Eshet Chayil Lim is seven and has myopia of 325 degrees in each eye.

Her myopia is high for a child of her age, say doctors. For now, the chirpy girl from St Margaret’s Primary School has no problems with her short-sightedness, but her story is bearing out what researchers from three countries are calling an “epidemic” of myopia in East Asia, particularly in the big cities.

A study, led by Professor Ian Morgan of the Australian National University, was published in prestigious British medical journal The Lancet earlier this month. In most Western countries, a reported 20 to 40 per cent of children have myopia, but in major cities in Japan, China, South Korea, as well as Hong Kong, the figure stands at 80 to 90 per cent of teens graduating from school with myopia.

Singapore is also a hotspot for this epidemic. Reveals Professor Saw Seang Mei from the National University of Singapore’s Saw Swee Hock School of Public Health, a co-author of the study:

In Singapore,
- One-third of Eshet’s peers in Primary 2 are near-sighted.
- When children leave primary school, 62 per cent of them are short-sighted.
- When they are 18, 82 per cent of them are myopic.
- The early onset of myopia (below the age of six or seven) means the child has a longer time to grow with the problem and this increases the chances of having severe myopia which can lead to blindness.
- It is only recently that Asia has seen this extraordinary rise in the number of myopia cases.
- The culprit is not all genetics, as previously assumed.
- It seems that the main reason is how children in our and other academically focused Asian cities are spending their time.
- Namely, in front of the computer and other gadgets instead of being out in the sun.
- Yes, the sun.
- The children “face massive educational pressures” and a culture that does not appreciate time spent outdoors.

Sunlight is essential for healthy eyes as soaking up the sun’s rays produces the chemical dopamine. The compound prevents the eyeball from becoming elongated and from distorting light that enters the eye – signs of myopia.

Local children spend about half an hour outdoors on weekdays, which is insufficient, says Prof Saw.

This compares with three hours for the typical child in Australia.

The time spent staring at screens “can be a contributing factor,” Prof Morgan maintains in an interview with news agency AFP.

Eshet’s case seems to bear out what the researchers have surmised.

She has a voracious appetite for books. Twice a week, her 43-year-old mother, Madam Kek Ai Ling, visits the library to borrow books for her and each time, the housewife checks out over 10 books for Eshet.

Her parents discovered Eshet was myopic during an annual eye check-up in kindergarten.

At five, she was found to have myopia of 125 degrees.

“We were very worried and shocked to learn of it because Eshet doesn’t watch many TV shows,” says her father, Mr Simon Perez Lim, a 47-year-old pastor.

Madam Kek believes that her daughter’s constant viewing of educational videos on the computer may have contributed to the problem.

Dr Leonard Ang, medical director of The Singapore Medical Group’s The Eye & Cornea Transplant Centre, says school children face pressure to study harder these days.

They also have more access to gadgets such as iPads and mobile phones.

“There’s a definite correlation between the amount of near work and the rate of myopia,” he maintains.

Ophthalmologists and optometrists we spoke to say they have seen severe cases of myopia in children.

Mr Brian Chan from B.S. Moey-Chong Optometrist says he came across a 10-year-old child with myopia of 900 degrees. Others reveal that they have seen seven-year-old kids having myopia of 650 degrees.

Joseph Lim, 13, has high myopia – of 800 to 900 degrees and has been wearing spectacles since he was seven.

His mother, Mrs Mabel Lim, 42, an administrative executive, believes that his bad posture contributes to the problem. She says: “He slouches when he’s doing his work and bends very low.

“I have to remind him to sit upright and do his work (in a brightly lit environment).”

His degree of short-sightedness means Joseph is effectively incapacitated without his glasses.

“Sometimes when I wake up after a nap, I can’t remember where I left my glasses,” says the Dunearn Secondary School student.

He then has to feel around blindly for them until they are found.

Joseph’s parents and three younger siblings are short-sighted too. But only his parents have high myopia of over 600 degrees.

Researchers are looking at how to treat myopia and prevent it from getting worse.

But for now, Prof Saw recommends that kids be outdoors at least 15 hours a week.

