastes of Ayurveda and Their Associated Qualities

| *Taste* | *Thermal Effect* | *Digestive Impact* | *Doshic Influence* | *Emotional Connections* |
|---|---|---|---|---|
| *Sweet* | *Cooling* | *Decreases Agni (digestive fire)* | *Increases Kapha, pacifies Vata & Pitta* | *Complacency, laziness, greed* |
| *Sour* | *Heating* | *Increases Agni* | *Increases Kapha & Pitta, can aggravate Vata* | *Envy, possessiveness* |
| *Salty* | *Heating* | *Increases Agni* | *Increases Kapha & Pitta, can aggravate Vata* | *Sensory overload, overindulgence* |
| *Pungent* | *Heating* | *Increases Agni* | *Decreases Kapha, increases Pitta & Vata* | *Excitement, aggression, impatience* |
| *Bitter* | *Cooling* | *Decreases Agni* | *Decreases Pitta, can aggravate Vata & Kapha* | *Dissatisfaction, frustration* |
| *Astringent* | *Cooling* | *Decreases Agni* | *Decreases Kapha & Pitta, can aggravate Vata* | *Fear, anxiety, nervousness* |

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on lighter, drier ones [108,109]. To further this knowledge, let us briefly discuss the role of Agni, or digestive fire, in Ayurvedic fat metabolism. Ayurveda says that for the best digestion and metabolism of all dietary fats, especially tropical fats, a balanced Agni is essential. Agni imbalances can cause poor metabolism and digestion, which can contribute to weight gain and other health problems. Consequently, Ayurvedic advice frequently calls for Agni-supporting habits including careful eating, healthy meal selection, and the use of digestive herbs [110,111].

It is vital to remember that Ayurveda transcends the notion of genetics when evaluating the possible synergy involving Ayurvedic concepts and contemporary comprehension of genetic differences [112]. There are similarities between the two systems, though. Both Ayurveda, with its emphasis on constitution-based tailored care, and current genetic testing, which aims to offer genetically based personalized health advice, strive to customize therapies to the individual [113]. To sum up, Ayurvedic viewpoints on fat metabolism, Agni, and doshas provide insightful information that might enhance contemporary methods of individualized diet. Through the integration of contemporary genetic knowledge with Ayurvedic principles, researchers and practitioners might potentially create more focused and efficacious approaches to enhance metabolic health and general well-being [114].

## 5. Methodological Limitations in Research

Research methodology flaws are a major problem, especially when assessing the health effects of certain process pollutants in tropical fats. Separating the benefits of tropical fats from any pollutants generated during processing is one of the main challenges [115,116].

Coconut oil and palm oil are examples of tropical fats that are frequently processed using different techniques such bleaching, deodorizing, and refining. Contaminants such trans fats, glycidyl fatty acid esters (GEs), and 3-monochloropropane-1,2-diol (3-MCPD), which have been linked to negative health consequences, can be introduced via these procedures [117,118].

It can be difficult to discern between the effects of these pollutants and the effects of tropical fats themselves. It can be challenging to properly control for these pollutants in studies evaluating the health effects of tropical fats since there are differences in processing techniques and a lack of established testing methodologies [119,120].

Furthermore, the evaluation procedure might be made more difficult by interactions between the impacts of these pollutants and the natural characteristics of tropical fats. For instance, trans fats produced during hydrogenation may have a deleterious effect on cardiovascular health and cholesterol levels, thereby complicating the health benefits linked to tropical fats alone [121,122].

Excellent quality, minimally refined foods are highly valued in Ayurveda, which is consistent with the necessity of using unprocessed tropical fats in studies [123,124]. In order to maintain the health-promoting characteristics of substances, Ayurveda recommends using pure, natural products that have undergone minimum processing [138]. As a result, employing unprocessed tropical fats in research procedures can assist lessen the impacts of process pollutants and offer a more accurate evaluation of their effects on health [139].

Future studies should concentrate on creating standardized techniques for determining and managing process pollutants in tropical fats in order to solve these issues [115,120]. Studies should also try to clarify if pollutants and tropical fats have antagonistic or synergistic impacts on health outcomes [122,125]. Researchers may improve our knowledge of the health effects of tropical fats and create more precise dietary recommendations by tackling these analytical constraints [140].

