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COMPARISON OF THE DASH AND MEDITERRANEAN DIETS IN REDUCING CARDIOVASCULAR RISK: A COMPREHENSIVE REVIEW

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ABSTRACT

Background: Cardiovascular diseases (CVDs) remain the leading cause of mortality worldwide and represent a major global health challenge (WHO, 2025). Compelling evidence indicates that dietary patterns substantially modulate cardiometabolic health and long-term cardiovascular outcomes. Among the most widely studied and recommended dietary models are the Mediterranean diet (MedDiet) and the Dietary Approaches to Stop Hypertension (DASH) diet.

Aim: The aim of this review is to compare the effectiveness of the Mediterranean and DASH dietary patterns in reducing cardiovascular risk, improving cardiometabolic markers and preventing cardiovascular events.

Material and methods: This narrative review was developed using 27 peer-reviewed sources, including randomized controlled trials, meta-analyses, systematic reviews and epidemiological reports published between 2011 and 2025. All findings presented derive strictly from validated scientific evidence.

Results: The DASH diet provides the strongest and most consistent reductions in blood pressure, while the Mediterranean diet demonstrates broader and more potent effects on lipid metabolism, inflammation, metabolic regulation and long-term cardiovascular outcomes. Evidence from large randomized controlled trials and systematic reviews supports the Mediterranean diet as superior in long-term cardiovascular protection.

Conclusions: Both dietary patterns exert significant cardiovascular benefits; however, the Mediterranean diet shows more comprehensive and sustained cardioprotective effects, whereas the DASH diet remains the optimal intervention for blood pressure reduction.

Keywords: Mediterranean diet, DASH diet, cardiovascular prevention, hypertension, lipid metabolism, metabolic syndrome

Content

1. Introduction

Cardiovascular diseases (CVDs) persist as the leading cause of mortality worldwide, contributing to millions of deaths annually and placing substantial strain on healthcare systems and economies (WHO, 2025). Within Europe, CVDs account for nearly 35% of all deaths, making them the most significant contributor to mortality across EU member states (Eurostat, 2023). The global rise in obesity, hypertension, diabetes and sedentary behaviours further compounds the increasing prevalence of cardiovascular disease. Because many of these risk factors are modifiable, lifestyle interventions remain central to public health strategies aimed at reducing the burden of CVD (WHO, 2025), (Guasch-Ferré & Willett, 2021).

In recent decades, dietary patterns have emerged as one of the most influential determinants of cardiometabolic health. Unlike reductionist approaches focusing on isolated nutrients, dietary patterns reflect the synergistic interplay of foods, nutrients and bioactive compounds. Among these, two models consistently demonstrate the strongest evidence for cardiovascular protection: the Mediterranean diet (MedDiet) and the Dietary Approaches to Stop Hypertension (DASH) diet.

The Mediterranean diet, inspired by traditional eating habits of countries such as Greece, Spain and Italy, emphasizes high intake of fruits, vegetables, legumes, whole grains, nuts, seeds and particularly extra-virgin olive oil.

Moderate consumption of fish and dairy products, low intake of red meat and optional moderate wine consumption during meals further characterize this dietary pattern. Numerous studies associate the Mediterranean diet with reductions in systemic inflammation, improvements in lipid metabolism and enhanced endothelial function (Widmer et al., 2015; Guasch-Ferré & Willett, 2021).

Conversely, the DASH diet was specifically developed as a non-pharmacological intervention for hypertension. It highlights high consumption of fruits, vegetables, whole grains and low-fat dairy while restricting sodium, red meat and added sugars. Clinical trials consistently demonstrate its effectiveness in lowering blood pressure across both hypertensive and normotensive populations (Filippou et al., 2020; Siervo et al., 2015).

Although both dietary patterns are widely endorsed, scientific debate persists regarding their relative superiority in reducing cardiovascular risk and preventing disease progression. Current evidence suggests that the DASH diet confers targeted antihypertensive benefits, while the Mediterranean diet provides broader metabolic and cardioprotective effects. This review aims to synthesize and compare evidence from high-quality trials and meta-analyses to clarify the roles of these diets in cardiovascular prevention and management.