VORACIOUS READER: Eshet Chayil Lim, 7, has myopia of 325 degrees in each eye and her hobby could explain her short-sightedness.

TNP PICTURE: BENJAMIN SeeKOR

Headline: Myopia in East Asia at epidemic levels
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What parents need to know about myopia

What is myopia?
Myopia is the technical term for near-sightedness. Those who are myopic have trouble making out distant objects, but close objects remain clear.

What are the study’s key findings?
East Asia’s big cities – which stress the importance of academic success – have very high rates of myopia. Far more than their western counterparts.

Does race play any role in myopia?
Yes. Genetically, the Chinese have a greater tendency to become myopic.

But Singapore’s experience where the three major ethnic groups – Chinese, Malay and Indian – have seen sharp jumps in myopia rates also suggest that there could be more than genetics involved.

Prof Morgan says the change has been too quick and “gene pools just don’t change in two generations”.

How can parents tell if their child has myopia?
Dr Ang says parents should take note if their child suddenly holds objects close to his face as it may be an indication of blurred vision.

Sometimes, a child may squint while looking at distant objects. On other occasions, he may tilt his head at an odd angle.

Dr Ang advises parents to take their child for an eye check-up if they sense anything amiss.

However, it is not easy to pick up mild myopia. Children are unlikely to speak up about it as they may not know that having blurred vision is abnormal.

When should parents worry?
If the child’s degree of myopia increases significantly (between 100 and 200 degrees) each year, parents may consider taking their child for a doctor’s check-up.

Rapid progression and early onset of myopia may be an indication of other eye problems such as glaucoma – an eye disease that damages the optic nerve.

Any child with near-sightedness of more than 600 or 700 degrees is considered to have high myopia and it may lead to retinal detachment which usually results in blindness.

Can anything be done?
Asia’s big cities will have to grapple with adult populations that have a high risk of developing high myopia. Getting kids to spend more time outdoors may help delay the onset of myopia for the young ones.

Children hooked on gadgets during mealtime

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Many children were glued to their hand-held devices at lunchtime.
That was what The New Paper on Sunday observed when we visited a mall’s foodcourt on a weekend.
They were playing with their game consoles or iPhones and some seemed oblivious of the food placed in front of them.
Mothers we spoke to seemed nonchalant about the phenomenon, noting that it is something that takes place all the time.

But parents may sit up with more concern now that it has been revealed that the time spent with such gadgets can contribute to myopia.

Kids would do better being out in sunlight, says researchers in a study published in renowned medical journal The Lancet.

Another recent study by Iowa State University shows a causal relationship between video games and attention problems and impulsiveness.

Conducted in collaboration with the Institute of Mental Health and the National Institute of Education, the study tracked 3,034 children and adolescents from 12 schools in Singapore over three years.

Cyber-wellness consultant Poh Yang Cheng says whether or not the use of gadgets becomes a problem in child development “depends on what the child is doing with the gadget”.

While the child may learn about spatial tasks and develop hand-eye co-ordination with games, the constant switching from one task to another could damage deep thinking for instance.

He is also concerned about how the gadgets could affect the child’s ability to communicate face to face with other people.

Tips on use of gadgets when raising kids

Content strategist Agnes Goh of local charity Focus on the Family Singapore has seven tips for parents on the use of gadgets when raising their children:

Delay the introduction of gadgets to the child as far as possible.

Early exposure to gadgets may create addictive patterns of behaviour that may stunt holistic development.

Restrict and limit usage, and teach the importance of online privacy and safety to your children.

This is especially important as more gadgets now come with Internet access.

Set aside gadget-/IT-free times of the day and week.

Family mealtimes should be gadget-free so that children can have meaningful person-to-person interaction with their family members.

Avoid using gadgets as a reward.

This can reinforce the notion that such endeavours as learning and reading are necessary evils to be endured rather than rewards by themselves.

Avoid using gadgets as “digital babysitters”.

Gadgets cannot replace parents in containing children’s needs.

Do your own research.

Not all apps are harmful to children. There are apps which are educational and beneficial to a child’s development.

Monitor your own gadget use.

Adults caught up with gadgets are not setting a good example for their children.