



Original Article

Risk Factors and Management Strategies for Early-Onset Dyslipidemia in Young Adults: A Systematic Review

Reetika Shrivastava¹, Kamna Singh², Pavan Gautam³

¹ Assistant Professor, Department of Biochemistry, S.N. Medical College, Agra, Uttar Pradesh, India.

^{2,3} Associate Professor, Department of Biochemistry, S.N. Medical College, Agra, Uttar Pradesh, India.

 OPEN ACCESS

Corresponding Author:

Reetika Shrivastava

Assistant Professor, Department of Biochemistry, S.N. Medical College, Agra, Uttar Pradesh, India.

Received: 15-01-2026

Accepted: 10-02-2026

Available online: 19-02-2026

Copyright © International Journal of Medical and Pharmaceutical Research

ABSTRACT

Background: Dyslipidemia is an established modifiable risk factor for atherosclerotic cardiovascular disease (ASCVD). Increasing evidence suggests that dyslipidemia is becoming more prevalent among young adults, leading to prolonged exposure to atherogenic lipoproteins and increased lifetime cardiovascular risk. However, risk factors and optimal management strategies specific to early-onset dyslipidemia remain insufficiently consolidated.

Objective: To systematically review the evidence on risk factors and management strategies for early-onset dyslipidemia in young adults.

Methods: A systematic literature search was conducted in PubMed, PubMed Central, and major guideline repositories for studies published between 2010 and 2025. Observational studies, intervention studies, reviews, and international clinical guidelines addressing dyslipidemia in adults aged approximately 18–40 years were included. Study selection followed PRISMA 2020 recommendations. Data were extracted and synthesized narratively due to heterogeneity in study design and outcomes.

Results: Eighteen studies met the inclusion criteria for qualitative synthesis. The prevalence of dyslipidemia among young adults ranged from approximately 10% to over 30%, with higher rates observed in males, individuals with obesity, and those with metabolic comorbidities. Major risk factors included obesity, physical inactivity, unhealthy dietary patterns, smoking, insulin resistance, type 2 diabetes mellitus, and genetic predisposition, particularly familial hypercholesterolemia. Lifestyle modification—including dietary changes, increased physical activity, and weight reduction—was consistently identified as first-line therapy. Pharmacological treatment, primarily statin therapy, was recommended for selected high-risk individuals, such as those with familial hypercholesterolemia, markedly elevated low-density lipoprotein cholesterol levels, or diabetes mellitus. Special considerations were noted for women of childbearing age and long-term adherence in young adults.

Conclusions: Early-onset dyslipidemia is a growing public health concern with significant implications for lifetime ASCVD risk. Early identification through targeted screening, sustained lifestyle interventions, and selective pharmacological therapy for high-risk individuals are essential to reduce long-term cardiovascular burden. Further age-specific research is required to optimize screening strategies and long-term management in young adult populations.

Keywords: early-onset dyslipidemia; young adults; cardiovascular risk; lifestyle intervention; statins; familial hypercholesterolemia.

INTRODUCTION

Dyslipidemia, defined as abnormal concentrations of circulating lipids such as total cholesterol, low-density lipoprotein cholesterol (LDL-C), high-density lipoprotein cholesterol (HDL-C), and triglycerides, is a well-established and modifiable

risk factor for atherosclerotic cardiovascular disease (ASCVD). Traditionally, dyslipidemia and its clinical consequences were considered diseases of middle-aged and elderly populations. However, over the past two decades, a growing body of evidence has demonstrated a rising prevalence of dyslipidemia among young adults, typically defined as individuals aged 18–40 years [1,2].

This epidemiological shift has important clinical and public health implications. Atherosclerosis is now understood to be a lifelong process that begins early in life, with lipid accumulation in the arterial wall occurring decades before the onset of overt cardiovascular events. Prolonged exposure to elevated LDL-C during young adulthood leads to greater cumulative cholesterol burden, accelerating the development of subclinical atherosclerosis and significantly increasing lifetime risk of coronary artery disease, stroke, and peripheral vascular disease [3]. Consequently, dyslipidemia occurring at a young age represents a critical window for early prevention of ASCVD.

