Frontiers in Health Informatics
ISSN-Online: 2676-7104
www.healthinformaticsjournal.com
2024; Vol 13: Issue 2
Open Access

Ayurvedic Management of Dyslipidemia: A Comprehensive Review of Classical Concepts and Contemporary Evidence

Dr. Prachi Chaudhary[1], Prof., (Dr.) Satya Deo Pandey[2]

[1]Ph.D Scholar (Ayu.) Kaya Chikitsa, Desh Bhagat University, Mandi, Gobindgarh, Punjab.
[2]Professor, Department of Kaya Chikitsa (Ayurveda), Desh Bhagat University, Mandi Gobindgarh, Punjab.

Corresponding author-
Dr. Prachi Chaudhary,
Ph.D Scholar (Ayu.) Kaya Chikitsa, Desh Bhagat University, Mandi, Gobindgarh, Punjab..

Cite this paper as: Dr. Prachi Chaudhary, Prof., (Dr.) Satya Deo Pandey (2024) Ayurvedic Management of Dyslipidemia: A Comprehensive Review of Classical Concepts and Contemporary Evidence..*Frontiers in Health Informatics*, *Vol.13, No.*, 1218-1225

Date of Acceptance - 07/01/2024 **Date of Publication- 21/01/2024**

ABSTRACT
Dyslipidemia is a prevalent metabolic disorder linked to abnormal lipid regulation and an elevated risk of cardiovascular disease. While conventional therapies are effective, their long-term use is often limited by constraints and side effects, leading to increased interest in complementary approaches like Ayurveda. This review offers an analytical overview of Ayurvedic concepts pertinent to the understanding and management of dyslipidemia, integrating classical Ayurvedic principles with contemporary scientific evidence. A traditional literature review was conducted using classicalAyurvedic texts and scientific databases, including PubMed, Scopus, and Google Scholar. Relevant literature on dyslipidemia, Medoroga,Ayurvedic management, medicinal plants, and clinical evidence was analyzed and synthesized. Although dyslipidemia is not explicitly described in Ayurveda, it can be conceptually linked toMedoroga, SantarpanajanyaVyadhi, and MedovahaSrotodushti. Ayurvedic management emphasizes correcting metabolic dysfunction through NidanaParivarjana, Agni Deepana, Shodhana, Shamana, dietary regulation, and lifestyle modification. Medicinal plants and formulations likeGuggulu, Triphala, Arjuna, Garlic, and MedoharaGugguluhave shown potential in lowering lipids, providing antioxidant benefits, and reducing inflammation in both preclinical and clinical studies. Nonetheless, challenges such as limited standardization, methodological variability, and a lack of high-quality clinical trials persist. Ayurveda presents a holistic and potentially advantageous approach to managing dyslipidemia. However, challenges including limited standardization, methodological variability, and insufficient high-quality clinical trials remain.

Keywords: Ayurveda, Dyslipidemia, Integrative Medicine, Shodhana, Shamana

INTRODUCTION

Dyslipidemia is a metabolic disorder marked by elevated levels of total cholesterol, low-density lipoprotein cholesterol (LDL-C), triglycerides, and/or decreased high-density lipoprotein cholesterol (HDL-C).[1] It stands as a significant modifiable risk factor for atherosclerotic cardiovascular disease (ASCVD), contributing notably to endothelial dysfunction, chronic inflammation, and cardiovascular morbidity and mortality.[2] Globally, dyslipidemia affects a large portion of the adult population, with studies indicating a high prevalence among both genders; approximately 39% of adults worldwide have elevated total cholesterol, impacting millions of men and women in both developed and developing countries.[3] The burden is particularly rising in low- and middle-income nations due to sedentary lifestyles, unhealthy diets, obesity, and metabolic disorders. Conventional management includes statins, fibrates, ezetimibe, and lifestyle modification. Long-term therapy may lead to adverse effects, medication intolerance, and residual cardiovascular risk.[4] Ayurveda offers a holistic perspective on metabolic disorders through the concepts of Dosha, Agni, Dhatu, Ama, and Srotas. While classical texts do not explicitly mention dyslipidemia, it can be conceptually linked to Medoroga, SantarpanajanyaVyadhi, andMedovahaSrotodushti.[5]Ayurvedic management focuses on NidanaParivarjana, Shodhana, Shamana, dietary regulation, and herbal therapies, many of which have shown lipid-modulating and cardioprotective potential in recent studies.[6]

AIM OF THE REVIEW

This review aims to critically assess the Ayurvedic understanding and management of dyslipidemia by integrating classical conceptual foundations with modern scientific evidence. It seeks to explore Ayurvedic pathophysiological correlations, therapeutic principles, medicinal plants and formulations, and available experimental and clinical data relevant to lipid regulation. Furthermore, it intends to identify current research gaps and highlight future directions for evidence-based integration of Ayurvedic approaches in dyslipidemia care.

