

## Ayurvedic Management of Dyslipidemia: Concepts, Pathophysiology, and Treatment Strategies

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### ABSTRACT

Dyslipidemia is a serious metabolic disorder and a significant risk factor for heart diseases. It involves problems in lipid metabolism, including high cholesterol and triglycerides, along with low levels of high-density lipoprotein. Ayurveda refers to dyslipidemia as *Medoroga*, a condition caused by excessive nourishment, a sedentary lifestyle, weak digestion, and an imbalance in *Kapha Dosha*, which leads to issues in fat tissue. This article aims to review Ayurvedic concepts, how the disorder develops, diagnostic methods, and treatment strategies for dyslipidemia in relation to modern medical understanding. Classical Ayurvedic texts explain the roles of Nidana, Samprapti, and the involvement of *Dosha* and *Dhatu* in *Medoroga*. These concepts resemble the mechanisms seen in modern lipid disorders. *Ayurvedic* diagnosis uses *Daśavidha Parīkṣā* and looks at signs of increased fat. In contrast, modern assessment relies on lipid profile measurements and evaluating cardiovascular risk. Treatment methods focus on *Apatarpana Chikitsa*, improving digestion and digestion of toxins, therapies to reduce fat, *Panchakarma* procedures, supportive medications, dietary guidelines, exercise, and rejuvenating therapy. These methods aim to fix metabolic issues, decrease excessive fat, and prevent complications. An integrative viewpoint shows that Ayurvedic treatments not only improve lipid levels but also help with related metabolic issues like obesity and diabetes, while maintaining good safety profiles. This review points out the potential of evidence-based Ayurvedic management as a complete and complementary strategy for dyslipidemia, which needs more clinical validation for broader use.

**Keywords:** Dyslipidemia, *Medoroga*, *Ayurveda*, *Meda Dhatu*, *Agni*, *Kapha Dosha*, *Panchakarma*, *Medohara*, *Lekhana*, Metabolic Disorders.

### INTRODUCTION

A metabolic condition called dyslipidemia is typified by abnormal plasma lipid levels, such as increased triglycerides, total cholesterol, low-density lipoprotein cholesterol (LDL-C), and/or decreased HDL-C. It

is acknowledged as a significant modifiable risk factor for cardiovascular diseases (CVDs), which continue to be the primary cause of morbidity and mortality worldwide, and it is crucial to the pathophysiology of atherosclerosis [1]. The risk of coronary artery disease, stroke, and peripheral vascular disorders is greatly increased by dyslipidemia, which frequently coexists with other metabolic abnormalities like obesity, type 2 diabetes mellitus, hypertension, and metabolic syndrome [2]. Dyslipidemia often goes undiagnosed until major cardiovascular problems arise because it is largely asymptomatic in the early stages. Over the past few decades, there has been a steady increase in the prevalence of dyslipidemia worldwide, which is mostly due to sedentary lifestyles, rapid urbanization, poor eating habits, and longer life expectancies [3]. Global health estimates indicate that a significant percentage of cases of ischemic heart disease and stroke are caused by elevated cholesterol alone [4]. The burden of dyslipidemia has increased in developing nations due to the epidemiological shift from communicable to non-communicable diseases, with lifestyle-related risk factors becoming more common [5]. Dyslipidemia has become a significant public health issue in India, impacting both rural and urban populations. Research shows that low HDL-C, hypertriglyceridemia, and hypercholesterolemia are common in Indian adults and frequently appear at a younger age than in Western populations [6]. This trend is largely caused by genetic predisposition, dietary practices high in saturated fats and refined carbohydrates, physical inactivity, psychological stress, and the rising prevalence of diabetes [7]. The early onset of dyslipidemia in the Indian population results in prolonged exposure to atherogenic lipid profiles, thereby increasing the lifetime risk of cardiovascular events [8]. Lifestyle changes and pharmacological treatments, especially statins, fibrates, niacin, and cholesterol absorption inhibitors, are the mainstays of conventional dyslipidemia management [9]. Long-term therapy is frequently linked to side effects like myopathy, hepatotoxicity, gastrointestinal disturbances, and metabolic changes, despite the fact that these medications are effective in lowering lipid levels and lowering cardiovascular risk [10]. Conventional management is further complicated by problems with drug intolerance, poor adherence, financial burden, and residual cardiovascular risk despite optimal lipid control [11]. In addition to lowering cholesterol, the Ayurvedic treatment of dyslipidemia emphasizes restoring metabolic balance via Deepana-Pachana, Lekhana, Medohara, and Shodhana therapies in addition to customized dietary and lifestyle changes [14]. In appropriate individuals, panchakarma techniques like Vamana, Virechana, and Lekhana Basti are recommended to remove accumulated Doshas and rectify metabolic abnormalities [15]. Furthermore, single medications and Ayurvedic formulations with hypolipidemic, antioxidant, and anti-inflammatory qualities have shown encouraging outcomes in lowering cardiovascular risk and improving lipid profiles [16].