Epidemiology and background

Cardiovascular diseases constitute the principal cause of morbidity and mortality globally, contributing to more deaths than any other disease group. According to the World Health Organization (WHO, 2025), ischemic heart disease and stroke remain the dominant contributors to cardiovascular mortality. The prevalence of key cardiometabolic risk factors - including hypertension, dyslipidaemia, obesity and type 2 diabetes - continues to rise across high-income and developing countries.

Within Europe, epidemiological data from Eurostat (2023) show that cardiovascular diseases account for approximately one third of all deaths across EU member states. Notably, substantial regional disparities persist: Central and Eastern European countries exhibit significantly higher CVD mortality rates compared with Western Europe, a pattern largely attributed to differences in lifestyle behaviours, access to healthcare services and broader socioeconomic determinants (Eurostat, 2023)

Population ageing further intensifies the burden of cardiovascular disease. Older adults are disproportionately affected by multiple cardiometabolic risk factors simultaneously, including hypertension, impaired glucose tolerance and abdominal obesity, increasing their overall susceptibility to cardiovascular events (WHO, 2025).

Dietary habits play a central role in shaping these epidemiological patterns. Suboptimal dietary intake - characterized by insufficient fruit and vegetable consumption, excess sodium, high intake of processed foods and low intake of whole grains - remains one of the most significant modifiable contributors to cardiovascular morbidity and mortality. Chronic low-grade inflammation, oxidative stress, lipid abnormalities and metabolic dysregulation linked to unhealthy dietary patterns accelerate the development of atherosclerosis (Guasch-Ferré & Willett, 2021).

Conversely, epidemiological and observational studies consistently demonstrate reduced CVD incidence in populations adhering to Mediterranean dietary patterns.

Guasch-Ferré & Willett (2021) reported strong associations between high adherence to the Mediterranean diet and lower rates of cardiovascular mortality, all-cause mortality and major cardiovascular events. These findings support dietary modification as a cornerstone of both primary and secondary CVD prevention.

2. Research materials and methods

This narrative review was conducted using a curated set of peer-reviewed scientific publications provided in the source list, including randomized controlled trials, systematic reviews, meta-analyses, observational cohort studies and authoritative epidemiological reports.

Only verified and evidence-based findings from these sources were incorporated, and no external literature, speculative interpretations or unvalidated data were used.

The studies included in the review were selected for their direct relevance to key domains of cardiovascular health, specifically blood pressure regulation, lipid metabolism, systemic inflammation and oxidative stress, glucose metabolism and insulin sensitivity, visceral and hepatic adiposity, as well as long-term cardiovascular outcomes such as recurrent events and mortality. The evidence base comprised major clinical trials - including the CORDIOPREV study by Delgado-Lista et al. (2022), the green Mediterranean diet intervention by Tsaban et al. (2021) and randomized controlled trials evaluating the DASH diet (Filippou et al., 2020; Siervo et al., 2015). High-quality systematic reviews and meta-analyses, such as the Cochrane Review on the Mediterranean diet (Rees et al., 2019), the DASH diet meta-analysis by Filippou et al. (2020) and the comparative analysis of Mediterranean and low-fat diets by Nordmann et al. (2011), further strengthened the evidence considered. Additional mechanistic and epidemiological insights were drawn from comprehensive reviews by Guasch-Ferré and Willett (2021), Widmer et al. (2015) and Kiani et al. (2022), alongside population-level data from major health institutions including the World Health Organization (2025) and Eurostat (2023).

All data were extracted manually and synthesised into thematic categories to ensure coherence across findings. Emphasis was placed on consistency, methodological rigor and the highest available level of clinical evidence.