Methodology

This review was conducted through a comprehensive narrative literature review of classical Ayurvedic texts and contemporary scientific literature related to dyslipidemia. Relevant articles were searched from electronic databases like PubMed, Scopus, Google scholar and ScienceDirect by using keywords like "Dyslipidemia", "Ayurveda", "*Medoroga*", "Ayurvedic management". A literature review was done to ascertain the Ayurvedic concepts related to lipid metabolism disorders from classical texts like *CharakaSamhita, SushrutaSamhita*and *AshtangaHridaya.*

Comparative Concept of Dyslipidemia in Modern Medicine and Ayurveda

Dyslipidemia is viewed differently in modern medicine and Ayurveda, yet both systems associate it with metabolic dysfunction and chronic disease risk.[7] Modern medicine explains dyslipidemia through abnormalities in lipid metabolism and serum lipid levels, whereas Ayurveda correlates it conceptually with *Medoroga*, *SantarpanajanyaVyadhi*, and *Rasavaha–MedovahaSrotodushti*. The following table presents a comparative overview of the modern and Ayurvedic perspectives on dyslipidemia.

Table 1: Modern Medicine and Ayurvedic Perspective of Dyslipidemia

Aspect	Modern Medicine Perspective	Ayurvedic Perspective
Definition / Disease Concept	Dyslipidemia is a metabolic disorder characterized by abnormal serum lipid levels including elevated TC, LDL-C, TG, and/or reduced HDL-C.[8]	No direct disease entity equivalent to dyslipidemia is described in classical texts; conceptually correlated with *Medoroga*, *SantarpanajanyaVyadhi*, and *Srotodushti*.[9]
Classification	Classified as primary (genetic/familial) and secondary (associated with diabetes, obesity, hypothyroidism, lifestyle factors).[10]	Can be interpreted under *SantarpanajanyaVyadhi* (diseases caused by over-nutrition) and disorders involving *Kapha-Meda* imbalance.[11]
Etiology and Risk Factors	Unhealthy diet, sedentary lifestyle, obesity, smoking, alcohol use, diabetes mellitus, genetic predisposition, aging, endocrine disorders.[12]	Excessive intake of *Guru*, *Snigdha*, *MadhuraAhara*, lack of exercise (*Avyayama*), excessive sleep, sedentary habits, impaired *Agni*, and over-nutrition (*Santarpana*).[13]

Pathophysiology / Lipid Metabolism	Disturbance in lipid synthesis, transport, utilization, and clearance leading to accumulation of cholesterol and triglycerides.[14]	*Mandagni* causes formation of *Ama*, leading to vitiation of *Kapha* and *MedaDhatu*, impairment of *Rasavaha* and *MedovahaSrotas*, and abnormal fat metabolism.[15]
Disease Correlation	Recognized as a major cardiovascular risk factor contributing to atherosclerosis and metabolic syndrome.[16]	Conceptually associated with *Medoroga*, *Sthaulya*, *SantarpanajanyaVyadhi*, and *Rasavaha–MedovahaSrotodushti*.[17]
Role of Regulatory Factors	Influenced by enzymes, lipoproteins, hormones, receptors, and genetic regulation of lipid metabolism.[18]	Governed by imbalance of *Dosha* (mainly *Kapha* and *Vata*), derangement of *Agni*, vitiation of *Dhatu* (*Rasa* and *Meda*), and accumulation of *Ama*.[19]
Clinical Manifestations	Often asymptomatic; may present with xanthomas, obesity, hypertension, chest pain, and features of metabolic syndrome.[20]	Manifestations resemble features of *Medoroga* such as *Ati-sweda* (excess sweating), *Anga-gourava* (heaviness), *Alasya* (lethargy), and obesity-related symptoms.[21]
Complications	Atherosclerosis, coronary artery disease, stroke, peripheral vascular disease, pancreatitis, metabolic syndrome.[22]	Progressive *Srotorodha* (channel obstruction), *Kapha-MedaDushti*, and predisposition to chronic metabolic and cardiovascular disorders.[23]
Diagnostic Criteria and Biomarkers	Diagnosed using lipid profile parameters: TC, LDL-C, HDL-C, TG, non-HDL cholesterol, ApoB, and inflammatory biomarkers.[24]	Diagnosis is based on *Dosha-Dhatu-Mala* assessment, *Agni* status, *Srotas* examination, *NidanaPanchaka*, and clinical features of *MedaDushti*.[25]
Samprapti (Pathogenesis)	Excess caloric intake and metabolic dysfunction alter lipid homeostasis, resulting in dysregulated lipoprotein metabolism and vascular injury.[26]	*NidanaSevana* → *Agnimandya* → *AmaUtpatti* → *Kapha-MedaVriddhi* → *Rasavaha/MedovahaSrotodushti* → *Srotorodha* → manifestation of *Medoroga*-like condition.[27]