### 1. Concept of Dyslipidemia in Ayurveda

Although dyslipidemia's clinical characteristics and metabolic abnormalities closely resemble conditions like *Medoroga*, *Sthaulya*, and *Santarpanajanya Vyadhi*, Ayurveda does not recognize dyslipidemia as a separate disease entity. These conditions are caused by abnormal *Meda Dhatu* accumulation, poor metabolism, and overeating, which results in a systemic metabolic imbalance. The concepts of *Agni*

*dushti*, *Dosha* vitiation, *Dhatu vridhhi*, and *Srotorodha*, which together mirror the current understanding of lipid metabolism disorders, are fundamental to the *Ayurvedic* explanation of dyslipidemia [17].

### 1.1 Correlation of Dyslipidemia with *Medoroga*

*Medoroga* is defined in classic Ayurvedic texts as a condition marked by an abnormal increase and disturbance of *Meda Dhatu*. This results from excessive consumption of *Snigdha*, *Guru*, and *Madhura* foods, along with a sedentary lifestyle. The clinical signs of *Medoroga*, such as body heaviness, lethargy, excessive sweating, lower physical endurance, and a higher risk of heart issues, closely match the profile of dyslipidemia. Charaka points out that too much *Meda* causes blockages in channels, known as *Srotorodha*, and disrupts other *Dhatu*s. This can lead to chronic metabolic disorders [18]. The unusual changes in quantity and quality of *Meda Dhatu* that Ayurveda describes can be linked to high levels of circulating lipids, atherogenic dyslipidemia, and lipid deposits in tissues as seen in modern medicine.

### 1.2 Role of Agni in Lipid Metabolism

Agni, the main metabolic principle in Ayurveda, is vital for digestion, absorption, transformation, and tissue metabolism. When *Jatharagni* and *Dhatvagni*, especially *Medodhatvagni*, are impaired, it leads to incomplete digestion and poor nutrient metabolism, creating *Ama*. *Ama*, a toxic and heavy byproduct, combines with *Meda Dhatu* and worsens its pathological buildup. Classical texts note that weak *Agni* encourages excess *Meda* formation while also depriving other *Dhatu*s of necessary nutrients [20]. This is referred to as “*Medovridhhi* with *Dhatu Kshaya*.” This idea aligns with current observations that dyslipidemia frequently occurs alongside energy imbalance and altered lipid usage. Therefore, *Agni dushti* is seen as a key factor in dyslipidemia.

### 1.3 Involvement of *Dosha* (*Kapha-Vata* Predominance)

Dyslipidemia mainly relates to the vitiation of *Kapha Dosha*, which has qualities of *Snigdha* (unctuousness), *Guru* (heaviness), and *Sthira* (stability). These qualities encourage lipid buildup and slow metabolism. Aggravated *Kapha* leads to excess *Meda* production and decreased metabolic activity, causing dyslipidemic changes. As the disease advances, *Vata Dosha* becomes involved due to blockages in channels filled with vitiated *Meda*. This results in poor circulation, abnormal lipid movement, and a higher risk of heart complications [21]. The interaction of *Kapha* and *Vata* in Ayurveda explains how dyslipidemia progresses from a metabolic issue to a systemic vascular problem.

### 1.4 *Dushya* Involvement (*Meda Dhatu*)

*Meda Dhatu* is the main *Dushya* involved in dyslipidemia. Ayurveda describes *Meda* as essential for lubrication, energy storage, and maintaining structural integrity in the body. An unhealthy increase of *Meda* results in *Medo Vridhhi*, which shows up as a metabolic imbalance and blockages in channels. The qualitative impairment of *Meda*, known as *Meda Dushti*, causes abnormal fat metabolism, loss of functional integrity, and a higher risk for conditions such as diabetes, cardiovascular diseases, and

dyslipidemia [22]. This Ayurvedic view aligns with modern understandings of dysfunctional fat tissue, disrupted lipid transport, and the accumulation of fat in wrong places.

