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REVIEW ARTICLE

Experts' Perspectives on the Current Practices and Gaps in the Management of Dyslipidemia: A Report from The United Arab Emirates

Abdullah M.A. Shehab[1], Hani Sabbour[2,3,*], Hosam Abdelaziz Zaky[4], Joseph P. Kurian[5] and Mohamed I. Salem[6]

[1]*Department of Internal Medicine, College of Medicine and Health Sciences UAE University, Al Ain, Abu Dhabi, United Arab Emirates*
[2]*Heart and Vascular Institute, Cleveland Clinic Abu Dhabi, Abu Dhabi, United Arab Emirates*
[3]*Warren Alpert School of Medicine, Brown University, Rhode Island, USA*
[4]*Department of Cardiology, Dubai Hospital, Dubai Health Authority, Dubai, United Arab Emirates*
[5]*Department of Cardiology, LLH Hospital, Abu Dhabi, United Arab Emirates*
[6]*The Heart and Vascular Center, American Hospital, Dubai, United Arab Emirates*

Abstract:

Background:

The prevalence of dyslipidemia in the United Arab Emirates (UAE) can be as high as 72.5%. Patients with dyslipidemia usually present with other metabolic risk factors, increasing their risk of acute cardiovascular diseases (CVD). Despite these alarming findings, local data regarding management practices in the UAE are lacking. The current report gathered the perspectives of experts from the UAE regarding the burden and current practices in managing dyslipidemia, as well as the current unmet needs and treatment gaps.

Methods:

The present perspective is based on a consensus meeting that gathered the insights of six consultant cardiologists. All experts were affiliated with academic institutions representing the UAE's different geographical areas.

Findings and Conclusion:

Data regarding the prevalence of dyslipidemia in the UAE and its associated ethnic differences are lacking. It is suggested that there needs to be more adherence to international recommendations for screening lipid profiles in primary care centers, which may lead to underestimating the burden of dyslipidemia. As CVD presents at a younger age in the UAE, screening for lipid profile at 35 is recommended, regardless of CVD risk. The panel emphasized that most dyslipidemia patients in the UAE are categorized as high or very high-risk groups for CVD; however, current risk assessment tools have not been validated in the UAE population and may not be tailored to the Middle Eastern and Asian populations. International guidelines have recommended the high-intensity statins-ezetimibe combination for high and very high-risk patients; the experts stated that the high-intensity statins-ezetimibe combination could be initiated in high-risk groups in the UAE. Several barriers to effectively controlling dyslipidemia in the UAE have been identified, including non-adherence, limited awareness about screening and management recommendations, and physician inertia toward achieving the recommended therapeutic goals.

Keywords: Dyslipidemia, Standard of Care, Statins-ezetimibe combination, Patient profile, Unmet needs, United Arab Emirates.

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1. INTRODUCTION

The prevalence of cardiovascular diseases (CVDs) has increased in the Middle East, becoming the region's leading cause of morbidity and mortality. Recent statistics demonstrated that nearly 10% of the Middle Eastern population suffer from CVDs, reflecting their high burden on the public health system and healthcare resource utilization [1]. It was estimated that CVD accounted for 54% of non-communicable disease-related deaths in the Middle East, with an estimated 48% increase in CVD-related deaths in the region since 1990 [2]. The high prevalence of lifestyle and environmental risk factors of CVDs is the main driver for the substantial increase in CVD burden in the Middle East [3, 4]. In particular, the prevalence of dyslipidemia is notably high, affecting 21.5-68% of the population in the Middle East [1].