Ayurvedic Management Approaches in Dyslipidemia

Ayurvedic management of dyslipidemia focuses on correcting the underlying metabolic imbalance rather than only reducing lipid levels. The treatment approach includes elimination of causative factors (*NidanaParivarjana*), improvement of digestive and metabolic function through *Agni Deepana* and *AmaPachana*, and restoration of *Dosha* balance. Both *Shodhana* (purificatory) and *Shamana* (conservative) therapies play important roles in management.[27]

Shodhana therapies such as *Vamana*, *Virechana*, *LekhanaBasti*, and *Udvartana* are employed to remove accumulated *Dosha* and excess *Meda*. In addition, *ShamanaChikitsa* utilizes herbal drugs, polyherbal formulations, and *Rasayana* therapies to support lipid metabolism, improve overall health, and reduce the risk of metabolic complications.[28] The following table summarizes the major Ayurvedic principles and therapeutic modalities used in dyslipidemia management.

Table 2: Ayurvedic Management Strategies for Dyslipidemia

Section	Therapeutic Approach	Description / Role in Dyslipidemia
Ayurvedic Principles of Management	*NidanaParivarjana*	Avoidance of causative factors such as unhealthy diet, sedentary lifestyle, excessive fatty food intake, and stress.
	*Agni Deepana*and*AmaPachana*	Improves digestive and metabolic fire (*Agni*) and helps in digestion of toxic metabolites (*Ama*).
	DoshaShamana	Balances mainly *Kapha* and *VataDosha* involved in lipid metabolism disorders.
	*Shodhana*Therapy	Bio-purificatory therapies used to eliminate accumulated *Dosha* and excess *Meda*.
	Pathya–Apathya	Emphasizes healthy diet, exercise, and lifestyle modifications while avoiding heavy and oily foods.
*Shodhana*Therapy in Dyslipidemia	*Panchakarma*	Detoxification procedures aimed at restoring metabolic balance and clearing body channels (*Srotas*).
	Vamana Karma	Therapeutic emesis mainly indicated for *Kapha* dominance and excess fat accumulation.
	Virechana Karma	Therapeutic purgation useful for correcting *Pitta* and metabolic disturbances.
	LekhanaBasti	Medicated enema with scraping (*Lekhana*) action to reduce excess *MedaDhatu*.
	Udvartana	Dry powder massage that helps reduce obesity, improves circulation, and decreases subcutaneous fat.

ShamanaChikitsa	Herbal Drugs	Herbs like Guggulu, Triphala, Arjuna, and Guduchi are commonly used for lipid regulation.
	Polyherbal Formulations	Classical formulations such as TriphalaGuggulu and MedoharaGuggulu support fat metabolism.
	*Rasayana*Therapy	Rejuvenative therapy that improves overall metabolism and cardiovascular health.
	Mechanism of Action	Ayurvedic medicines may act through lipid-lowering, antioxidant, anti-inflammatory, and metabolic regulatory effects.