Although this review synthesises evidence from high-quality clinical trials, systematic reviews and authoritative epidemiological reports, several methodological limitations must be acknowledged. As a narrative review, the selection of studies was not conducted using a predefined systematic protocol, which may introduce selection bias. The scope of available evidence also varies across dietary patterns; while the Mediterranean diet is supported by long-term randomized controlled trials and extensive observational research, the DASH diet has fewer studies assessing hard cardiovascular outcomes, which limits the comparability of evidence across dietary models. Additionally, inherent risk of bias within the included studies - such as challenges in blinding dietary interventions, variability in adherence assessment, heterogeneity in outcome measures and attrition in long-term interventions - may influence the strength of the presented findings. These factors should be considered when interpreting the conclusions of this review.

3. Research results

Blood Pressure Outcomes

Blood pressure reduction remains one of the most studied effects of dietary interventions, and evidence consistently demonstrates that the DASH diet provides the strongest antihypertensive effects.

In a meta-analysis of randomized clinical trials, Filippou et al. (2020) reported significant reductions in both systolic and diastolic blood pressure among participants assigned to the DASH diet. These reductions were observed across populations with hypertension, prehypertension and even normotension, highlighting its robust and broad applicability. Siervo et al. (2015) further confirmed the DASH diet's impact on endothelial function and arterial stiffness, mechanisms essential for long-term vascular health.

The Mediterranean diet also improves blood pressure, although typically to a lesser degree. Guasch-Ferré & Willett (2021) described modest blood pressure reductions across Mediterranean diet adherence studies, while Widmer et al. (2015) linked improvements primarily to enhanced endothelial function and reduced inflammation.

Lipid Metabolism and Atherogenic Risk

Evidence comparing dietary patterns indicates that the Mediterranean diet has greater capacity to improve lipid metabolism and reduce atherogenic risk. In a meta-analysis of randomized trials, Nordmann et al. (2011) found that Mediterranean diet interventions produced significantly larger reductions in total cholesterol, LDL cholesterol, and triglycerides than low-fat diets across diverse populations. These improvements were consistent across different study populations, suggesting broad applicability.

In contrast, major DASH trials and meta-analyses have primarily focused on blood pressure and vascular outcomes rather than lipid profiles. Filippou et al. (2020) and Siervo et al. (2015) did not include lipid outcomes in their primary analyses, limiting the ability to quantify DASH-related lipid effects. Available intervention studies demonstrate modest improvements—such as small reductions in triglycerides and LDL cholesterol—particularly in individuals with metabolic syndrome; however, HDL cholesterol typically remains unchanged, indicating weak influence on reverse cholesterol transport (Shoaibinobarian et al., 2023; Yousefabadi et al., 2024). Overall, the DASH diet provides limited lipid-modulating effects compared with Mediterranean patterns.

Long-term lipid changes in secondary prevention populations appear blunted regardless of dietary assignment. In the CORDIOPREV trial, Delgado-Lista et al. (2022) reported no

significant differences in LDL-C, HDL-C or triglycerides between Mediterranean and low-fat diets over seven years, likely due to widespread statin use and metabolic stabilization in the cohort. Nonetheless, the Mediterranean group experienced significantly fewer recurrent cardiovascular events, suggesting that lipid-independent mechanisms play an important role.

Mechanistic studies support these lipid-related findings. Polyphenol-rich components of the Mediterranean diet, particularly extra-virgin olive oil, nuts and legumes, reduce LDL oxidation, suppress NF-κB signalling and improve endothelial antioxidant capacity (Kiani et al., 2022; Widmer et al., 2015). Metabolomic profiling by Li et al. (2020) revealed favourable shifts in circulating lipid species—such as increased fatty acid oxidation products and decreased atherogenic lipid metabolites—among individuals adhering to Mediterranean diets. Collectively, these mechanisms contribute to atherogenesis attenuation beyond traditional lipid parameters.

Visceral and Hepatic Adiposity

Visceral obesity and hepatic fat accumulation are central drivers of insulin resistance, systemic inflammation and cardiometabolic risk. Interventional evidence demonstrates that Mediterranean dietary patterns—particularly polyphenol-enriched versions—produce substantial reductions in ectopic fat depots.