Multiple factors have contributed to the increasing burden of early-onset dyslipidemia. Rapid urbanization, dietary transitions toward energy-dense and highly processed foods, reduced physical activity, and rising rates of overweight and obesity have profoundly altered cardiometabolic risk profiles in young populations worldwide [4]. In parallel, the global increase in insulin resistance, metabolic syndrome, and type 2 diabetes mellitus—conditions once rare in young adults—has further exacerbated lipid abnormalities [7]. Behavioral factors such as tobacco use and harmful alcohol consumption also play a significant role, particularly in low- and middle-income countries where young adult males demonstrate disproportionately high risk [4].

In addition to lifestyle-related determinants, genetic factors are a major contributor to early-onset dyslipidemia. Familial hypercholesterolemia (FH), a common autosomal dominant disorder characterized by lifelong elevation of LDL-C, is a leading cause of premature ASCVD. Despite its high cardiovascular risk, FH remains substantially underdiagnosed and undertreated, especially in young adults who are often asymptomatic [5]. Failure to identify and manage such individuals early represents a missed opportunity for effective primary prevention.

Despite the growing recognition of early-onset dyslipidemia, important challenges remain in its detection and management. Current cardiovascular risk assessment tools rely heavily on 10-year risk estimates, which markedly underestimate risk in young adults due to their age-dependent design [3,6]. As a result, many young individuals with significant lipid abnormalities or high lifetime risk may not qualify for pharmacologic therapy under traditional risk-based algorithms. Furthermore, screening recommendations for dyslipidemia in young adults vary across guidelines, and high-quality randomized controlled trials evaluating early pharmacologic intervention in this age group are limited.

Management strategies for early-onset dyslipidemia must therefore balance the benefits of early intervention against concerns related to long-term medication use, adherence, safety, and psychosocial impact. Lifestyle modification remains the foundation of therapy for all individuals, while pharmacological treatment—primarily statin therapy—is recommended for selected high-risk groups, including those with FH, markedly elevated LDL-C levels, or diabetes mellitus [3,6]. Special considerations are required for women of reproductive age, given concerns surrounding statin use and pregnancy, as well as for young adults who may face challenges related to long-term treatment acceptance.

Given these complexities, a comprehensive synthesis of existing evidence is essential to inform clinicians and policymakers. This systematic review aims to (1) summarize the epidemiology and risk factors associated with early-onset dyslipidemia in young adults and (2) critically evaluate current management strategies, including lifestyle interventions, pharmacotherapy, and special population considerations. By highlighting evidence gaps and clinical challenges, this review seeks to support improved early prevention strategies and reduce the long-term burden of ASCVD.

METHODS

Search Strategy

A systematic search of the literature was conducted using PubMed, PubMed Central (PMC), and guideline databases (AHA/ACC, ESC/EAS, USPSTF). Searches covered publications from January 2010 to March 2025. Key search terms included “*dyslipidemia*,” “*young adults*,” “*early onset dyslipidemia*,” “*lipid management*,” “*familial hypercholesterolemia*,” and “*statins*.”

Inclusion and Exclusion Criteria

Studies were included if they:

- Addressed dyslipidemia in adults aged approximately 18–40 years
- Reported on prevalence, risk factors, screening, or management
- Were observational studies, randomized controlled trials, systematic reviews, or clinical guidelines
- Were published in English

Studies focusing exclusively on pediatric populations (<18 years) or lacking lipid-related outcomes were excluded.

Data Extraction and Synthesis

Data extracted included study design, population characteristics, identified risk factors, management strategies, and key outcomes. Due to heterogeneity in study designs and outcome measures, a narrative synthesis approach was used.

RESULTS

Study Selection

The systematic literature search identified 412 records through electronic database searching. After removal of 86 duplicate records, 326 records underwent title and abstract screening. Of these, 271 records were excluded due to irrelevance to young adults, pediatric-only populations, absence of lipid-related outcomes, or non-English language.

A total of 55 full-text articles were assessed for eligibility. Following full-text review, 37 articles were excluded for the following reasons: lack of age-specific data for young adults ($n = 18$), insufficient reporting of dyslipidemia-related outcomes ($n = 11$), or commentary/editorial design without original data ($n = 8$). Ultimately, 18 studies met the inclusion criteria and were included in the qualitative synthesis (Figure 1, PRISMA flow diagram).