Dyslipidemia is a well-established risk factor for atheros-

* Address correspondence to this author at the Heart and Vascular Institute, Cleveland Clinic Abu Dhabi, Abu Dhabi, United Arab Emirates;
E-mail: hanisabbour1@icloud.com

clerotic CVD. Nearly 4.5% of global mortality and 2% of disability-adjusted life years (DALYs) are attributed to dyslipidemia [5]. In 2019, 44.3% of ischemic heart disease (IHD) deaths, nearly 3.8 million deaths, and 22.4% of stroke-related deaths were attributed to elevated low-density lipoprotein cholesterol (LDL-C) [6]. On the other hand, a cumulative body of population-based studies demonstrated that favorable lipid profiles are associated with a significant reduction in CVD morbidity and mortality [7]. Effective modifications of lipid profiles significantly reduce the development of fatty streaks in atherosclerotic lesions and prevent atherosclerosis progression to vascular beds [8]. Therefore, several international and regional guidelines guide the screening and management of dyslipidemia in at-risk populations. Bariatric surgery has emerged as a potentially beneficial intervention for dyslipidemia, often resulting in significant improvements in lipid profiles post-surgery [9]. This surgical option may be a necessary adjunctive therapy for morbidly obese patients without lipid control through pharmacological treatments or lifestyle modifications [10, 11]. Still, real-world data indicate suboptimal management of dyslipidemia and limited adherence to lifestyle changes and pharmacological therapy among patients; in a recent report, only 43% of the very high-risk dyslipidemia patients were on optimal evidence-guided treatment [12]. Such alarming figures necessitate the development of local consensuses to address the unmet needs in managing dyslipidemia at a national level.

Previous reports showed that the prevalence of dyslipidemia in the United Arab Emirates (UAE) can be as high as 72.5% [5]. Besides, dyslipidemia patients in the UAE are usually associated with other metabolic risk factors, increasing the risk of CVD [13]. Despite these alarming findings, local data regarding the burden, patient profiles, management practices, and the use of lipid-lowering agents in the UAE are lacking. There needs to be a unified protocol for managing adult patients with dyslipidemia in the UAE. Therefore, the current report aims to gather the perspectives of expert cardiologists from the UAE regarding the burden and current practices in managing dyslipidemia. The report highlighted the unmet needs and treatment gaps and provided recommendations to optimize the management of dyslipidemia.

2. METHODOLOGY

The present perspective is derived from an advisory meeting held in December 2022 to gather expert opinions on the burden and management practices of dyslipidemia in the UAE. The meeting convened six consultant cardiologists, each affiliated with an academic institution representing diverse geographical areas within the UAE. Before the meeting, an agenda was circulated outlining the topics and questions to be addressed, aiming for a structured discussion. The meeting was conducted following a modified Delphi methodology to reach a consensus.

During the meeting, each expert presented insights based on their clinical experiences and relevant data, followed by open discussions. These discussions were audio-recorded and transcribed verbatim for accuracy. Post-meeting, a comprehensive literature search was carried out using Medline via PubMed, Scopus, and Web of Science to supplement the discussion and to retrieve up-to-date, peer-reviewed articles relevant to dyslipidemia in the UAE.

A medical writer prepared the initial draft of this report experienced in the field, and the content was validated through two rounds of revisions. First, the draft was circulated among all panel members for individual review. Comments and corrections were collated into a second draft, which was then collectively reviewed in a follow-up virtual meeting to ensure accuracy and to reach a consensus on the content. All experts approved the manuscript, confirming that it accurately represents the insights and agreements gained during the advisory meeting. This rigorous methodological approach was employed to ensure that the perspective presented here is both systematic and reflective of the collective expertise of the participating cardiologists.

2.1. Epidemiology of Dyslipidemia and Patient Profiles in UAE

The prevalence of dyslipidemia, usually defined as elevated levels of LDL-C and remnant cholesterol, has witnessed a progressive increase since 1990 [14]. In the NHANES study, the prevalence of dyslipidemia in the United States (US) was 52.9%. At the same time, the MESA study showed a prevalence of 29.3% [15]. According to the NCD-RisC registry covering 102.6 million participants, the trend of non-high-density lipoprotein (non-HDL) levels showed a significant increase in the Middle East from 1980 to 2018, despite the observed little change in the global direction [16]. Such trends are attributed to the difference in the dietary habits of the Middle Eastern population, rapid urbanization, and population aging. Population-based studies noted a very high prevalence of dyslipidemia, regardless of the definitions used and cut-off values. Data show that the majority of dyslipidemia can be as high as 80% in some Middle East countries [14]. In a recent systematic review, the prevalence of dyslipidemia ranged from 21.5 to 68% [1].