In the randomised DIRECT-PLUS trial, Tsaban et al. (2021) showed that a green Mediterranean diet enriched with green tea, walnuts and Mankai significantly reduced visceral adipose tissue volume and hepatic fat content. These reductions exceeded those achieved with a standard Mediterranean diet and were markedly greater than those observed with healthy dietary guidance alone. The findings suggest that the combination of polyphenols, monounsaturated fats and plant-based proteins enhances hepatic lipid turnover, mitochondrial oxidation and the resolution of metabolic inflammation.

Observational evidence is consistent with these results. Guasch-Ferré & Willett (2021) reported that higher adherence to the Mediterranean diet is associated with lower visceral fat, reduced risk of non-alcoholic fatty liver disease and improved hepatic insulin sensitivity.

Evidence for DASH-related effects on adiposity is more limited. Shoaibinobarian et al. (2023), using cross-sectional data, identified lower fasting glucose in individuals with high DASH adherence but found no significant associations with dyslipidaemia, metabolic syndrome or hypertension after full adjustment, and the study did not assess visceral or hepatic fat. Yousefabadi et al. (2024) observed improvements in surrogate hepatic steatosis indices-FLI and HSI-among adults following the DASH diet, but without direct imaging measures of liver fat

or visceral adiposity. Collectively, available data indicate that the DASH pattern may modestly influence adiposity markers but does not produce the pronounced reductions observed with Mediterranean dietary interventions.

Glycaemic Control and Insulin Sensitivity

Mediterranean dietary patterns consistently improve glycaemic regulation, insulin sensitivity and markers of metabolic syndrome. Guasch-Ferré & Willett (2021) highlighted that Mediterranean nutrients—monounsaturated fats, polyphenols, fibre and low-glycaemic-index plant foods—slow carbohydrate absorption, reduce hepatic glucose output and enhance insulin-mediated glucose uptake.

Interventional evidence supports these mechanistic pathways. Tsaban et al. (2021) documented significant reductions in fasting glucose and HOMA-IR following adherence to a green Mediterranean diet, with improvements strongly correlated with decreases in visceral adiposity and hepatic fat content. These changes reflect improved metabolic flexibility and reduced ectopic lipid toxicity.

Systematic reviews further reinforce these observations. Laffond et al. (2023) reported consistent improvements in fasting glucose, insulin sensitivity and metabolic syndrome prevalence across primary and secondary prevention cohorts following Mediterranean diet interventions. The Cochrane Review (Rees et al., 2019) similarly noted reductions in type 2 diabetes incidence and improvements in glycaemic control.

The DASH diet also improves glycaemic markers, though typically to a lesser degree. Shoaibinobarian et al. (2023) reported lower fasting glucose and reduced odds of hyperglycaemia among individuals with higher DASH adherence, while Yousefabadi et al. (2024) documented improvements in fasting glucose and triglycerides in adults with metabolic syndrome. However, neither study evaluated hepatic insulin resistance or visceral fat—key components of metabolic dysfunction—limiting comparability to Mediterranean interventions.

Integrated Interpretation

Taken together, the evidence indicates that the Mediterranean diet exerts broad, multi-system benefits encompassing lipid modulation, reductions in visceral and hepatic fat, improvements in glycaemic regulation and attenuation of systemic inflammation. These effects are supported by consistent findings across randomized trials, mechanistic studies and systematic reviews. In contrast, while the DASH diet effectively reduces blood pressure and provides modest improvements in metabolic markers, its influence on lipid metabolism and adiposity is weaker and less consistently demonstrated.

The comprehensive cardiometabolic profile of the Mediterranean diet likely explains its superior long-term outcomes observed in large-scale clinical trials such as CORDIOPREV, despite neutral effects on conventional lipid parameters in statin-treated populations

Long-Term Cardiovascular Outcomes

Major cardiovascular outcomes—such as myocardial infarction, stroke and cardiovascular mortality—represent the most clinically meaningful endpoints for evaluating the long-term effectiveness of dietary interventions. Current evidence shows that the Mediterranean diet has the strongest and most consistent support for reducing cardiovascular events, while corresponding evidence for the DASH diet remains limited.

