

Vitamin d, iron deficiencies: Saudi, uae.

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Introduction

Micronutrients are vital for overall health, growth, and disease prevention. Their adequate intake is crucial across all life stages. Deficiencies remain a significant global public health challenge, particularly where dietary patterns, cultural practices, and environmental factors may limit intake. The Middle East, with its unique blend of lifestyles, presents a complex landscape for micronutrient status. Understanding prevalence, contributing factors, and potential interventions is essential for developing effective public health strategies.

Recent research from Saudi Arabia and the United Arab Emirates consistently identifies a high prevalence of various micronutrient deficiencies, signaling a critical public health concern. A systematic review and meta-analysis highlights widespread vitamin D deficiency among adults in Saudi Arabia. Data indicates a significant portion suffers inadequate levels, often linked to limited sun exposure, cultural practices, and dietary patterns characteristic of the Arabian region [1].

A cross-sectional study investigated micronutrient status among Saudi adolescents, revealing concerning iron and vitamin D deficiencies. These findings underscore the importance of dietary assessment and public health interventions [2].

Dietary intakes of vitamin D and calcium among Emirati adults often do not meet recommended allowances. This indicates a link between traditional dietary patterns in the UAE and deficiencies, highlighting a need for nutritional education and fortification strategies [3].

Research explored dietary habits and lifestyle factors contributing to vitamin D status in Saudi adults. It found insufficient sun exposure, traditional clothing, and low vitamin D-rich diet are major contributors to widespread deficiency [4].

A cross-sectional study investigated anemia and other micronutrient deficiencies among healthy adults in Saudi Arabia. It revealed significant rates of various deficiencies, including iron and folate, suggesting risk due to specific dietary choices and absorption challenges [5].

A systematic review assessed vitamin D supplementation effectiveness in Saudi adults. Findings suggest supplementation can significantly raise vitamin D levels, offering a viable strategy to combat deficiency, though optimal dosage warrants further region-specific investigation [6].

This study explored dietary patterns of Emirati adults and their connection to micronutrient intakes. It identified traditional and modern dietary habits correlating with insufficient intake of key micronutrients, emphasizing understanding specific food choices for tailored guidance [7].

Research investigated prevalence and risk factors for iron deficiency anemia among children in Saudi Arabia. It found anemia remains a significant health concern, linked to inadequate dietary iron intake, calling for targeted early childhood nutrition interventions [8].

A study explored vitamin D status, dietary intake, and lifestyle factors in a Saudi adult population. It reaffirmed low dietary vitamin D intake and cultural practices limiting sun exposure are primary drivers of poor vitamin D status [9].

Research investigated maternal micronutrient status during pregnancy in the United Arab Emirates and its impact on neonatal outcomes. It highlighted prevalent deficiencies, such as vitamin D and iron, crucial for both maternal health and healthy fetal development [10].

Collectively, these studies present a compelling picture of widespread micronutrient challenges across diverse demographic groups in Saudi Arabia and the UAE. They emphasize the urgent need for comprehensive and culturally sensitive public health interventions to improve nutritional outcomes and overall population health.

Conclusion

Research across Saudi Arabia and the United Arab Emirates consistently highlights a significant public health burden from widespread micronutrient deficiencies, particularly vitamin D and iron. In

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Saudi Arabia, a systematic review and meta-analysis confirmed the high prevalence of vitamin D deficiency among adults, attributing it to factors such as limited sun exposure, prevalent cultural practices, and specific dietary patterns characteristic of the Arabian region [1]. Further studies reinforce this, emphasizing that insufficient sun exposure, traditional clothing, and a diet low in vitamin D-rich foods are major contributors to poor vitamin D status in Saudi adults [4, 9]. The issue extends beyond adults. Saudi adolescents exhibit a concerning prevalence of multiple deficiencies, including iron and vitamin D, underscoring the need for targeted interventions to support their healthy development [2]. Iron deficiency anemia also remains a significant health concern among children in Saudi Arabia, often linked to inadequate dietary iron intake [8]. Even seemingly healthy adult populations in Saudi Arabia show significant rates of various deficiencies, including iron and folate, suggesting specific dietary choices and nutrient absorption challenges contribute to risk [5]. Moving to the United Arab Emirates, studies reveal similar nutritional gaps. Emirati adults frequently do not meet recommended daily allowances for vitamin D and calcium, indicating a link between traditional dietary patterns and these deficiencies [3]. An assessment of dietary patterns among Emirati adults further identified specific traditional and modern food habits correlating with insufficient intake of key micronutrients, emphasizing the need for tailored nutritional guidance [7]. Crucially, maternal micronutrient status during pregnancy in the UAE is a concern, with prevalent deficiencies in vitamin D and iron noted, which are vital for both maternal health and healthy fetal development. This points to a clear need for improved prenatal nutritional support in the region [10]. On a positive note, research indicates that vitamin D supplementation can be an effective strategy. A systematic review and meta-analysis among Saudi adults suggested that supplementation significantly raises vitamin D levels, offering a viable approach to combat widespread deficiency, though optimal dosage requires further region-specific investigation [6]. Addressing these multifaceted nutritional challenges across the region requires integrated public health strategies, combining nutritional education, dietary fortification, and targeted

supplementation programs.

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