A growing body of evidence assessed the prevalence of lipid abnormalities in the UAE and showed a notably higher prevalence than the global figures. A population-based study from the UAE indicated that the overall prevalence of dyslipidemia was 72.5%, with 38.6% of the participants having high LDL-C [5]. In a recent cross-sectional study of 3,212 subjects from the UAE, the prevalence of hypertriglyceridemia was 35% [17]. In patients with CVD from the UAE, the majority of high LDL-C was 39.3% [18]. The increased prevalence of dyslipidemia is believed to stem from changes in dietary habits and the rapid increase in the incidence of obesity and diabetes. Besides, familial hypercholesterolemia (FH) incidence is comparatively high in the UAE. According to the Gulf FH registry, the prevalence of FH in the UAE is nearly 0.9%, three times more elevated than the global incidence rates [19].

The panel highlighted the lack of a national registry for accurate estimation of the prevalence of dyslipidemia in the UAE and data regarding the ethnic differences in the dyslipidemia prevalence. Cardiologists from the UAE stated that nearly 70% of cardiology clinic patients have

dyslipidemia. Despite this high prevalence, dyslipidemia is still underdiagnosed in primary health care in the UAE, with a limited application of international recommendations for the screening of lipid profiles. Besides, risk factors for CVD are usually not captured in the regional electronic medical records, further underestimating the true prevalence of dyslipidemia in the country.

Metabolic comorbidities are common findings in patients with dyslipidemia. The co-existence of hypertension and diabetes in patients with lipid disorders is commonly encountered in clinical practice and significantly increases the risk of major cardiovascular events [20]. Data from the Middle East indicate that up to 83% of diabetic patients in the region have dyslipidemia [21]. Figures from the UAE appear to be similar; in a previous cross-sectional study, it was found that 61.9% of diabetic patients had hypertriglyceridemia, and 9% had high LDL-C [22]. Another sizeable population-based study from UAE found that 35.9-54.7% of the dyslipidemia patients had type 2 diabetes [5]. Comorbidities in dyslipidemia patients appear higher in patients with CVD events from the UAE. According to Mahmeed et al., nearly 85% of patients on lipid-lowering agents presenting with acute coronary syndromes had diabetes, and 90% had hypertension [18].

The panel agreed on the high prevalence of comorbidities in patients with dyslipidemia. They noted that patients with microvascular complications have a very high prevalence of dyslipidemia in the UAE. The high prevalence of comorbidities in dyslipidemia patients is attributed mainly to the lack of awareness about the importance of routine annual health check-ups and lifestyle factors.

2.2. Screening and Diagnostic Pathways

2.2.1. Screening and Diagnosis

There is a universal consensus on the importance of screening dyslipidemia among apparently healthy individuals; however, the screening recommendations vary across international guidelines. According to the updated European Society of Cardiology (ESC)/European Atherosclerosis Society (EAS) guideline, lipid profile screening should be performed in men and women aged >40 and 50 years of age, respectively [23]. In comparison, the updated US Preventive Services Task Force (USPSTF) statement recommended lipid profile screening for adults aged >40 years of age with at least one risk factor for CVD and no history of CVD [24]. The American Association of Clinical Endocrinologists (AACE)/American College of Endocrinology (ACE) guideline recommends screening every 1-2 years for middle-aged adults with no CVD risk factors. The frequency of screening should be increased in patients with elevated CVD risk scores [25]. Despite these clear guidelines, evidence from the Gulf Cooperation Council (GCC) countries, particularly Saudi Arabia, highlights notable gaps in the screening and diagnosis of dyslipidemia. A study by Amir et al. revealed that 34.6% of Saudi patients with potential dyslipidemia underwent screening; of those, only 17.8% received a formal diagnosis [26]. This data underscores the need for more comprehensive implementation of screening and diagnostic procedures in line with established guidelines to manage this condition better.