Of the included studies, 7 were observational or cross-sectional studies, 4 were narrative or systematic reviews, 5 were international clinical guidelines or consensus statements, and 2 were interventional studies evaluating lifestyle-based management strategies.

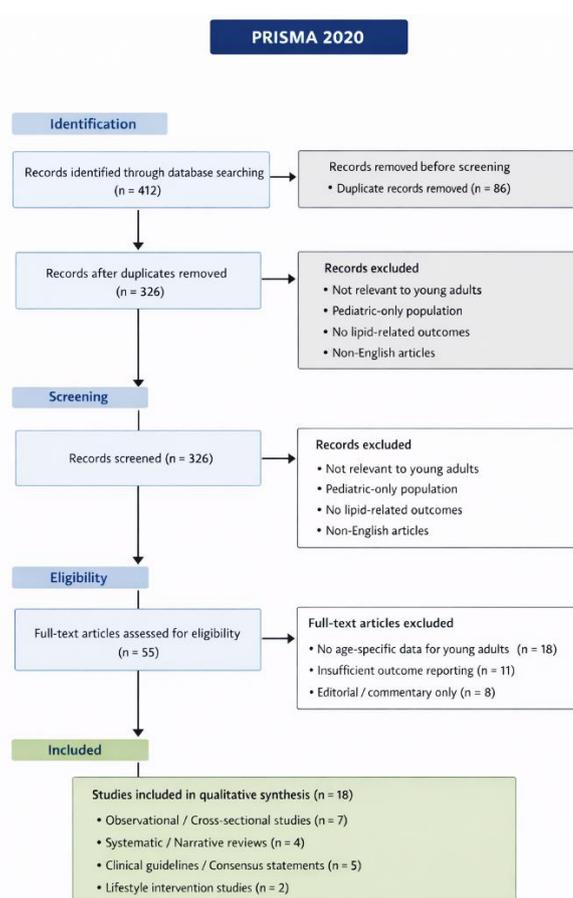


Figure 1. PRISMA 2020 flow diagram depicting the study selection process for the systematic review on early-onset dyslipidemia in young adults. The diagram outlines the identification, screening, eligibility, and inclusion stages of literature selection. A total of 412 records were identified through database searching, of which 86 duplicates were removed. After title and abstract screening of 326 records, 55 full-text articles were assessed for eligibility. Eighteen studies met the inclusion criteria and were included in the qualitative synthesis.

Characteristics of Included Studies

The characteristics of the included studies are summarized in **Table 1**. Studies were conducted across diverse geographic regions, including Asia, Europe, and North America. Most studies defined young adults as individuals aged between 18 and 40 years. Dyslipidemia definitions were largely consistent with established guideline thresholds, including elevated

LDL-C, triglycerides, total cholesterol, or reduced HDL-C. Sample sizes ranged from approximately 1,000 participants in cross-sectional surveys to over 100,000 individuals in real-world observational datasets.

Prevalence of Early-Onset Dyslipidemia

Across included population-based studies, the reported prevalence of dyslipidemia among young adults ranged from 10% to over 30%, depending on region, sex, and diagnostic criteria. Higher prevalence was consistently observed among males, individuals with overweight or obesity, and those with sedentary lifestyles. Urban populations demonstrated higher rates compared with rural counterparts in several studies. A summary of prevalence estimates and study characteristics is provided in Table 1.

Risk Factors Associated With Early-Onset Dyslipidemia

Risk factors identified across the included studies are synthesized in Table 2. Lifestyle-related factors were the most consistently reported contributors. Obesity and central adiposity emerged as the strongest modifiable risk factors, with multiple studies demonstrating a clear association between increasing body mass index and adverse lipid profiles. Physical inactivity and unhealthy dietary patterns, particularly diets high in saturated fats and refined carbohydrates, were associated with elevated LDL-C and triglyceride levels.

Behavioral factors, including cigarette smoking and harmful alcohol consumption, were moderately associated with dyslipidemia, particularly reduced HDL-C and elevated triglycerides. Metabolic comorbidities, such as insulin resistance and type 2 diabetes mellitus, were strongly linked to atherogenic dyslipidemia patterns characterized by elevated triglycerides and low HDL-C.

