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Myopia: from refractive error to a public health challenge

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Myopia, once considered a minor refractive issue easily corrected with glasses, is increasingly recognised as a serious public health challenge. High myopia, in particular, poses a significant risk for irreversible visual impairment and blindness. The rising prevalence of myopia locally, along with its long-term health and economic impacts, calls for a re-evaluation of how we approach this condition in this series.

Current projections indicate that by 2050, nearly half of the global population will be myopic, with about 10% experiencing high myopia.[1] While East and Southeast Asia are the most affected regions, rising rates in Europe, North America, and urbanising areas highlight myopia's global significance.[2]

This surge in myopia cannot be explained by genetics alone. Environmental and behavioural factors, such as intense educational pressures, prolonged near work, increased screen time, and reduced outdoor activities, are significant contributors.[3] These modifiable risk factors suggest that myopia is largely preventable, marking a crucial shift in perspective for healthcare providers and policymakers.

The urgency to prioritize myopia as a public health issue is underscored by its complications. High myopia elevates the risk of serious conditions such as myopic maculopathy, retinal detachment, glaucoma, and early-onset cataracts, which can lead to irreversible vision loss. As the population ages, the cumulative burden of these complications will increase, further straining healthcare systems. Additionally, myopia leads to substantial economic costs due to ongoing dependence on corrective lenses, regular monitoring, and treatment of related conditions, as highlighted by Choo *et al.*

Recent advancements have shifted myopia management from simple correction to active disease control. Increased outdoor exposure has been consistently linked to lower myopia incidence, representing a straightforward and effective public health intervention.[4] In clinical practice, methods such as optical strategies modifying peripheral defocus like myopic spectacles, multifocal contact lens, orthokeratolo-

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gy, and low-dose atropine eye drops that is thought to work on dopamine receptors, have shown promising results in slowing myopia progression and axial elongation. These interventions can significantly reduce the lifetime risk of vision impairment when implemented early.[4]

Despite the growing evidence supporting these approaches, myopia control is still under-utilised in routine practice, particularly outside specialised clinics.[5] Barriers include limited awareness among healthcare providers and parents, concerns about costs and accessibility, and the lack of universally accepted clinical guidelines.

To effectively tackle the myopia epidemic, a multifaceted strategy is essential. Responses must integrate public health initiatives, educational policies, and school-based programs that promote outdoor activities and visual hygiene. In Malaysia, the Malaysian Advocacy for Myopia Prevention (MAMP) is a national initiative established in 2019 aimed at addressing the increasing burden of myopia through awareness campaigns, early detection, and evidence-based interventions. By collaborating with clinicians, educators, researchers, and policymakers, MAMP seeks to protect the visual health of Malaysian children and future generations.

In response to the variability in myopia management and the rapid introduction of new interventions, MAMP is developing a national myopia consensus. This initiative aims to provide practical, context-specific guidance based on the best available evidence and local epidemiology.

In conclusion, myopia has transformed from a minor refractive error into a progressive, vision-threatening disease with significant public health implications. Recognising myopia as both preventable and treatable is crucial for mitigating its long-term effects. It is imperative that we take coordinated clinical and public health actions to address myopia—before blurred vision leads to blindness.

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