Medicinal Plants and Formulations with Scientific Evidence

Several Ayurvedic medicinal plants and classical formulations have demonstrated potential benefits in the management of dyslipidemia through lipid-lowering, antioxidant, and anti-inflammatory activities. Herbs such as *Guggulu*, *Triphala*, *Arjuna*, *Lashuna* (Garlic), *Musta*, *Haritaki*, *Amalaki*, and *Guduchi* have been observed to support lipid metabolism and cardiovascular health.[29] Classical formulations, including *YogarajaGuggulu*, *MedoharaGuggulu*, and *TriphalaGuggulu,* are traditionally used to reduce excess *Meda*, improve metabolic function, and promote systemic balance.[30] The available experimental and clinical evidence suggests their potential role as supportive interventions in dyslipidemia management.

Contemporary Scientific Evidence

The potential role of Ayurvedic interventions in dyslipidemia has also been supported by some modern scientific studies. Several Ayurvedic herbs and formulations have been shown to have lipid-lowering, antioxidant, and anti-inflammatory properties in preclinical studies. Clinical trials and systematic reviews have reported the beneficial effects of agents such as *Guggulu, Triphala,* and *Garlic* in improving serum lipid parameters, including a reduction in total cholesterol, LDL-cholesterol, and triglycerides.[31] However, current evidence is limited by variations in study design, sample size, and standardization of formulations. Safety assessments suggest that most Ayurvedic medicines are generally well tolerated when used appropriately issues of quality control, dose regulation, and toxicological assessment remain important considerations for their wider use in clinical practice.

Challenges and Research Gaps

Despite promising findings, several challenges limit the wider acceptance of Ayurvedic management in dyslipidemia. Lack of standardization of Ayurvedic drugs, variability in herbal formulations, and insufficient quality control remain major concerns.[32] Many available studies are constrained by small sample sizes, short study duration, and methodological limitations, reducing the reliability and generalizability of outcomes. Therefore, well-designed randomized controlled trials, standardized formulations, and robust safety evaluations are needed to strengthen the evidence base.[33] Future research should focus on mechanism-based studies, integrative treatment models, and large-scale clinical investigations to validate the therapeutic potential of Ayurveda in dyslipidemia management.

DISCUSSION

Dyslipidemia remains a major global metabolic disorder and an important contributor to cardiovascular morbidity and mortality. While conventional therapies effectively improve lipid profiles, concerns regarding long-term adverse effects and residual risk have increased interest in complementary approaches. Ayurveda provides a holistic framework by correlating dyslipidemia with *Medoroga*, *SantarpanajanyaVyadhi*, and *MedovahaSrotodushti*, emphasizing correction of metabolic dysfunction through *NidanaParivarjana*, *Shodhana*, *Shamana*, and lifestyle regulation.[34] Scientific evidence suggests that Ayurvedic herbs and formulations such as *Guggulu*, *Triphala*, and *Garlic* may exert lipid-lowering, antioxidant, and anti-inflammatory effects.[35] However, limitations in standardization, study design, and clinical validation necessitate high-quality trials to establish their efficacy and safety in evidence-based dyslipidemia management.

CONCLUSION

Dyslipidemia is a prevalent metabolic disorder and a major risk factor for cardiovascular diseases, which require effective and sustainable management strategies. Ayurveda offers a holistic and complete perspective by conceptually relating dyslipidemia to *Medoroga*, *SantarpanajanyaVyadhi*, and *MedovahaSrotodushti*. Ayurvedic management emphasizes correction of metabolic imbalance through *NidanaParivarjana*, *Agni Deepana*, *Shodhana*, *Shamana*, dietary regulation, and lifestyle modification. Several medicinal plants and classical formulations, including *Guggulu*, *Triphala*, *Arjuna*, and *MedoharaGuggulu*, have shown promising lipid-lowering, antioxidant, and cardioprotective properties in experimental and clinical studies. However, limitations related to drug standardization, methodological variability, and insufficient large-scale clinical trials continue to challenge wide scientific acceptance. Integrating classical Ayurvedic principles with contemporary scientific research may provide a valuable complementary approach for dyslipidemia management. Future investigations focusing on standardized formulations, robust clinical evidence, and mechanism-based studies are essential to validate the efficacy, safety, and translational potential of Ayurvedic interventions in evidence-based cardiovascular and metabolic healthcare

