المركز الوطني للقلب
National Heart Center

المجلس الصحي السعودي
Saudi Health Council

Supplementary Material

Saudi Guidelines for Dyslipidemia Management

The Task Force for Dyslipidemia Management Guideline

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Supplementary Table 1. Recommendations for ASCVD risk factors; Age and Air pollution and their corresponding interventions in Saudi Arabia

Risk Factor	Recommended Intervention/goal	COR[a]	LOE[b]
Age			
In apparently healthy people with low-to-moderate CVD risk; SCORE <2.5% in people <50 years of age; SCORE <5% in people 50-69 years of age; SCORE <7.5% in people ≥70 years of age	Risk factor treatment is not recommended	III	**A** [1–3]
In apparently healthy people with high CVD risk; SCORE 2.5 to <7.5% in people <50 years of age; SCORE 5 to <10% in people 50-69 years of age; SCORE 7.5 to <15% in people ≥70 years of age	Risk factor treatment should be considered	IIa	**A** [1–3]
In apparently healthy people with very-high CVD risk; SCORE ≥7.5% in people <50 years of age; SCORE ≥10% in people 50-69 years of age; SCORE ≥15% in people ≥70 years of age	Risk factor treatment is recommended	I	**A** [1–3]
Air pollution	Implementation of in place measures to reduce air pollution (i.e., reducing PM emission and gaseous pollutants, reducing the use of fossil fuels, and limiting carbon dioxide emissions) is recommended to reduce CVD mortality and morbidity	I	**A** [1]
	Patients at very/high risk for CVD may be	IIb	**C** [1]

	encouraged to avoid long-term exposure to high air pollution		
	In regions where people have long-term exposure to high levels of air pollution, screening programs for CVD risk may be considered	IIb	**C** [1]

ASCVD= atherosclerotic cardiovascular disease; CVD = cardiovascular disease; PM = particulate matter; SCORE = Systematic Coronary Risk Estimation.
[a]Class of recommendation
[b]Level of evidence

Supplementary Table 2. **Familial dyslipidemia disorders**

Disorder	Gene(s)	Effect on lipoproteins	Other manifestations or criteria	If untreated
FH [4,5]	*LDLR* *APO-B* *PCSK9*	↑ LDL-C	Xanthomas	Increase CV risk
HeFH [4,5]	*LDLR* *APO-B* *PCSK9*	↑↑ LDL-C (in the range of 155 to 500 mg/dL)	Tendon/skin xanthomas	Develop early CAD before the age of 55 years (men) and 60 years (women)
HoFH [4,5]	*LDLR* *APO-B* *PCSK9*	↑↑ LDL-C (can reach > 600 mg/dL)	Planar and tendinous xanthomas, valvar and supravalvar atheroma	Rarely survive beyond the age of 30 years
FCH [4]	*USF1* + modifying genes	↑ LDL-C and/or high TGs ↑ VLDL-C ↑ Apo-B	The combination of Apo-B >120 mg/dL and TGs >1.5 mmol/L (>133 mg/dL) with a family history of premature CVD can be used to identify people who most probably have FCH.	Develop premature CAD
Familial dysbetalipoproteinemia [4]	*APO-E*	↑↑ IDL and chylomicron remnants (βVLDL) ↑ TC and ↑ TGs (usually both in the range of 7-10 mmol/L)	In severe cases, patients develop tuberoeruptive xanthomas (particularly over the elbows and knees), and palmar	Very high risk of CAD and accelerated atherosclerosis of the femoral and tibial arteries

			xanthomata (in the skin of the hands and wrists)	
Hypertriglyceridaemia [4]	*LPL* *APO-C2* *APO-A5* *LMF1* *GPIHBP1* *GPD1*	Profound defect in the catabolism of chylomicrons and VLDL leading to chylomicronemia and ↑ TG levels >11.2 mmol/L (>1000 mg/dL)	Turbid and milky serum	Chylomicronemia, pancreatitis, and lipid deposits.

Apo = apolipoprotein; CAD = coronary artery disease; CV = cardiovascular; FCH = familial combined hyperlipidemia; FH = familial hypercholesterolemia; HDL-C = high-density lipoprotein cholesterol; HeFH = heterozygous familial hypercholesterolemia; HoFH = homozygous familial hypercholesterolemia; IDL = intermediate-density lipoprotein; LDL-C = low-density lipoprotein cholesterol; VLDL = very low-density lipoprotein cholesterol. ASCVD= atherosclerotic cardiovascular disease; TC = total cholesterol; TGs = triglycerides.

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