In the UAE, the panel recommended LDL-C screening at 35 years, regardless of CVD risk, while the Nursing Care Plan recommends random screening from 20 years in individuals with relevant family history. Abu Dhabi has a comprehensive periodic screening program (IFHAS) for Emiratis aged≥20 years. This program includes HbA1c, blood pressure, and lipid profiles. Regarding testing frequency, lipid profile screening is recommended annually; however, lipid profile measurements can be repeated after three months in patients with very high baseline LDL-C. In some cases, re-testing may be done after six months to monitor adherence.

The role of lipids and lipoproteins in the development of atherosclerosis is well-established. Long-term prospective studies demonstrated a log-linear relationship between CVD and changes in LDL-C, triglycerides, and lipoprotein [27, 28]. Therefore, screening of lipid profiles in routine practice should include these measurements. Previous reports showed insignificant differences between fasting and non-fasting samples [29]. Due to their practical advantages, the ESC/EAS recommended non-fasting models for general screening [23]. In the UAE, the panel emphasized the importance of requesting a complete lipid profile, including triglycerides, lipoproteins, and non-HDL-C. Lipoproteins are usually tested in cases with FH or a family history of CVD. Other laboratory tests are typically needed to calculate the CVD risk, including HbA1c, coronary artery calcium (CAC) score, ankle-brachial index, and high-sensitivity C-reactive protein (hs-CRP). In UAE, LDL-direct/calculated is only approved when the triglyceride level is > 400 mg/dL.

2.2.2. CVD Risk Assessment

Risk stratification is the cornerstone for developing CVD risk reduction strategies in at-risk populations, including patients with dyslipidemia. Patients with established CVD, chronic kidney disease, and diabetes are generally considered high or very high-risk groups and should be treated for all existing CVD risk factors. On the other hand, several risk assessment tools are available for risk stratification in different population groups; however, limited country-specific validation studies exist for these tools [30]. The European guidelines recommend the SCORE (Systematic Coronary Risk Estimation) system for CVD risk reduction based on estimating the 10-year risk of fatal events [31]. The American College of Cardiology (ACC)/American Heart Association (AHA) developed the atherosclerotic CVD risk prediction tool, which showed high agreement with the Framingham Risk Score [32]. The QRISK is another validated risk prediction tool that can be used in patients aged >35 years old [33], while other standard tools are used for patients aged > 40 years old.

The panel confirmed that most dyslipidemia patients in the UAE (some estimated figures around 70%) have a high or very high-risk of acute cardiovascular events at presentation, which is attributed to the high prevalence of CVD risk factors in the UAE population. For example, prediabetic patients (considered a moderate-risk group) frequently present with hypertension, obesity, and LDL-C >100 mg/dl, putting them at higher risk categories. Likewise, a considerable proportion of the patients current with an estimated glomerular filtration rate (eGFR) <60

mL/min/1.73m^2 is another strong CVD predictor that accelerates atherosclerotic plaque formation.

2.2.3. Patient Referral

Dyslipidemia remains an underdiagnosed condition despite its significant impact on CVD risk. Primary care physicians (PCPs) are crucial in referring at-risk populations for lipid profile screening. A recent systematic review from the UAE showed that PCP awareness of dyslipidemia screening protocols improved the diagnosis and decision pathways of the patients [34]. Besides, PCPs widely manage dyslipidemia patients and initiate lipid-lowering agents [35]. Nonetheless, a recent report from the Middle East indicated limited adherence to dyslipidemia screening protocols among PCPs, which was attributed to the need for more knowledge of the recommendations of current guidelines [36].

The panel highlighted that only 20% of the patients with dyslipidemia are referred to them, while PCPs or internal medicine specialists treat the remaining patients. Patients are usually referred if they have resistant FH, poor response to lipid-lowering agents or very high LDL-C (>8 mmol/L) at diagnosis. However, despite the prominent role of PCPs in managing dyslipidemia, the panel highlighted the poor coordination between healthcare providers involved in managing dyslipidemia in the UAE. Besides, they agreed that there needs to be more compliance with international recommendations for patients with high LDL-C blood levels, further challenging the patient care pathway.