One of the most rigorous trials supporting the Mediterranean diet is the CORDIOPREV randomized controlled study. Delgado-Lista et al. (2022) demonstrated that long-term adherence to a Mediterranean diet resulted in a significantly lower incidence of recurrent major cardiovascular events compared with a low-fat diet during seven years of follow-up in adults with established coronary heart disease. The beneficial effect was particularly strong among men and participants with baseline LDL cholesterol below 100 mg/dL. Importantly, the authors noted that conventional lipid parameters (LDL-C, HDL-C, triglycerides) and glycaemic markers did not differ significantly between groups- largely due to extensive statin use and the metabolic stability typical of secondary prevention populations. Despite this metabolic neutrality, the Mediterranean diet reduced cardiovascular events, suggesting that its protective mechanisms extend beyond traditional lipid pathways (Delgado-Lista et al., 2022).

Systematic reviews provide additional context. The Cochrane Review by Rees et al. (2019) concluded that while Mediterranean dietary patterns show potential to improve cardiovascular outcomes and cardiometabolic risk factors, the certainty of evidence remains low to moderate, particularly in secondary prevention. The authors highlighted substantial variability across studies and a lack of sufficiently powered long-term trials, emphasising the need for more robust randomized data. Thus, although results from trials like CORDIOPREV are promising, systematic evidence remains cautiously supportive rather than definitive.

Observational evidence adds further weight. In large epidemiological cohorts, high adherence to the Mediterranean diet is consistently associated with reduced all-cause and cardiovascular mortality (Guasch-Ferré & Willett, 2021). These findings show that Mediterranean dietary patterns provide benefits that extend from clinical research settings into real-world populations.

In contrast, long-term evidence for the DASH diet remains limited. While the DASH pattern reliably lowers blood pressure and improves selected cardiometabolic markers, randomized trials assessing its impact on myocardial infarction, stroke or cardiovascular mortality are

lacking. Meta-analyses of DASH trials focus predominantly on blood pressure outcomes (Filippou et al., 2020; Siervo et al., 2015).

Mechanisms of action

The Mediterranean and DASH diets exert their cardiovascular benefits through partially overlapping but mechanistically distinct pathways. The Mediterranean diet influences multiple biological systems—including inflammation, oxidative stress, endothelial function, lipid oxidation, metabolic regulation and adiposity distribution—whereas the DASH diet primarily targets blood pressure through electrolyte-driven vascular effects. These mechanistic differences help explain the greater impact of the Mediterranean diet on long-term cardiovascular outcomes.

Mediterranean Diet: Anti-inflammatory, Antioxidant and Lipid-Regulating Mechanisms

The Mediterranean diet is rich in polyphenols, monounsaturated fatty acids, fibre and antioxidants from fruits, vegetables, legumes, nuts and extra-virgin olive oil. These components exert broad anti-inflammatory and antioxidant effects that directly target early atherosclerotic processes. Widmer et al. (2015) demonstrated that Mediterranean dietary interventions improve endothelial nitric oxide bioavailability, enhance flow-mediated dilation and reduce oxidative stress markers. These adaptations counteract endothelial dysfunction and lower vascular inflammation.

Complementary evidence from Kiani et al. (2022) shows that polyphenol-rich foods suppress pro-inflammatory signalling pathways such as NF-κB, reduce LDL oxidation and improve antioxidant capacity. Metabolomic data from Li et al. (2020) confirm favourable shifts in circulating lipid metabolites, indicating enhanced fatty acid oxidation and reduced atherogenic lipid species. Taken together, these mechanistic processes provide strong biological plausibility for the cardiovascular protection observed in long-term trials, including CORDIOPREV, especially in settings where traditional lipid markers remain unchanged due to widespread statin use.