Genetic factors, most notably familial hypercholesterolemia, were identified as key contributors to severe early-onset hypercholesterolemia. Although reported in fewer studies, the strength of association between familial hypercholesterolemia and markedly elevated LDL-C was consistently high.

Evidence for Lifestyle Interventions

Evidence for lifestyle-based interventions is summarized in Table 3. Across intervention and review studies, dietary modification—particularly reduction of saturated fat intake and increased consumption of fiber-rich foods—resulted in significant reductions in LDL-C and total cholesterol. Structured physical activity interventions were associated with improvements in triglyceride levels and increases in HDL-C.

Weight reduction, even when modest, was consistently associated with overall improvement in lipid parameters. The level of evidence for lifestyle interventions was rated as moderate, with most studies demonstrating short- to medium-term benefits. However, long-term adherence and sustainability of lifestyle changes were not consistently evaluated.

Evidence for Pharmacological Management

Pharmacological management strategies identified in the included guidelines and reviews are summarized in Table 4. Statin therapy was consistently recommended for young adults with familial hypercholesterolemia, LDL-C levels ≥ 190 mg/dL, diabetes mellitus, or multiple cardiovascular risk factors. All major guidelines emphasized that traditional 10-year ASCVD risk calculators underestimate lifetime risk in young adults, supporting individualized risk-based decision-making.

Non-statin therapies, including ezetimibe and PCSK9 inhibitors, were recommended for individuals with statin intolerance or inadequate LDL-C reduction, particularly in cases of severe familial hypercholesterolemia. Evidence supporting pharmacologic therapy in young adults was primarily extrapolated from older populations, highlighting a lack of age-specific randomized outcome trials.

Special Populations and Safety Considerations

Special populations and safety considerations are outlined in Table 5. Women of childbearing age represented a key subgroup requiring individualized management, particularly regarding statin use and pregnancy planning. While recent evidence suggests minimal teratogenic risk with inadvertent statin exposure, routine use during pregnancy remains discouraged.

Young adults with familial hypercholesterolemia were identified as a high-risk group benefiting from early diagnosis, cascade family screening, and prompt initiation of lipid-lowering therapy. Psychosocial factors, including concerns about long-term medication use and adherence, were noted as important considerations across multiple studies.

Table 1. Characteristics of Included Studies (PRISMA Evidence Table)

Author (Year)	Country/Region	Study Design	Population (Age Range)	Sample Size	Dyslipidemia Definition	Key Findings
---------------	----------------	--------------	------------------------	-------------	-------------------------	--------------

Liu et al. (2023)	China	Observational (real-world)	Young adults (18–40 yrs)	>100,000	Elevated LDL-C, TG, TC or low HDL-C	Overall prevalence ~13%; higher in males
Iyengar et al. (2020)	India	Cross-sectional	Adults (20–39 yrs)	~1,000	Guideline-based lipid cutoffs	Obesity strongly associated with dyslipidemia
Dalal (2024)	India	Narrative review	Young adults (18–40 yrs)	—	Guideline-based	Rising dyslipidemia trends
Nordestgaard et al. (2013)	Europe	Consensus review	Adults incl. young adults	—	LDL-C \geq 190 mg/dL	FH widely underdiagnosed
Grundy et al. (2019)	USA	Clinical guideline	Adults \geq 20 yrs	—	LDL-C–based thresholds	Statin eligibility criteria
Mach et al. (2020)	Europe	Clinical guideline	Adults \geq 18 yrs	—	Risk-based	Dyslipidemia management recommendations

Table 2. Risk Factors for Early-Onset Dyslipidemia in Young Adults

Risk Factor Category	Specific Risk Factor	No. of Studies Reporting	Strength of Association	Summary of Evidence
Lifestyle	Obesity / central adiposity	\geq 5	Strong	Most consistent predictor
Lifestyle	Physical inactivity	3–4	Moderate	\uparrow TG, \downarrow HDL-C
Dietary	High saturated fat intake	3	Moderate	\uparrow LDL-C
Behavioral	Cigarette smoking	3	Moderate	\downarrow HDL-C
Behavioral	Alcohol overuse	2	Low–moderate	\uparrow TG
Metabolic	Type 2 diabetes	4	Strong	Atherogenic dyslipidemia
Genetic	Familial hypercholesterolemia	3	Strong	Severe LDL-C elevation
Sociodemographic	Male sex	4	Moderate	Higher prevalence