2.3. Management Practices in UAE

2.3.1. Therapeutic Targets of Dyslipidemia

Most international guidelines recommend LDL-C level as the primary therapeutic target in patients with dyslipidemia. At the same time, non-HDL-C and/or apolipoprotein B can be considered a secondary treatment target [23, 37 - 39]. However, there are variations in the recommended therapeutic target levels across different international and local guidelines. In the 2019 ESC /EAS guidelines, an LDL-C level <55 mg/dL is the recommended therapeutic goal for high-risk patients in primary or secondary prevention. For patients with a history of atherosclerotic CVD within two years, a level of <40 mg/dL is recommended [23]. On the contrary, local guidelines from East and Southeast Asian countries recommend an LDL-C level of <70 mg/dL for very high-risk patients [40]. The panel stated that the recommended LDL-C targets for very high and high-risk patients in the UAE are <55 and <70mg/dL, respectively. The recommended target for patients with a documented cardiovascular event is <40mg/dL. The recommended LDL-C targets for moderate and low-risk patients are <100 and <150mg/dL, respectively.

2.3.2. Treatment Selection

Alongside lifestyle modifications, statins are the recommended first-line agents according to most guidelines [23, 37 - 39]. The cumulative body of clinical trials and real-world evidence confirmed the efficacy in decreasing the risk of atherosclerotic CVD, with no LDL-C cut-off value in which statins have no beneficial effect. In the ARIC trial, a 1.0 mmol/L reduction in the LDL-C on statins was associated with a 24% reduction in major adverse cardiac events (MACE) [41]. Other trials, such as the IDEAL and PROVE-IT, showed a more significant reduction in MACE with high-intensity statins than with moderate-intensity regimens [42].

However, despite the efficacy of statins, a considerable risk of MACE still exists in patients who achieved an LDL-C level < 2 mmol/L on high-intensity statins, “residual risk” [43]. Besides, it has been demonstrated that only a few patients who required secondary prevention achieved an optimal LDL-C level of <1.8 mmol/L on high-intensity statin therapy [44]. Therefore, the add-on ezetimibe, a cholesterol absorption inhibitor, has been suggested to reduce LDL-C levels and better protection from MACE significantly. Previous reports showed that add-on ezetimibe led to a further 15-20% reduction in the LDL-C levels compared to statin monotherapy, resulting in a net decrease of 34–61% [42]. In the phase III IMPROVE-IT and I-ROSETTE trials, add-on ezetimibe significantly reduced LDL-C levels more than statin monotherapy, with a well-tolerable safety profile [45, 46]. The combination therapy was also associated with significantly more patients achieving the therapeutic targets [45, 46]. Thus, most guidelines recommend combination therapy for high and very high-risk patients who did not reach the LDL-C goal with the maximum tolerated dose of statins [23, 37 - 39]. PCSK9 inhibitors (PCSK9i) are also recommended in resistant cases.

Beyond pharmacological therapy, bariatric surgery has increasingly been recognized as a potent intervention for managing dyslipidemia, especially in morbidly obese patients who have not achieved lipid control through pharmacological or lifestyle measures. Several studies have documented significant improvements in lipid profiles following bariatric surgery [47 - 49]. Additionally, several meta-analyses showed that bariatric procedures substantially reduced total cholesterol, LDL cholesterol, and triglycerides while increasing HDL cholesterol levels [11, 50]. According to a network meta-analysis, the most effective technique was Roux-en-Y gastric bypass (RYGBP), followed by biliopancreatic diversion without duodenal switch (BPD), laparoscopic sleeve gastrectomy (LSG), and laparoscopic-adjustable gastric banding (LAGB) in terms of improving total cholesterol, triglycerides, LDL-C, and HDL-C [50]. A study by Schauer et al. demonstrated that bariatric surgery was more effective than intensive medical therapy in achieving lipid control in patients with type 2 diabetes [51]. These improvements are often sustained long-term, reducing the risk of cardiovascular complications associated with dyslipidemia [49]. In UAE, there is scarce evidence regarding the efficacy of bariatric surgery in terms of dyslipidemia management.