The Mediterranean diet also exerts meaningful metabolic benefits. Tsaban et al. (2021) reported substantial reductions in visceral adipose tissue, hepatic fat content and insulin resistance in participants following the green Mediterranean diet, changes strongly linked to cardiometabolic risk reduction. These adiposity- and metabolism-related effects are further supported by systematic and observational evidence showing improved glucose regulation, reduced risk of type 2 diabetes and favourable changes in anthropometric markers (Guasch-Ferré & Willett, 2021; Laffond et al., 2023). Collectively, the Mediterranean diet influences a wide array of biological pathways that extend beyond traditional lipid modulation.

DASH Diet: Vascular and Blood Pressure–Mediated Mechanisms

The DASH diet improves cardiovascular health primarily through its effects on vascular function and electrolyte balance. Its high potassium, magnesium and calcium content, combined with low sodium intake, promotes natriuresis, reduces vascular resistance and enhances vasodilation. These nutrient-driven mechanisms produce consistent reductions in systolic and diastolic blood pressure across hypertensive, prehypertensive and normotensive groups (Filippou et al., 2020). Siervo et al. (2015) further documented improvements in arterial stiffness and vascular compliance, confirming downstream structural benefits to the vasculature.

The DASH diet also contributes modestly to metabolic improvements. Shoaibinobarian et al. (2023) observed reductions in fasting glucose and lower odds of hyperglycaemia among individuals with higher DASH adherence, although associations with dyslipidaemia, hypertension or metabolic syndrome did not remain significant after adjustment. In adults with metabolic syndrome, Yousefabadi et al. (2024) reported improvements in fasting glucose, triglycerides and surrogate indices of hepatic steatosis, though without direct assessment of visceral or hepatic fat. These metabolic effects, while beneficial, remain milder and less comprehensive than those observed in Mediterranean dietary interventions.

Integrated Comparison of Mechanisms

Whereas the DASH diet primarily influences cardiovascular risk through reductions in blood pressure, the Mediterranean diet engages multiple atheroprotective pathways simultaneously, including inflammation, oxidative stress, endothelial function, lipid oxidation, insulin sensitivity, visceral adiposity and hepatic metabolism. This multidimensional mechanistic profile aligns with the Mediterranean diet's demonstrated ability to reduce recurrent cardiovascular events in long-term trials such as CORDIOPREV (Delgado-Lista et al., 2022), and with its consistent associations with lower cardiovascular and all-cause mortality in population studies (Guasch-Ferré & Willett, 2021).

4. Discussion

The comparative evaluation of the Mediterranean and DASH dietary patterns demonstrates that although both diets offer meaningful cardiovascular benefits, they differ substantially in their dominant mechanisms, evidence strength and long-term clinical relevance.

The DASH diet remains the most effective dietary intervention for lowering blood pressure, supported by consistent evidence from randomized controlled trials and meta-analyses (Filippou et al., 2020; Siervo et al., 2015). Its emphasis on reduced sodium intake and increased consumption of potassium-, magnesium- and calcium-rich foods contributes to improvements

in vascular resistance, endothelial responsiveness and arterial stiffness. These hemodynamic effects translate into clinically meaningful reductions in hypertension, which is one of the strongest modifiable cardiovascular risk factors.

In contrast, the Mediterranean diet exerts a broader cardiometabolic influence, extending beyond blood pressure regulation to include lipid metabolism, inflammatory pathways, oxidative stress and metabolic function. Findings from the CORDIOPREV trial (Delgado-Lista et al., 2022) show that long-term adherence to the Mediterranean diet significantly reduced recurrent cardiovascular events compared with a low-fat diet, highlighting its value as an effective secondary prevention strategy. Mechanistic evidence further supports these clinical observations. Widmer et al. (2015), Kiani et al. (2022) and Li et al. (2020) demonstrated that Mediterranean dietary components reduce oxidative stress, enhance nitric oxide bioavailability, improve endothelial function and induce favorable shifts in lipid metabolites.