### 1.5 Srotas Affected (*Medovaha Srotas*)

*Medovaha Srotas* are the channels responsible for transporting and processing *Meda Dhatu*. Classical texts identify their roots, or *Mulasthanas*, as the kidneys and adipose tissue. Blockages in *Medovaha Srotas* happen due to excessive fat intake, lack of physical activity, and weak Agni, leading to *Srotorodha*. Dysfunction in these channels shows up as abnormal lipid circulation, tissue deposits, and overall metabolic issues, similar to current ideas about dyslipidemia-related atherosclerosis and metabolic syndrome [23]. Restoring the patency of these channels through *Lekhana*, *Shodhana*, and *Agni Deepana* therapies is crucial for managing dyslipidemia in Ayurveda.

**Table 1: *Samprapti Ghataka* (Pathogenic Components) of Dyslipidemia (Medoroga)**

<i>Samprapti Ghataka</i>	Ayurvedic Description	Pathological Role in Dyslipidemia
<i>Dosha</i>	Predominant involvement of <i>Kapha Dosha</i> due to its <i>Guru</i> (heavy), <i>Snigdha</i> (unctuous), and <i>Sthira</i> (stable) properties. Secondary involvement of <i>Vata Dosha</i> occurs due to <i>Avarana</i> (obstruction) by vitiated <i>Meda</i> .	<i>Kapha</i> aggravation leads to excessive <i>Meda</i> accumulation and metabolic sluggishness. <i>Avarana</i> of <i>Vata</i> results in impaired circulation, abnormal lipid mobilization, and increased cardiovascular risk.
<i>Dushya</i>	<i>Meda Dhatu</i> is the chief <i>Dushya</i> undergoing both quantitative increase ( <i>Vridhhi</i> ) and qualitative derangement ( <i>Dushti</i> ). Secondary involvement of <i>Rasa</i> and <i>Mamsa Dhatu</i> is observed.	Pathological <i>Meda</i> leads to abnormal fat metabolism and systemic metabolic imbalance, contributing to dyslipidemia and associated metabolic disorders.
<i>Agni</i>	Impairment of <i>Jatharagni</i> and <i>Medodhatvagni</i> , resulting in diminished digestive and tissue metabolic capacity.	Hypofunctioning <i>Agni</i> causes <i>Ama</i> formation and improper <i>Meda</i> metabolism, leading to abnormal lipid synthesis, storage, and circulation.

<b>Srotas</b>	Predominant involvement of <i>Medovaha Srotas</i> , with <i>Srotodushti</i> in the form of <i>Sanga</i> (obstruction) and <i>Atipravritti</i> (excess flow).	<i>Srotorodha</i> disrupts lipid transport and promotes abnormal deposition of lipids in tissues, correlating with dyslipidemia and atherosclerotic changes.
<b>Adhithana</b>	Primary sites include <i>Vapavahana</i> (omentum/adipose tissue), <i>Vrikka</i> (kidneys), and systemic circulation.	These sites reflect abnormal lipid storage, impaired lipid clearance, and disturbed metabolic regulation contributing to dyslipidemia.



Figure 1: Samprapti of Dyslipidemia

## 2. Clinical Features of Medoroga (Dyslipidemia)

Medoroga is a *Santarpanajanya Vyadhi* described in Ayurveda. It comes from excessive nourishment, poor metabolism, and unusual buildup of *Meda Dhatu*. Although dyslipidemia is often without symptoms in the beginning, both classical Ayurvedic texts and modern medicine acknowledge its progressive nature and its strong link to metabolic and cardiovascular disorders [24].