The panel confirmed that lifestyle change is essential to treating dyslipidemia in the UAE. Due to the individual variability in the CVD lipoprotein, even when the LDL-C goal of 1.4 mmol/L is reached, and the limited benefits of doubling the dose of statin therapy, combination therapy is considered an effective and well-tolerable option for high and very high-risk patients. The experts highlighted that, in their practice, combination therapy is associated with a higher proportion of

patients achieving the LDL-C goal of 1.4 mmol/L than a high-intensity statin. Therefore, they stated that moderate dose combination treatment (statins plus ezetimibe) can be initiated for high-risk patients (70% of their cases) and titrated down if needed. This practice is used for primary and secondary prevention issues with high CVD risk. For example, combination therapy can achieve an LDL level <1.4-1.8 mmol/L in high-risk patients after myocardial infarction.

In case of failed response, intolerance to statins, or FH, PCSK9 can be prescribed. However, only cardiologists in the UAE prescribe PCSK9is because of the price of the medication and clearance issues with medical insurance companies.

2.4. Experts' Perspectives on Management Gaps in UAE

The UAE healthcare authority adopted the multisectoral national action plan that aligns with the World Health Organization's (WHO) 2030 goals to reduce CVD mortality [52]. While the prevention, early detection, and effective treatment of CVD risk factors are the main pillars of this action plan, it is crucial to accurately reflect the burden of different CVD risk factors in the UAE and patients' characteristics to provide patient-centric approaches. Due to several factors, the exact burden of dyslipidemia in the UAE is still unclear. Data regarding the country-specific cut-off values for lipid measurements are scarce, which limits the development of standardized definitions for dyslipidemia and criteria for initiating pharmacological therapy. Besides, there is no national registry for dyslipidemia patients in the UAE to allow for accurate epidemiological estimations and good coordination between healthcare sectors; CVD risk factors are not usually included in the regional electronic medical records. Therefore, further research and a national registry are needed to obtain local data to inform healthcare policies in the UAE.

The panel also highlighted the unmet needs regarding the screening of dyslipidemia. The experts agreed that dyslipidemia is an underdiagnosed condition in the UAE. There needs more awareness amongst PCPs regarding the international recommendations for screening individuals with or without risk factors. Besides, the global recommendations may be tailored to something other than the UAE population. Previous reports showed that CVD presents at younger ages in the Middle East [4]. Thus, local recommendations for screening CVD risk factors are needed to account for the characteristics of the Middle Eastern population. Such local guidance should also consider tailored recommendations for the screening of FH. The burden of FH in the UAE is believed to be underestimated due to poor awareness of genetic risk factors [15]. FH is an autosomal disorder with a higher prevalence in countries with high consanguinity rates [53]. Patients with FH had a 20-fold increase in the risk of CVD [54]. Despite the recent efforts to establish a regional FH registry [19], local data assessing the cost-effectiveness of genetic screening in the UAE are lacking; besides, there are no local recommendations in the region for cascade genetic screening [15].

Early diagnosis and risk stratification of dyslipidemia in the UAE can be challenging due to the limited knowledge and adherence to international guidelines by PCPs. The panel emphasized that the routine practice for diagnosing dyslipidemia and stratifying CVD risk in the UAE needs to be aligned with recent guidelines' updates. The commission confirmed that treating physicians use different reference ranges and interpret the risk scores according to their understanding, which can vary from one practitioner to another. Besides, there is a lack of country-specific validation of standard risk assessment tools; the currently available tools are not tailored to the Middle Eastern and Asian populations commonly found in the UAE. Therefore, local validation studies are needed to develop country-specific risk assessment tools in the UAE. The value of utilizing non-HDL-C as a cost-effective marker in the UAE has yet to be studied, which warrants further research.