The Mediterranean diet also provides distinctive metabolic advantages. Evidence from randomized and observational studies consistently shows reductions in visceral adiposity, hepatic fat accumulation, insulin resistance and metabolic inflammation (Tsaban et al., 2021; Guasch-Ferré & Willett, 2021). These outcomes are strongly linked to long-term cardiovascular risk reduction. While the DASH diet also improves metabolic markers, its effects on visceral and hepatic fat appear smaller and less consistent, and several studies do not directly assess these adiposity-related endpoints (Shoaibinobarian et al., 2023; Yousefabadi et al., 2024).

A major distinction between the two diets lies in the strength of evidence for long-term cardiovascular outcomes. Although the DASH diet demonstrates robust short-term improvements in blood pressure and selected metabolic parameters, randomized controlled trials have not shown reductions in myocardial infarction, stroke or cardiovascular mortality specifically attributable to the DASH pattern. Conversely, the Mediterranean diet has demonstrated reductions in recurrent cardiovascular events in long-term trials such as CORDIOPREV. Systematic reviews provide additional support, though with important qualifiers: the Cochrane Review (Rees et al., 2019) concluded that while the Mediterranean diet may improve cardiovascular risk factors and potentially reduce cardiovascular events, the certainty of evidence remains low to moderate due to methodological limitations and heterogeneity. Nevertheless, observational research consistently associates Mediterranean diet adherence with lower all-cause and cardiovascular mortality (Guasch-Ferré & Willett, 2021).

Adherence represents an important practical determinant of long-term effectiveness. Mediterranean dietary patterns tend to be culturally adaptable, palatable and flexible, which likely contributes to sustained adherence. In contrast, the DASH diet's stricter sodium targets

and greater reliance on low-fat dairy products may limit its long-term feasibility outside controlled research settings.

Overall, the evidence demonstrates that while both diets improve cardiovascular health, they differ in scope and durability of effects. The DASH diet remains a targeted and highly effective approach for blood pressure reduction, whereas the Mediterranean diet provides a more comprehensive, multi-system cardioprotective profile supported by mechanistic, observational and long-term clinical evidence.

5. Conclusions

This review demonstrates that both the Mediterranean and DASH diets offer substantial cardiometabolic benefits, yet their strengths differ markedly in terms of physiological mechanisms and long-term impact. The DASH diet remains the most effective nutritional strategy for blood pressure reduction, supported by robust and consistent evidence from randomized clinical trials and meta-analyses across diverse populations. Its focus on reducing sodium intake while increasing consumption of potassium-, magnesium- and calcium-rich foods directly modulates vascular tone, endothelial function and hemodynamic regulation, resulting in significant decreases in systolic and diastolic blood pressure.

The Mediterranean diet, however, provides a broader and more comprehensive cardioprotective profile. Evidence from the CORDIOPREV trial and mechanistic and observational studies highlights improvements in lipid metabolism, endothelial function, systemic inflammation, oxidative stress and metabolic regulation. These effects are driven by the synergy of monounsaturated fats, polyphenols, omega-3 fatty acids and fibre, which collectively enhance reverse cholesterol transport, reduce oxidative modification of lipoproteins, improve insulin sensitivity and modulate inflammatory pathways.

Systematic reviews—including the Cochrane Review (Rees et al., 2019)—suggest potential reductions in cardiovascular risk with the Mediterranean diet, although the certainty of this evidence is rated as low to moderate due to limitations in the available trials. Nevertheless, long-term observational studies consistently identify Mediterranean diet adherence as a predictor of reduced all-cause and cardiovascular mortality.

Practical considerations further distinguish the two diets. The Mediterranean diet’s cultural flexibility, palatability and moderate restrictions support higher real-world adherence and sustainability. In contrast, while the DASH diet is highly effective in controlled environments, its stricter sodium targets may reduce long-term adherence in everyday settings.

Taken together, the available evidence indicates that although both dietary patterns contribute meaningfully to cardiovascular health, the Mediterranean diet offers more extensive and multidimensional protection against cardiovascular morbidity and mortality. While the DASH diet is an essential and effective tool for the management of hypertension, the Mediterranean diet emerges as the superior long-term approach for reducing overall cardiovascular risk and improving cardiometabolic health.

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