**Figure 2:** Understanding Obesity (*Medoroga*) from Traditional Signs to Modern Clinical Markers

### 2.1 Classical *Lakshanas* of *Medoroga*

Classical Ayurvedic texts describe *Medoroga* as a condition characterized by excessive *Meda* accumulation and *Kapha* predominance. Charaka Samhita enumerates features of *Medovridhhi* and *Medodushti*, which closely resemble metabolic disturbances seen in dyslipidemia [25]. The commonly described *Lakshanas* include:

- *Gaurava* (heaviness of the body)
- *Alasya* (lethargy and reduced physical activity)
- *Kshudra Shwasa* (breathlessness on exertion)
- *Ati Sweda* (excessive sweating)
- *Daurbalya* (generalized weakness)
- *Ati Pipasa* and *Ati Kshudha* (excessive thirst and appetite)
- *Sthaulya* (increase in body bulk)

### 2.2 Modern Clinical Manifestations

From a modern medical perspective, dyslipidemia often remains clinically silent and is frequently detected through biochemical investigations. However, subtle clinical manifestations may be present, particularly when associated with other metabolic disorders [26]. Common modern clinical features include:

- Central obesity and increased waist circumference
- Fatigue and reduced exercise tolerance
- Xanthomas and xanthelasma in severe hyperlipidemia
- Hypertension and insulin resistance (associated features)

Laboratory findings typically reveal elevated total cholesterol, low-density lipoprotein cholesterol (LDL-C), triglycerides, and/or reduced high-density lipoprotein cholesterol (HDL-C) [27]. These abnormalities correlate conceptually with Ayurvedic descriptions of *Meda vriddhi* and *Medodhatvagni mandya*.

### 2.3 Associated Disorders (Obesity, Diabetes, Cardiovascular Risk)

*Medoroga* is rarely found alone and often relates to other metabolic and lifestyle disorders. Ayurveda identifies vitiated *Meda* as a cause and related factor for diseases like *Prameha* (diabetes mellitus), *Hridroga* (cardiovascular disorders), and *Sthaulya* (obesity). Modern research backs this connection, highlighting dyslipidemia as a major part of metabolic syndrome and an independent risk factor for atherosclerosis, coronary artery disease, and stroke [28]. Insulin resistance, problems with blood vessel function, and chronic low-grade inflammation are common issues linking dyslipidemia, obesity, and diabetes.

## 3.1 Ayurvedic Diagnostic Parameters

### 3.1.1 *Daśavidha Parīkṣā*

*Daśavidha Parīkṣā* provides a comprehensive evaluation of the patient's constitutional, pathological, and functional status. In *Medoroga*, the following components are particularly significant:

- *Prakṛti*: Predominantly *Kapha* or *Kapha–Vāta* constitution
- *Vikṛti*: *Kapha pradhāna doṣa duṣṭi* with *Meda vriddhi*
- *Sāra*: *Meda sāra* predominance or impairment
- *Samhanana*: *Madhyama to Pravara*, with increased adiposity
- *Pramāṇa*: Increase in body weight and waist circumference
- *Satmya*: Excessive intake of *Snigdha*, *Guru*, *Madhura āhāra*
- *Satva*: Often *Madhyama* due to lethargy and reduced motivation
- *Āhāraśakti*: Impaired digestion due to *Mandāgni*
- *Vyāyamaśakti*: Reduced exercise tolerance
- *Vaya*: More prevalent in *Madhyama* and *Vṛddha avasthā*

These findings reflect *Kapha* dominance, *Meda duṣṭi*, and *Agni* impairment, which are central to the pathogenesis of dyslipidemia [29].

### 3.1.2 *Meda Vṛddhi Lakṣaṇas*

Classical features indicating *Meda dhātu vriddhi* include:

- *Sthūlatā* (obesity)
- *Alasya* (lethargy)
- *Ati-nidrā* (excessive sleep)

- *Ati-kṣudhā* and *Ati-trṣṇā*
- *Śvāsa-kāṣṭatā* on exertion
- *Daurbalya* despite excessive nourishment
- *Sveda adhikya* (excess sweating)
- *Snigdha aṅga sparśa* (oily texture of body)

These lakṣaṇas correlate clinically with lipid accumulation, reduced metabolic activity, and insulin resistance seen in dyslipidemia [30].

### 3.2 Modern Diagnostic Criteria

#### 3.2.1 Lipid Profile Parameters

Modern diagnosis of dyslipidemia is based on fasting serum lipid levels:

- Total Cholesterol (TC):  $\geq 200$  mg/dL
- Low-Density Lipoprotein Cholesterol (LDL-C):  $\geq 130$  mg/dL
- Triglycerides (TG):  $\geq 150$  mg/dL
- High-Density Lipoprotein Cholesterol (HDL-C):
  - $< 40$  mg/dL in males
  - $< 50$  mg/dL in females

These abnormalities reflect impaired lipid metabolism and increased cardiovascular risk, correlating with *Meda dhātu duṣṭi* and *Medovaha srotas sanga* described in *Ayurveda* [31].