Table 3. Evidence for Lifestyle Interventions in Young Adults With Dyslipidemia

Study / Review	Intervention	Duration	Population	Lipid Outcomes	Level of Evidence
Varady & Jones	Diet + exercise	8–24 weeks	Adults incl. young adults	\downarrow LDL-C, \downarrow TG, \uparrow HDL-C	Moderate
Robbins et al.	Lifestyle counseling	12 weeks	Adults	\downarrow TC, \downarrow LDL-C	Moderate
Berisha et al.	Dietary modification	Variable	Adults	\downarrow LDL-C, \downarrow TG	Moderate
Observational cohorts	Weight reduction	Variable	Obese young adults	Global lipid improvement	Moderate

Table 4. Evidence for Pharmacological Management of Early-Onset Dyslipidemia

Guideline Study	Drug Class	Indication	Target Population	Key Findings	Recommendation Strength
AHA/ACC (2018)	Statins	LDL-C \geq 190 mg/dL	Young adults	Significant LDL-C reduction	Strong
ESC/EAS (2019)	Statins	FH / high lifetime risk	Young adults	Reduced ASCVD risk	Strong
ESC/EAS (2019)	Ezetimibe	Statin intolerance	High LDL-C	Additional LDL-C lowering	Moderate
PCSK9 trials	PCSK9 inhibitors	Severe FH	Selected young adults	Marked LDL-C reduction	Moderate

Table 5. Special Populations and Safety Considerations

Population	Key Issue	Evidence Source	Main Findings	Clinical Implication
Women of childbearing age	Statin use	Observational reviews	Limited teratogenic risk	Discontinue before conception
Familial hypercholesterolemia	Early ASCVD	Consensus studies	High lifetime risk	Early screening & treatment
Statin intolerance	Adherence	Guidelines	Alternative agents available	Individualized therapy
Young adults overall	Long-term adherence	Narrative reviews	Psychosocial barriers	Shared decision-making

DISCUSSION

This systematic review synthesizes evidence from 18 studies to evaluate the risk factors and management strategies for early-onset dyslipidemia in young adults. Collectively, the findings confirm that dyslipidemia is increasingly prevalent among individuals aged 18–40 years and represents a critical contributor to cumulative lifetime exposure to atherogenic lipoproteins and subsequent atherosclerotic cardiovascular disease (ASCVD) risk [1,2]. Population-based studies report prevalence estimates ranging from 10% to over 30%, with consistent variation by sex, adiposity, and geographic region [1,4].

Interpretation of Risk Factors

Obesity and central adiposity emerged as the most consistent and strongest modifiable risk factors for early-onset dyslipidemia across observational studies [4,7,15]. Excess adipose tissue promotes insulin resistance and dysregulated lipid metabolism, resulting in elevated triglycerides, reduced high-density lipoprotein cholesterol (HDL-C), and increased concentrations of atherogenic low-density lipoprotein cholesterol (LDL-C) particles [7,16]. These findings align with global data demonstrating that adverse cardiometabolic profiles often develop early in life and track into adulthood [13].

Lifestyle behaviors further compound dyslipidemic risk. Physical inactivity and diets high in saturated fats and refined carbohydrates were associated with elevated LDL-C and triglyceride levels, while cigarette smoking consistently correlated with reduced HDL-C and oxidative modification of LDL particles [8,9]. Harmful alcohol consumption was linked to hypertriglyceridemia in several cohorts [4]. Large multinational studies such as the INTERHEART study underscore the contribution of these modifiable behaviors to premature cardiovascular risk across diverse populations [12].

Metabolic comorbidities, particularly insulin resistance and type 2 diabetes mellitus, were strongly associated with atherogenic dyslipidemia patterns in young adults [4]. Early clustering of cardiometabolic risk factors substantially amplifies lifetime ASCVD risk, highlighting the importance of integrated risk assessment rather than isolated lipid evaluation [13,17].