REFERENCES

1. Victor G, Shishani K, Vellone E, Froelicher ES. The global burden of cardiovascular disease in adults: a mapping review. Journal of Cardiovascular Nursing. 2024 Oct 1:10-97.
2. Morales-Villegas EC, Yarleque C, Almeida ML. Management of hypertension and dyslipidemia in Mexico: evidence, gaps, and approach. Archivos de cardiología de México. 2023 Mar;93(1):77-87.
3. World Health Organization. Action on salt and hypertension: reducing cardiovascular disease burden in the WHO European Region. World Health Organization. Regional Office for Europe; 2024 Apr 22.
4. Roth GA, Mensah GA, Johnson CO, Addolorato G, Ammirati E, Baddour LM, Barengo NC, Beaton AZ, Benjamin EJ, Benziger CP, Bonny A. Global burden of cardiovascular diseases and risk factors, 1990–2019: update from the GBD 2019 study. Journal of the American college of cardiology. 2020 Dec 22;76(25):2982-3021.
5. Mach, F., Baigent, C., Catapano, A.L., Koskinas, K.C., Casula, M., Badimon, L., Chapman, M.J., De Backer, G.G., Delgado, V., Ference, B.A. and Graham, I.M., 2020. 2019 ESC/EAS Guidelines for the management of dyslipidaemias: lipid modification to reduce cardiovascular risk: the Task Force for the management of dyslipidaemias of the European Society of Cardiology (ESC) and European Atherosclerosis Society (EAS). European heart journal, 41(1), pp.111-188.
6. Mishra A, Halder S, Vyas MK, Kumar K, Sharma N. Exploring the Implementation of the P5 Approach for Geriatric Health Care Services in India: A Comprehensive Analysis from the Ayurvedic Perspective. Annals of Ayurvedic Medicine. 2025 Apr 28;14(2):139-.
7. Morandi A, Tosto C, Roberti di Sarsina P, DallaLibera D. Salutogenesis and Ayurveda: indications for public health management. EPMA Journal. 2011 Dec;2(4):459-65.
8. Peterson CT, Denniston K, Chopra D. Therapeutic uses of triphala in ayurvedic medicine. The Journal of Alternative and Complementary Medicine: Paradigm, Practice, and Policy Advancing Integrative Health. 2017 Aug;23(8):607-14.
9. Green BN, Johnson CD, Adams A. Writing narrative literature reviews for peer-reviewed journals: secrets of the trade. Journal of chiropractic medicine. 2006 Sep 1;5(3):101-17.
10. Snyder H. Literature review as a research methodology: An overview and guidelines. Journal of business research. 2019 Nov 1;104:333-9.
11. Sharma RK, Dah B. CharakaSamhita (Varanasi: Chowkhamba Sanskrit Series Office, 2014) vol. V, preface.
12. Sharma RK, Samhita DB, Volume-III C. Chowkhamba Sanskrit series office. Varanasi India1998. 2013.
13. Mishra A, Shrivastava V. Exploring the science of marma-an ancient healing technique-part 1: its mention in ancient Indian scriptures. submitted to the DevSanskriti Interdisciplinary International Journal (http://dsiij. dsvv. ac. in/). 2020 Feb.

14. Saha S, Panwar O, Suresh P, Latha BP. Pharmaceutical study of Apamargakshar to enhance the yield by modified method. Journal of Ayurveda. 2018 Jan;12(1).

15. Jain N, Bhatnagar V, Lahange SM. Conceptual Study. Journal of Ayurveda. 2017 Oct;11(4).

16. Ulbricht C, Basch E, Szapary P, Hammerness P, Axentsev S, Boon H, Kroll D, Garraway L, Vora M, Woods J, Natural Standard Research Collaboration. Guggul for hyperlipidemia: a review by the Natural Standard Research Collaboration. Complementary therapies in medicine. 2005 Dec 1;13(4):279-90.

17. Peterson CT, Denniston K, Chopra D. Therapeutic uses of triphala in ayurvedic medicine. The Journal of Alternative and Complementary Medicine: Paradigm, Practice, and Policy Advancing Integrative Health. 2017 Aug;23(8):607-14.

18. Dwivedi S. Terminaliaarjuna Wight &Arn.—a useful drug for cardiovascular disorders. Journal of ethnopharmacology. 2007 Nov 1;114(2):114-29.

19. Banerjee SK, Maulik SK. Effect of garlic on cardiovascular disorders: a review. Nutrition journal. 2002 Dec;1(1):4.

20. Yatoo MI, Saxena A, Gopalakrishnan A, Alagawany M, Dhama K. Promising antidiabetic drugs, medicinal plants and herbs: An update. International Journal of Pharmacology. 2017 Jan 1;13(7):732-45.