#### 3.2.2 Risk Stratification

Risk assessment is essential to determine disease severity and treatment planning. Factors considered include:

- Central obesity (increased waist circumference)
- Hypertension
- Type 2 diabetes mellitus
- Family history of cardiovascular disease
- Smoking and sedentary lifestyle

Patients are categorized into low, moderate, or high cardiovascular risk based on lipid levels and associated comorbidities.

### 4. Principles of Ayurvedic Management of Dyslipidemia (Medoroga)

Ayurvedic treatment of dyslipidemia focuses on correcting *Agni*, eliminating *Ama*, reducing excess *Meda*, and restoring *Dosha-Dhatu* balance. Classical texts describe *Medoroga* as a *Santarpanajanya Vyadhi*, which requires specific therapeutic principles [32].

#### 4.1 Chikitsa Sutra of Medoroga

The classical *Chikitsa Sutra* for *Medoroga* includes:

- *Apatarpana Chikitsa* (depletion therapy)
- *Langhana* (lightening measures)
- *Rukshana* (drying therapies)
- *Lekhana* (scraping therapies)
- *Shodhana* followed by *Shamana* treatment

Charaka emphasizes that excessive *Meda* should be treated by therapies that are *Laghu*, *Ruksha*, *Ushna*, and *Tikshna* to counter *Kapha* and *Meda* dominance [33].

#### 4.2 *Apatarpana* and *Santarpana* Concepts

*Medoroga* results from excessive *Santarpana* (over-nourishment), characterized by intake of calorie-dense foods and sedentary habits. Hence, *Apatarpana* is the treatment of choice, involving controlled diet, physical activity, and metabolic correction [34].

*Apatarpana* helps:

- Reduce *Meda Vriddhi*
- Improve *Agni*
- Prevent further lipid accumulation

#### 4.3 *Agni Deepana* and *Ama Pachana*

Impairment of *Jatharagni* and *Medodhatvagni* is central to dyslipidemia. *Deepana–Pachana* drugs enhance digestive and tissue metabolism, preventing *Ama*-mediated lipid abnormalities [35].

Common *Deepana–Pachana dravyas* include:

- *Trikatu* (*Zingiber officinale*, *Piper nigrum*, *Piper longum*)
- *Chitraka* (*Plumbago zeylanica*)
- *Musta* (*Cyperus rotundus*)

These agents improve lipid metabolism and reduce atherogenic risk [36]

**Table 2. Ayurvedic Therapeutic Approaches for Dyslipidemia (*Medoroga*)**

Therapeutic Principle	Ayurvedic Intervention	Expected Outcome
<i>Apatarpana</i>	<i>Langhana</i> , <i>Rukshana</i>	Reduction of excess <i>Meda</i>
<i>Agni Deepana</i>	<i>Trikatu</i> , <i>Chitraka</i> , <i>Musta</i>	Improved digestion and metabolism
<i>Ama Pachana</i>	<i>Panchakola</i> , <i>Hingvashtaka</i>	Clearance of metabolic toxins
<i>Medohara &amp; Lekhana</i>	<i>Guggulu</i> , <i>Triphala</i> , <i>Arjuna</i>	Reduction of serum lipids
<i>Shodhana</i>	<i>Vamana</i> , <i>Virechana</i> , <i>Lekhana Basti</i>	Systemic detoxification
<i>Shamana</i>	<i>Herbal formulations</i>	Lipid normalization

<b>Rasayana</b>	<i>Amalaki, Guduchi</i>	Prevention of complications
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#### 4.4 Medohara and Lekhana Therapy

*Medohara* and *Lekhana* therapies directly reduce excess adipose tissue and abnormal lipid deposition. *Lekhana* drugs possess *Ruksha*, *Tikshna*, and *Ushna Guna*, facilitating breakdown of accumulated *Meda* [37].

Classical *Medohara* drugs:

- *Guggulu* (*Commiphora mukul*)
- *Musta* (*Cyperus rotundus*)
- *Haritaki* (*Terminalia chebula*)

### 5. Treatment Strategies in Ayurveda

#### 5.1 Shodhana Therapy

*Shodhana* is indicated in *Bahudosh*a and chronic *Medoroga* conditions.

