
Prevalence of Uveitis: An Epidemiological Analysis By Age, Sex, and Etiology

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Annotation: Uveitis represents a significant cause of visual impairment worldwide, accounting for up to 5–20% of blindness in developed countries. Its epidemiological patterns vary widely across geographic regions, age groups, sex, and underlying etiologies. This study provides an analytical overview of uveitis prevalence with a focus on demographic indicators—age and sex—as well as etiological classification. Available epidemiological studies indicate that uveitis most commonly affects individuals aged 20–50 years, with anterior uveitis remaining the predominant anatomical subtype. Sex distribution varies with etiology: autoimmune-related uveitis is more prevalent in females, whereas infectious uveitis is more common in males in several regions. Etiologically, non-infectious immune-mediated uveitis remains the leading cause globally, although infectious etiologies are more dominant in developing countries. Understanding these patterns is essential for improving diagnostic accuracy, guiding patient management, and designing region-specific public health strategies.

Keywords: Uveitis, prevalence, epidemiology, age distribution, sex differences, etiology, autoimmune uveitis, infectious uveitis

Introduction

Uveitis is an intraocular inflammatory condition that affects the uveal tract and adjacent ocular structures. Epidemiological studies suggest that uveitis constitutes 10–15% of all preventable blindness globally. Because the disease is heterogeneous in its clinical presentation and etiology, understanding trends related to age, sex, and underlying causes is critical for improving early diagnosis and reducing complications such as cataract, glaucoma, and macular edema.

Prevalence of Uveitis Worldwide

The global prevalence of uveitis varies substantially across populations, ranging approximately from 38 to 710 cases per 100,000 individuals depending on geographic, socioeconomic, and environmental conditions. Regions with high rates of infectious diseases report higher infectious uveitis prevalence, while developed countries tend to have higher rates of autoimmune-related uveitis.

Age Distribution

Age is a significant determinant of uveitis risk. Adults aged 20–50 years represent the most affected demographic. Pediatric uveitis comprises 5–10% of all cases, with juvenile idiopathic arthritis being a major cause. Elderly patients most commonly experience uveitis linked with systemic autoimmune disease or infectious etiologies.

Sex Distribution

Females show higher rates of autoimmune non-infectious uveitis such as sarcoidosis, JIA-associated uveitis, and Behcet disease (in some regions). Males are more frequently affected by HLA-B27-associated anterior uveitis and infectious uveitis including tuberculosis, toxoplasmosis, and viral etiologies.

Etiological Patterns

Non-infectious immune-mediated uveitis is the leading cause in developed countries, while infectious causes dominate in developing regions. Infectious etiologies include bacterial, viral, parasitic, and fungal infections. Non-infectious etiologies include HLA-B27, sarcoidosis, VKH, and Behcet disease.

Regional Variations

Europe and North America predominantly report autoimmune non-infectious uveitis. Asia reports higher frequencies of Behcet disease and VKH. Infectious uveitis such as toxoplasmosis and tuberculosis is prevalent in Latin America, Africa, and parts of Asia.

Conclusion

Uveitis is a multifactorial condition with variable epidemiological patterns. Its prevalence is highest in adults aged 20–50 years, with significant sex-related and etiological differences. Understanding these patterns improves diagnostic accuracy and supports the development of region-specific management strategies.

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