Genetic determinants play a critical role in severe early-onset dyslipidemia. Familial hypercholesterolemia (FH), characterized by lifelong elevation of LDL-C, was consistently associated with markedly increased risk of premature ASCVD [5,18]. Despite its high prevalence and clinical significance, FH remains underdiagnosed and undertreated, particularly in young adults who may be asymptomatic [5,6]. Advances in genetic sequencing have improved diagnostic yield and support the role of cascade screening in affected families [18].

Screening and Risk Assessment Implications

The findings of this review highlight important limitations in current lipid screening and cardiovascular risk assessment strategies for young adults. Widely used 10-year risk prediction models underestimate true risk in this population because age heavily influences risk estimates [3,6,17]. As a result, many young adults with significant dyslipidemia or high lifetime ASCVD risk may not qualify for pharmacologic therapy despite substantial cumulative LDL-C exposure [16].

Targeted screening strategies focusing on individuals with obesity, diabetes, strong family history of premature ASCVD, or suspected FH appear justified [3,5,14]. Incorporation of lifetime or 30-year risk prediction models may improve identification of high-risk young adults and guide earlier preventive interventions [13,17].

Management Strategies and Clinical Implications

Lifestyle modification was consistently identified as the cornerstone of management for early-onset dyslipidemia. Dietary interventions emphasizing reduced saturated fat intake and increased consumption of fiber-rich foods demonstrated meaningful reductions in LDL-C and triglycerides [7,8,10]. Structured physical activity and modest weight loss were associated with favorable changes across lipid parameters, reinforcing the importance of early behavioral interventions [8,10].

Pharmacologic therapy, primarily statin treatment, was recommended by major international guidelines for selected high-risk young adults, including those with FH, LDL-C \geq 190 mg/dL, diabetes mellitus, or multiple cardiovascular risk factors [3,6]. Although randomized cardiovascular outcome trials specifically enrolling young adults are limited, extensive evidence supports the principle that earlier LDL-C reduction results in greater lifetime ASCVD risk reduction [16]. Non-statin therapies such as ezetimibe and PCSK9 inhibitors provide effective alternatives for individuals with statin intolerance or severe hypercholesterolemia, particularly in FH [6].

Special Populations and Safety Considerations

Women of childbearing age represent a unique subgroup requiring individualized management. Historically, statins were contraindicated during pregnancy; however, recent evidence indicates that inadvertent exposure is not strongly associated with major congenital anomalies [11]. Nonetheless, routine statin use during pregnancy remains discouraged, and preconception counseling and shared decision-making are essential when initiating long-term lipid-lowering therapy in young women [11].

Psychosocial factors, including concerns about lifelong medication use, perceived stigma, and long-term adherence, are particularly relevant in young adults and may influence treatment success [2]. Addressing these concerns through patient-centered counseling and shared decision-making is critical for sustained risk reduction.

Strengths, Limitations, and Future Directions

This review integrates evidence from observational studies, intervention trials, genetic studies, and international guidelines using a PRISMA-aligned approach, providing a comprehensive overview of early-onset dyslipidemia. However, heterogeneity in study designs, definitions of dyslipidemia, and age cutoffs limited quantitative synthesis. Importantly, there remains a lack of long-term randomized controlled trials specifically evaluating early pharmacologic intervention in young adults, with most recommendations extrapolated from older populations [3,6].

Future research should prioritize longitudinal and randomized studies assessing the long-term cardiovascular outcomes, safety, and cost-effectiveness of early lipid-lowering therapy in young adults. Improved strategies for early detection of familial hypercholesterolemia and broader adoption of lifetime risk assessment tools may further enhance prevention efforts and reduce the global burden of ASCVD.

CONCLUSION

Early-onset dyslipidemia is an increasingly prevalent condition among young adults and represents a critical determinant of lifetime atherosclerotic cardiovascular disease risk. This systematic review highlights that dyslipidemia in early adulthood is driven by a combination of modifiable lifestyle factors, metabolic comorbidities, and genetic predisposition, particularly familial hypercholesterolemia. Lifestyle modification remains the foundation of management for all affected individuals, while pharmacological therapy—primarily statins—should be considered for selected high-risk groups based on absolute lipid levels, genetic risk, and lifetime cardiovascular risk. Early identification through targeted screening, individualized risk assessment, and sustained preventive strategies has the potential to substantially reduce the long-term cardiovascular burden. Further age-specific research is needed to refine screening strategies and optimize long-term management in young adult populations.

