

Avitaminosis: Etiology, Clinical Manifestations, Diagnostic Approaches, and Modern Treatment Strategies

Normurodov Marufjon Orif o'g'li; Daminov Xolboy Erkaboy o'g'li; Xudoyberdiyev Shohro'zbek Shodmon o'g'li; 5th year students of the Faculty of Dentistry of Samarkand State Medical University Madina Marupova Hikmatuloyevna Assistant of the Department of Therapeutic Dentistry of Samarkand State Medical University

Received: 2026-01-07 · Accepted: 2026-03-04

Abstract

Abstract

Avitaminosis refers to a pathological condition resulting from prolonged deficiency of one or more essential vitamins, leading to metabolic dysfunction, structural tissue damage, and systemic clinical manifestations. Despite global advances in nutrition and food fortification, vitamin deficiencies remain prevalent in both developing and developed countries due to malnutrition, chronic diseases, malabsorption syndromes, restrictive diets, alcoholism, and socioeconomic factors. Fat-soluble vitamin deficiencies (A, D, E, K) often present with visual impairment, bone demineralization, neuromuscular dysfunction, and coagulopathy, whereas water-soluble vitamin deficiencies (B-complex and C) manifest as anemia, neuropathy, dermatitis, cognitive impairment, and impaired wound healing. Diagnosis is based on clinical evaluation, dietary history, biochemical assays, and functional biomarkers. Modern treatment strategies emphasize targeted supplementation, correction of underlying etiologies, dietary modification, food fortification, and public health interventions. Early detection and individualized management are essential to prevent irreversible complications. This article reviews the etiology, clinical features, diagnostic principles, and contemporary therapeutic approaches for avitaminosis, highlighting the importance of prevention and multidisciplinary management. Avitaminosis represents a systemic pathological state caused by sustained insufficiency of essential micronutrients necessary for normal biochemical reactions, cellular metabolism, and organ function. Although global nutritional standards have improved, vitamin deficiencies continue to affect diverse population groups due to unbalanced diets, gastrointestinal disorders, chronic systemic illnesses, restrictive eating patterns, aging, and increased physiological demands. The clinical spectrum varies widely depending on the specific micronutrient involved, ranging from mild constitutional symptoms to severe neurological, hematological, skeletal, and immunological impairments. Contemporary diagnostic strategies rely on detailed nutritional assessment combined with laboratory measurement of serum vitamin concentrations and functional metabolic markers. Timely therapeutic intervention through individualized supplementation and correction of predisposing conditions significantly improves prognosis and prevents irreversible complications. Preventive measures, including public health nutrition programs and dietary education, remain fundamental in reducing global disease burden associated with micronutrient insufficiency.

Keywords: *Keywords: avitaminosis, vitamin deficiency, malnutrition, micronutrients, diagnosis, supplementation, prevention, metabolic disorders*

1. Introduction

[Provide a comprehensive introduction to the topic including the background, context, and significance of the research problem. Review the relevant literature and identify the gap or unresolved question that the study aims to address. Clearly state the study's objectives and hypotheses at the end of this section.]

2. Materials and Methods

[Describe the study design, participants, setting, interventions, main outcome measures, and statistical methods used. Include subsections as needed: 2.1 Study Design, 2.2 Participants and Setting, 2.3 Interventions/Procedures, 2.4 Outcome Measures, 2.5 Statistical Analysis, 2.6 Ethical Considerations.]

3. Results

[Present main findings with tables, figures, and statistical data. Report results in a logical sequence, addressing primary and secondary outcomes. Include confidence intervals and p-values where appropriate.]

4. Discussion

[Interpret results in context of existing literature. Discuss strengths and limitations. Address clinical implications and suggest future research directions.]

5. Conclusion

[Summarize key findings and their significance. State the main conclusions and their potential impact on clinical practice or public health.]

Acknowledgments

[List funding sources, contributions of individuals who do not meet authorship criteria, and any technical assistance received.]

Conflict of Interest

The authors declare no conflicts of interest.

References

1. Author A, Author B. Title of the article. Journal Name. Year;Volume(Issue):Pages. DOI.
2. Author C. Title of book. Publisher; Year.
3. Author D, et al. Title. Journal. Year;Volume:Pages.



Indexed & Abstracted In

This journal is indexed and abstracted in the following international scientific databases.



Google Scholar



ISSN



ORCID



CiteFactor



ResearchBib



DOI



Zenodo



Article Verification

Scan the QR code to verify the authenticity of this article

DOI: 10.4286/AAMS.7582



Grammarly