ScienceTalk

Don't be short-sighted about myopia in children

It is crucial for parents to stick with known scientific-based treatments when it comes to myopia control, as unproven methods may put the child at risk. PHOTO: LIANHE ZAOBAO

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Myopia, or near-sightedness, makes objects at a distance out of focus.

While spectacles or contact lenses correct this easily, many people do not realise that developing myopia leads to irreversible changes to our eyes, such as excessive eyeball elongation.

This growth process begins in childhood, and continues to develop into adulthood with no further symptoms or impairment until other complications develop – such as early cataract, glaucoma, macular degeneration and retinal detachment – that could lead to visual impairment or blindness.

Therefore, the prevention of blindness from myopia has to begin with preventing the condition from developing in the first place – and this has to start from childhood.

Unfortunately, just like in many parts of East Asia, Singapore is among the countries with the highest prevalence of myopia in the world. Eight out of 10 children are likely to be wearing glasses by Primary 6. It is projected that by 2050, there will be a significant increase in myopic Singaporeans, with 80 per cent to 90 per cent of all Singaporeans aged above 18 expected to be myopic.

What is worse is that 15 per cent to 25 per cent of these individuals may have high myopia of -6.00 dioptres (600 degrees) and higher, leading to complications at an earlier age.

To curb the rising number of myopia cases, the National Myopia Prevention Programme was introduced in 2001, which includes annual vision screening in schools that is complemented by a comprehensive health promotion programme encouraging outdoor activities from a young age.

In 2019, Singapore National Eye Centre (SNEC) opened the dedicated Myopia Centre.

Besides early myopia detection, it also aims to educate the public on preventive measures and to collaborate with relevant stakeholders to advance clinical research in this area, complementing the ongoing research for new treatment modalities by SNEC's research arm Singapore Eye Research Institute (Seri) that began 20 years ago.

Fortunately, myopia research has advanced rapidly in the last decade, leading to better understanding and new treatment options.

However, the field of myopia is still evolving, and we are only beginning to appreciate the long-term risks and benefits of some of these therapies.

Naturally, in today's world of global connectivity and information, misinterpretation and misinformation can lead to confusion among parents.

Unfortunately, we are also witnessing opportunistic attempts to introduce therapies which offer no scientific evidence to support claims of myopia control.

It is crucial for parents to figure out what actually works for their children when it comes to myopia control. With the abundant amount of information out there, we would approach this in three key ways:

1. EVIDENCE

As treatments are evolving, stick with known scientific-based treatments. It is recommended that your child gets outdoor play for at least two hours every day, on average. This could help delay or even prevent myopia.

If children are not spending time outdoors, they could be spending excessive time on near-work activities, including reading and using electronic devices, which can increase their risk of developing myopia.

There is also evidence that specially designed contact lenses can slow down the progression of myopia, as well as a low dose of the medication atropine.

In a five-year study at Seri, researchers performed a series of landmark clinical trials showing that a 0.01 per cent concentration of low dose atropine can slow down myopia by 50 per cent in children aged six to 12 compared with untreated children.

2. EVALUATE

Make sure your child is using treatments that are backed by scientific-based evidence. There is currently no known cure for myopia, and if your child has the condition, the only thing that can be done is to slow down its progression and not let it get out of control.

Using unproven methods may put your child at risk as he or she could have been started on a proven treatment earlier on. Early intervention is key with myopia, as it can slow or even stop the progression of the condition.

3. EYE-CARE PRACTITIONERS

When seeking information on myopia and the treatments available, it is important to rely on credible sources of information and, when in doubt, consult your eye-care professional, ensuring that they are accredited to dispense evidence-based advice or treatments.

We need to shift our mindset in order to continue bringing down myopia rates in Singapore.

The SNEC Myopia Centre is collaborating with the eye-care community to detect and treat myopia, but parents must also play their part by seeking timely intervention.

Together, we can fight the condition and slowly tear down the label that our city state is the "myopia capital of the world".

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About the writers

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