Myopia is estimated to affect nearly 33 percent of adults in the United States and nearly 90 percent of adults in Asian cities. Although the prevalence of myopia in children in western populations is fairly low (five percent), it has been estimated as prevalent as 29 percent in Asian 7-year-olds. It is apparent myopia has both genetic and environmental factors that play a part in its etiology. One interesting environmental factor is the protective role that outdoor activity plays in the progression of myopia. These protective effects appear more related to time than actual physical activity. One study showed children who spent lower amounts of time outdoors were 40 percent more likely to develop myopia. A systemic meta-analysis published in 2012 found an association between time spent outdoors and myopia in children, which indicated a 2 percent reduction of myopia per additional hour per week of time spent outdoors.

Various animal studies have shown that the most probable mechanism between the association of reduced myopia and time spent outdoors involves light levels outdoors. One animal study showed higher amounts of light resulted in shorter eyes and less myopic refractions when compared to lower amounts of light. Another study found that high ambient light was a protective factor against form-deprivation myopia; but it only slowed the progression of lens-induced myopia and did not change the end point refraction in test subjects.

Myopia development is multi-factorial, with genetic and environmental factors, so the silver bullet to preventing myopia progression has not been determined. However, the literature supports that the amount of time spent outdoors is an important factor in the progression of myopia and regulation of ocular growth. So send your kids outside!

References

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