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### 5.1. Need for more comprehensive investigations into the health effects of tropical fats

To completely grasp the metabolic impact of tropical fats beyond LDL cholesterol, additional thorough studies investigating their impacts on health are required [141]. Studies on the impact of saturated fats, especially tropical fats, on cardiovascular health have frequently focused on LDL cholesterol; nevertheless, it is vital to take into account other significant metabolic impacts [126,127].

For instance, recent studies indicate that distinct effects of the saturated fats included in tropical fats may be observed on other lipid markers, such triglycerides and HDL cholesterol, which are also significant markers of cardiovascular risk [128,129]. Tropical fats may also affect other metabolic processes, such insulin sensitivity and inflammation, which are important in the development of cardiovascular disease and other metabolic illnesses [130,131].

Consequently, more study is required to look at these extra metabolic consequences of tropical fats [142]. To obtain a fuller knowledge of the health impacts of tropical fats and how they differ from other types of fats, researchers should perform more extensive studies that take a wider range of metabolic indicators into account [132,133].

Likewise, it's critical to carry out research that particularly looks at how each of the many tropical fats—such as coconut oil, palm oil, and palm kernel oil—affects metabolism given their wide variety and distinct fatty acid profiles [134,135]. This will assist in determining whether some tropical fat varieties may have distinct metabolic impacts from others, and whether particular varieties may be more advantageous or detrimental to us [143].

To sum up, in order to completely comprehend the metabolic influence of tropical fats on health, further thorough research is required [144]. More comprehensive studies that look at the effects of specific tropical fats and a broader variety of metabolic indicators would enable researchers to provide more precise and comprehensive suggestions for include these fats in the diet [136,137].

## 6. Implications for Future Research and Dietary Guidelines

The findings of the analysis about how tropical fats affect metabolism—which take into account both scientific studies and Ayurvedic viewpoints—highlight the necessity of a balanced approach to dietary advice [145]. Ayurveda provides further insights into how tropical fats may influence metabolic health via the lens of doshas, but modern study has usually concentrated on the impact of these fats on LDL cholesterol [146]. This dual viewpoint draws attention to the intricacy of the effects of dietary fats and raises the possibility that a one-size-fits-all approach to dietary guidelines may not be sufficient [147].

It is obvious that customized dietary advice based on genetic and individual variations are needed going ahead [148]. This includes customized advice based on metabolic health, genetics, and even Ayurvedic dosha analysis [149]. By taking these things into consideration, medical professionals may offer more individualized guidance that takes into account each person's particular metabolic profile and nutritional requirements [150].

Furthermore, while evaluating dietary practices, it is critical to take into account the larger context of nutrient consumption [151]. Instead than concentrating only on certain nutrients, such saturated fats, a more comprehensive strategy that assesses the entire dietary pattern is essential [152]. This strategy is in keeping with Ayurvedic principles, which highlight the value of balance and diversity in the diet, as well as current nutritional standards [153].

Finally, by taking a broader variety of metabolic indicators into consideration, future studies should try to clarify the metabolic impacts of tropical fats beyond merely LDL cholesterol [154]. More individualized nutritional suggestions that consider genetic

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and individual variations can be influenced by the findings of this study [155]. We can give more effective dietary recommendations for the best possible health outcomes and get a deeper understanding of the complicated link between diet and health by taking a holistic approach to dietary assessments [156].

## 7. Conclusion

The analysis of tropical fats has shed important light on how they affect metabolism and how that may affect dietary recommendations. Ayurvedic and scientific viewpoints have brought to light the intricacy of these fats' effects on health and the demand for individualized dietary guidance.Subsequent investigations ought to tackle the constraints noted in previous studies and examine the possible advantages of tropical fats in the context of customized diets. This involves looking into the impacts of certain tropical fat types, taking genetics and metabolic health into account, and figuring out how to incorporate Ayurvedic concepts into dietary guidelines. These avenues of inquiry for future study may help create more complex dietary recommendations that account for genetic and individual variations. A customized approach to dietary guidelines can help public health programs better address the varied requirements of the populace and advance the best possible health results.To sum up, the investigation of tropical fats has a wealth of opportunities for further study and might fundamentally alter our knowledge of dietary fats and their effects on health. Adopting a customized approach to dietary guidelines can help us maximize health benefits and raise people's quality of life everywhere.

## 8. Acknowledgment

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## 9. Conflicts of Interest

The authors declare no conflicts of interest.

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