1. ***Vamana***: *Vamana* eliminates aggravated *Kapha* and *Meda* from the upper channels, improving lipid metabolism.
2. ***Virechana***: *Virechana* corrects **Pitta–Kapha imbalance**, enhances liver metabolism, and reduces circulating lipids.
3. ***Lekhana Basti***: *Lekhana Basti* acts systemically on *Medovaha Srotas* and is effective in chronic dyslipidemia with obesity.

#### 5.2 Shamana Therapy

**Herbal Formulations:** Common formulations include *Triphala Guggulu*, *Medohara Guggulu*, *Arogyavardhini Vati*. These formulations exhibit hypolipidemic, hepatoprotective, and antioxidant properties. Single Drugs with *Medohara* Properties *guggulu*, *arjuna* (*Terminalia arjuna*), *lasuna* (*Allium sativum*) Clinical studies demonstrate significant reduction in serum cholesterol and triglycerides with these drugs [38].

#### 5.3 Pathya–Apathya (Diet and Lifestyle Management)

- ***Recommended Diet (Pathya)***: *Laghu Ahara*, *Yava* (barley), *Mudga* (green gram), *Tikta* and *Katu Rasa* predominant foods
- ***Lifestyle Modifications***: *Regular Vyayama*, *Avoidance of Divaswapna*, *Regulation of daily routine*.
- ***Yoga and Exercise***: *Yoga practices* such as *Surya Namaskar*, *Pranayama*, and *Asanas* improve lipid profile and insulin sensitivity [39].

### 6. Role of Rasayana Therapy

- ❖ **Metabolic Correction:** *Rasayana* therapy strengthens *Agni*, *Dhatu Poshana*, and *Ojas*, correcting metabolic dysfunction.
- ❖ **Prevention of Complications:** *Rasayana* drugs like *Amalaki* and *Guduchi* prevent cardiovascular complications by reducing oxidative stress and inflammation.

### 7. Integrative Perspective and Evidence-Based Support

- ★ **Correlation with Modern Lipid Metabolism:** Ayurvedic concepts of *Meda Dhatu*, *Agni*, and *Ama* correlate with lipid synthesis, transport, and metabolism described in modern biomedicine.
- ★ **Review of Clinical Studies:** Clinical trials have demonstrated significant improvement in lipid parameters using Ayurvedic interventions such as *Guggulu*-based formulations and *Panchakarma* therapies.
- ★ **Safety and Efficacy Considerations:** When administered judiciously under classical guidelines, Ayurvedic therapies are safe, effective, and well-tolerated, with minimal adverse effects.

## DISCUSSION

Dyslipidemia is a complicated disorder that involves upset lipid metabolism, increased risk for heart disease, and links to other lifestyle-related illnesses. Ayurveda views this condition mainly as *Medoroga*, a *Santarpanajanya Vyadhi* marked by an increase in body fat (*Meda Dhatu vriddhi*), dominance of the Kapha element, and digestive issues (*Agni* impairment) [40]. This discussion explores Ayurvedic principles alongside modern pathophysiology, explaining how Ayurvedic treatments work and comparing them to traditional management strategies [41]. Classical Ayurvedic accounts of *Medoroga* and *Meda Dushti* closely match today's descriptions of dyslipidemia and metabolic syndrome. Symptoms like *Gaurava* (heaviness), *Alasya* (laziness), excessive sweating (*Ati Sweda*), breathlessness during exercise (*Shwasa* on exertion), and obesity (*Sthaulya*) indicate reduced metabolic function, excess fat storage, and lower physical capacity—key features of dyslipidemia and obesity [42]. The idea of *Meda vriddhi* along with *Medodhatvagni mandya* relates to poor lipid digestion, changed lipoprotein metabolism, and rising levels of harmful lipids in the bloodstream. Ayurveda also sees *Medoroga* as a widespread disorder affecting the *Medovaha Srotas*, not just a single biochemical issue [43]. This fits with the current understanding that dyslipidemia impacts various organs, such as the liver, fat tissue, blood vessel linings, and kidneys, contributing to insulin resistance and ongoing inflammation [44]. Ayurveda emphasizes an imbalance between *Kapha* and *Vata*, particularly how *Vata* covers up fat, helping to explain improper fat movement and blood vessel problems. Ayurveda's effectiveness in treating dyslipidemia comes from its targeted approach focused on improving *Agni* (digestive fire), removing *Ama* (toxins), lowering *Meda* (fat), and restoring balance among *Doshas* and *Dhatu*s. *Apatarpana Chikitsa*, recommended for *Santarpanajanya* disorders, tackles the root cause by cutting down excess nourishment and boosting metabolic efficiency [45]. *Agni Deepana* and *Ama Pachana* therapies are crucial because they improve digestion and tissue metabolism. Herbs like *Trikatu*, *Chitraka*, and *Musta* stimulate *Jatharagni* (digestive fire) and *Medodhatvagni*, which helps stop *Ama* growth and abnormal fat production. From a modern perspective, these methods may improve liver function, increase enzyme activity, and lower oxidative stress [46]. *Medohara* and *Lekhana* therapies, especially those using *Guggulu*, help reduce fat by scraping action (*Lekhana*) on *Meda Dhatu*. Research has shown that *Guggulu* and similar products lower total cholesterol, LDL, and triglycerides while improving HDL levels, possibly by affecting thyroid function, bile acid processing, and reducing inflammation. *Panchakarma* procedures like *Vamana*, *Virechana*, and *Lekhana Basti* further boost results by flushing out excess *Doshas* and clearing blocked channels, leading to overall metabolic improvement. Dietary management, lifestyle changes, and Yoga are important parts of the treatment plan. Regular exercise and Yoga practices like *Surya Namaskar* and *Pranayama* enhance