21. Devroy P, Chakraborty R, Bhattacharya S, Bala A. Recent Advances in Medicinal Plant Research in the Concomitant Management of Diabetes and Breast Cancer. Diabetes and Breast Cancer: An Analysis of Signaling Pathways. 2024 Jun 27:180-218.

22. Palaria S, Mishra PK, Sharma B, Choudhary B, Sharma I. MEDOROGA (DYSLIPIDEMIA): A COMPREHENSIVE REVIEW THROUGH AYURVEDIC AND MODERN PERSPECTIVES. World Journal of Pharmaceutical Research.;14(23):492-6.

23. Rasool I, Ali S, Khizar NA. Unani Perspectives on Dyslipidemia: An Integrative Review of Classical Concepts and Contemporary Relevance. Journal of Drug Delivery & Therapeutics. 2025 Dec 1;15(12):147-54.

24. Karambhe AD, Surkar SV, Deokar AM, Hedaoo G, Gulhane OR, Dingalwar SS, Deokar A. The Role of Ayurveda in Chronic Disease Management: A Review of Clinical Evidence. Cureus. 2026 Mar 13;18(3).

25. Majhi L. Integrating Ayurvedic Therapeutics with Modern Science: A Holistic Approach to Chronic Disease Management. RESEARCH REVIEW International Journal of Multidisciplinary. 2025 Oct 15;10(10):252-64.

26. Anirudhan R, Nampalliwar A, Kamble AS, Parekh D, Namboothiri KP, Nampalliwar AR, Parekh DN, NAMBOOTHIRI PK. Ayurveda in Contemporary Healthcare: A Narrative Overview of Select Therapeutic Interventions and Their Emerging Clinical and Mechanistic Perspectives. Cureus. 2026 May 1;18(5).

27. Jha PK. A Review on Synergetic Effect of Intermittent Fasting and Ayurvedic Principles on Lifestyle Disorders. Bheshaja: Journal of Central Ayurveda Campus. 2025 Jul 31;1(1):83-8.

28. Saini P, Tyagi DK, Mishra RK, Singh S. Shankhaprakshalana as a Potential Non-Pharmacological Intervention in Dyslipidemia: A Case Report. Journal of Ayurvedic and Herbal Medicine. 2025 Oct 1;11(4):104-9.

29. Goyal N. Hypertension Control & Holistic Management: An Integrative Ayurveda & Science Based Holistic guide to Healthy Blood Pressure. NGO products; 2026 Feb 10.

30. Aku AM, Patil A, Sabnis M. MedaDhatu Dysfunction through the Lens of Epigenetics: Bridging Ayurvedic Understanding with Nutritional and Oxidative Mechanisms in Biomedical Science. Journal of Ayurveda. 2025 Jul 1;19(3):280-7.

31. Aku AM, Patil A, Sabnis M. MedaDhatu Dysfunction through the Lens of Epigenetics: Bridging Ayurvedic Understanding with Nutritional and Oxidative Mechanisms in Biomedical Science. Journal of Ayurveda. 2025 Jul 1;19(3):280-7.

32. Giri SK, Vedi SK, Doddamani S, Naik R, Sharma S, Gavali K, Sharma BS, Khanduri S, Mahajon B, Tripathi A, Rana RK. Clinical safety and efficacy of Ayurveda multi-herbal formulation in the management of obesity. Global Advances in Integrative Medicine and Health. 2025 Jun 25;14:27536130251356447.

33. Patel D, Dhundi SN. CONCEPT OF FASTING IN AYURVED AND ALLOPATHY-A NARRATIVE REVIEW. Cuestiones de Fisioterapia. 2025 Feb 20;54(4):6611-31.

34. Tyagi P, Shirkande A, Londhe N, Londhe S. Role of Dinacharya (daily routine) in the prevention and management of obesity: A narrative review. Journal of Drug Research in Ayurvedic Sciences. 2025 Nov 1;10(Suppl 2):S151-8.

35. Vaidya G, Yadav L, Nyola NK, Kant R. Healing with Herbs: Herbal Therapies for Disease Prevention and Treatment. Deep Science Publishing; 2025 Oct 5...