Review article

Myopia – the global progressive health problem: Are we reading too much?

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Abstract
Myopia is becoming a global public health problem in our society. The global progression of myopia might develop due to near work activities (reading, writing, homework, computer) and less outdoor activities. Recent studies show that beside genetic component, geography and ethnicity do have also an impact in the development and progression of myopia.

Keywords: Myopia; Education; Sociomedical problems; Sociology; Continuous reading

Myopia is a common eye condition due to spherical error of refraction that might lead to visual impairment and blindness. The etiology of myopia is precisely unknown but there are different scientific approaches that try to explain where this condition derives from. Myopia is getting a global progressive public health problem in society. Generally seen there are approximately 27% of children affected of myopia with a higher prevalence of children living in a city than on the countryside (23.3% versus 12.5%)¹. Children are spending on average almost 5 hours with near work activities (reading, writing, homework, computer)¹. The spent time on mid-working distance activities (television, musical instruments etc.) is approximately 2.7 hours¹. More than 30% of school children are taking beside school additional classes and >50% of children are reading 0-30 minutes on reading without a break, 18% even >60 minutes¹. Children with myopia spent significantly more time with near activities and less time with sports compared with emmetropes (normal refraction)³. The main significant risk factors for myopia development are age, region, continuous reading, school achievement and parental myopia¹⁴. Even geography seems to play an important role in the development of myopia: The prevalence of myopia seems to be higher in Urban areas and Chinese population, but the regional and racial difference is not that apparent in population > 40 years⁴. Outdoor activities do have positive impact in the progression of myopia since Rose et al. could show that in the 12-year-students population higher outdoor activities were associated with less myopia and more hyperopic mean refraction in due consideration of near work, parental myopia and ethnicity⁵. The chance to become myopic is increased at lower amounts of sports and outdoor activities in children with two myopic parents⁶. Sapkota et al. published interesting finding relating to higher numbers of visual impairment with myopia in children among upper-middle socio economic school children in Kathmandu compared to rural areas in Nepal due to absent refractive correction⁷. Therapy consists of optimal refractive correction, physical activity and use of mydriatic eye drops to prevent progression of myopia.

Conclusion
Myopia might be an outcome of our near working lifestyle and daily requirements with the consequence that near sightedness is more relevant than far sightedness. Although our eyes are biologically adapting to our modern life requirements the risk we
are taking might result in severe ophthalmic diseases. Therefore keeping the golden mean (additional physical activities beside nearwork) could help us decelerating this global ophthalmic progression and its far-reaching effects in our society.

Competing interests
The authors declare that they have no competing interests.

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References