insulin sensitivity, help use lipids, and improve heart health, supporting Ayurveda's preventive and promotional strategies [47]. Conventional treatment for dyslipidemia mostly uses medications like statins, fibrates, and cholesterol absorption blockers. These can successfully lower lipid levels but often come with long-term side effects, including liver damage, muscle pain, and metabolic issues. Furthermore, traditional therapy typically focuses on chemical correction rather than addressing fundamental lifestyle and metabolic problems. On the other hand, Ayurveda takes a holistic and personalized approach. It targets root causes (*Nidana*), illness development (*Samprapti*), and individual factors (*Prakriti*, *Agni*, and *Srotas*). Ayurvedic treatments not only improve lipid levels but also tackle related issues like obesity, diabetes, and heart disease, providing a well-rounded strategy for metabolic health [48]. The use of Rasayana therapy further boosts metabolic strength, decreases oxidative stress, and helps avoid long-term issues, which is often not covered in conventional care. Crucially, *Ayurvedic* treatments have shown a good safety record when applied carefully according to traditional guidelines. Combining Ayurveda with modern diagnostic tools and risk assessment can improve clinical choices and support personalized medicine [49]. This discussion shows that dyslipidemia, though explained in modern terms, has been thoroughly addressed in *Ayurveda* as *Medoroga*. Ayurvedic principles offer a strong conceptual and therapeutic framework that corresponds well with today's insights into lipid metabolism and heart disease risk [50]. The combined, evidence-based use of Ayurvedic treatments shows great potential for safe, effective, and long-lasting management of dyslipidemia, especially as lifestyle-related metabolic disorders continue to rise.

## CONCLUSION

Dyslipidemia is a complex metabolic disorder that significantly affects heart health. Its rising occurrence highlights the need for practical and sustainable management strategies. Ayurveda views dyslipidemia as *Medoroga*, a condition defined by an increase in *Meda Dhatu*, a predominance of *Kapha*, weak digestion, and issues with the fat transport system. The strong connection between traditional Ayurvedic descriptions and modern biomedical views on lipid metabolism shows the scientific importance of Ayurvedic principles in today's healthcare. Ayurvedic management focuses on addressing the root causes, normalizing metabolism, and restoring balance in the body, rather than just controlling biochemistry. Treatments such as *Apatarpana Chikitsa*, *Agni Deepana* and *Ama Pachana*, *Medohara* and *Lekhana* therapies, Panchakarma procedures, *Pathya* and *Apathya* guidelines, *Yoga*, and *Rasayana* therapy work together to tackle the underlying problems and related metabolic issues. These methods not only improve lipid levels but also lower heart disease risk and help prevent progression. By integrating Ayurveda with emerging clinical evidence, we can offer a safe, holistic, and patient-focused way to manage dyslipidemia. When paired with modern diagnostic tools and risk assessment, Ayurvedic therapies can complement broader metabolic care. More well-structured clinical trials and studies are needed to strengthen the evidence and encourage a wider adoption of Ayurvedic approaches in standard dyslipidemia treatment protocols.

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