REFERENCES

1. Liu LY, Wang W, Yin P, Liu Y, Wang L, Zhou M. Epidemic trends of dyslipidemia among young adults: a real-world study. *BMC Public Health*. 2023;23:1124.
2. Dalal JJ. Managing dyslipidaemia in young adults. *Indian Heart J*. 2024;76(1):1–7.
3. Grundy SM, Stone NJ, Bailey AL, Beam C, Birtcher KK, Blumenthal RS, et al. 2018 AHA/ACC guideline on the management of blood cholesterol. *Circulation*. 2019;139(25):e1082–e1143.
4. Iyengar SS, Puri R, Narain VS, Mishra S, Chandra KS, Reddy KS. Risk factors, comorbidities and atherogenic dyslipidaemia in young adults. *Indian J Endocrinol Metab*. 2020;24(2):116–123.
5. Nordestgaard BG, Chapman MJ, Humphries SE, Ginsberg HN, Masana L, Descamps OS, et al. Familial hypercholesterolaemia is underdiagnosed and undertreated in the general population. *Eur Heart J*. 2013;34(45):3478–3490.
6. Mach F, Baigent C, Catapano AL, Koskinas KC, Casula M, Badimon L, et al. 2019 ESC/EAS guidelines for the management of dyslipidaemias. *Eur Heart J*. 2020;41(1):111–188.
7. Berisha H, Meyer F, Müller O, Schulte DM. Nutrition and lifestyle interventions in managing dyslipidemia. *Nutrients*. 2025;17(3):455.
8. Varady KA, Jones PJH. Combination diet and exercise interventions for the treatment of dyslipidemia: a review. *Sports Med*. 2005;35(6):421–439.
9. Craig WY, Palomaki GE, Haddow JE. Cigarette smoking and serum lipid and lipoprotein concentrations: an analysis of published data. *BMJ*. 1989;298(6676):784–788.

10. Robbins CL, Dietz WH. Lifestyle interventions for dyslipidemia and hypertension. *Am J Prev Med.* 2011;40(2):141–151.
11. Poornima IG, Mackey RH, Hulley SB. Update on statin use in pregnancy. *Am J Med.* 2022;135(8):915–921.
12. Yusuf S, Hawken S, Ôunpuu S, Dans T, Avezum A, Lanas F, et al. Effect of potentially modifiable risk factors associated with myocardial infarction in 52 countries (INTERHEART study). *Lancet.* 2004;364(9438):937–952.
13. Lloyd-Jones DM, Leip EP, Larson MG, D’Agostino RB, Beiser A, Wilson PW, et al. Prediction of lifetime risk for cardiovascular disease by risk factor burden at 50 years of age. *Circulation.* 2006;113(6):791–798.
14. Bibbins-Domingo K, Grossman DC, Curry SJ, Davidson KW, Epling JW Jr, García FAR, et al. Screening for lipid disorders in adults: US Preventive Services Task Force recommendation statement. *JAMA.* 2016;316(6):625–637.
15. Misra A, Shrivastava U. Obesity and dyslipidemia in South Asians. *Nutrient Metabolism & Cardiovascular Diseases.* 2013;23(9):831–838.
16. Ference BA, Ginsberg HN, Graham I, Ray KK, Packard CJ, Bruckert E, et al. Low-density lipoproteins cause atherosclerotic cardiovascular disease. *Eur Heart J.* 2017;38(32):2459–2472.
17. Pencina MJ, D’Agostino RB, Larson MG, Massaro JM, Vasan RS. Predicting the 30-year risk of cardiovascular disease. *Circulation.* 2009;119(24):3078–3084.
18. Khera AV, Won HH, Peloso GM, Lawson KS, Bartz TM, Deng X, et al. Diagnostic yield and clinical utility of sequencing familial hypercholesterolemia genes. *J Am Coll Cardiol.* 2016;67(22):2578–2589.