The panel also highlighted that poor compliance with evidence-based recommendations is widely observed in clinical practice. Previous reports showed that adequate doses of statins need to be more utilized, mainly in high-risk patients in the Gulf region, which was attributed to limited awareness of international recommendations and concerns regarding the tolerability of statins [55]. In return, many patients with high and very high CVD risk must be adequately controlled according to the recommended LDL-C treatment goals [56]. The experts estimated that less than 25% of the patients in clinical practice are adequately controlled. Therefore, local guidelines are needed to optimize the management of dyslipidemia in the UAE by providing tailored recommendations for the adequate use of statins and the benefits of combination therapies.

The need for more awareness of recent guidelines updates regarding pharmacological therapy for dyslipidemia is a significant cause of poor compliance with international recommendations. Previous reports showed that a considerable proportion of physicians from the Gulf region need to be made aware of guidelines updates and that, even in those who stated good knowledge of guidelines updates, more attention is given to achieving non-HDL-C and apolipoprotein therapeutic goals [57]. Besides, limited adherence was reported among patients with dyslipidemia in the UAE. In a recent report, only 26.8% of the patients adhered to the prescribed medications. Several factors were attributed to the high non-adherence rate, including misbelief about medication safety and harm [58]. Physician and patient education programs are crucial to reducing CVD morbidity and mortality. It is essential to educate patients about dyslipidemia as a risk factor in developing CVD and the need for it to be treated in both primary and secondary prevention, especially in those with multiple risk factors. Considerable efforts to educate physicians and the general public on the importance of lowering LDL-C with medications, such as statins and combination therapy, play a central role in managing hyperlipidemia. Risk communication strategies are also essential to avoid misinformation and communication gaps with patients regarding disease progression.

Lastly, a long-term strategic plan for sustainability for the expatriate population needs to be implemented.

CONCLUSION

The present perspective highlights the UAE's practices and gaps in managing dyslipidemia. Data regarding the prevalence of dyslipidemia in the UAE and its associated ethnic differences are limited, which may underestimate the burden of dyslipidemia in the country. Besides, there needs to be more local recommendations for screening dyslipidemia in primary care centers, and international recommendations may not be tailored to the UAE population. The current risk assessment tools have not been validated in the Middle Eastern and Asian populations as well. The statins-ezetimibe combination demonstrated a significant response and well-tolerable safety profile in high-risk patients. However, several barriers to effectively controlling dyslipidemia in the UAE have been identified, including non-adherence, limited awareness about screening and management recommendations, and physician inertia toward achieving the recommended therapeutic goals.

RECOMMENDATIONS

The experts recommended establishing a national dyslipidemia registry for a more accurate prevalence estimation and to monitor treatment outcomes. In addition, they advocated for conducting further research to validate country-specific cut-off values for lipid measurements and criteria for initiating pharmacological therapy. In terms of screening and diagnosis, they suggested implementing mandatory lipid profile screening starting at age 35 or earlier for individuals with a family history of CVD, as per the panel's consensus. Moreover, they encourage primary care providers to strictly follow international guidelines for dyslipidemia screening, incorporating tailored regional adjustments. Regarding risk stratification, the experts recommended developing local validation studies to create UAE-specific risk assessment tools, incorporating variables like eGFR and hs-CRP. Additionally, they encourage using a complete lipid profile, including triglycerides, lipoproteins, and non-HDL-C, for a comprehensive CVD risk assessment. Treatment modalities should prioritize lifestyle changes and promote combination therapies such as statins and ezetimibe, particularly for high-risk groups. PCSK9 inhibitors should be more accessible for patients not responding to other treatments. Integrated electronic medical records and standardized treatment protocols can streamline coordination between healthcare providers. Provider and patient education is essential for improving adherence to treatment plans, and special attention should be paid to the expatriate population for long-term, sustainable care. Implementing these recommendations requires a multi-faceted approach aligned with WHO's 2030 goals to effectively close gaps in dyslipidemia diagnosis and treatment within the UAE.

LIST OF ABBREVIATIONS

CVD	=	Cardiovascular diseases
DALYs	=	Disability-adjusted life years
IHD	=	Ischemic heart disease
LDL-C	=	Low-density Lipoprotein Cholesterol
PCPs	=	Primary Care Physicians

CONSENT FOR PUBLICATION

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