

How Covid-19 **triggered** more **skin** **allergies**

Researchers discover that infants born during the Covid-19 pandemic are more prone to developing eczema due to a lack of beneficial gut bacteria. 3

Non-alcoholic
beer not so
healthy

2

Corruption's
mental health
scars

5

How vaccines
are developed

6



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By REVATHI MURUGAPPAN



9 JULY, 2025

BREAKING NEWS



Severe eczema can be seen on an 18-month-old child in this filepic. The CUHK team found that supplementation with their patented microencapsulated formula helped turn severe eczema to moderate in half the young ones who took it. — Dr TARIKA TAIB

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CHILDREN

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Childhood eczema – a condition that causes the skin to become inflamed, dry, itchy and bumpy – is a constant source of worry for parents.

Children can scratch until they bleed, they can't sleep, and they may end up often skipping nursery or school.

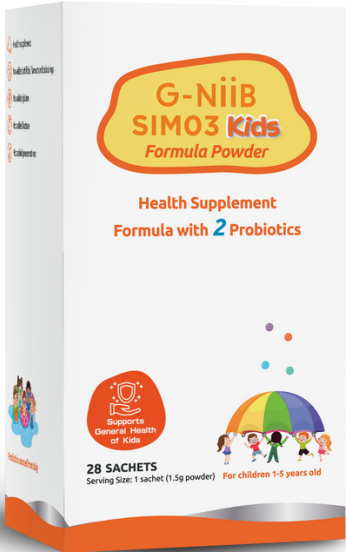
When the child itches and cries uncontrollably, parents are at their wits' end, not knowing how to pacify their young one.

The lives of the child and parents are seriously affected.

Conventional treatment includes applying topical corticosteroids and emollients to restore skin integrity.

While eczema can affect anyone at any age, symptoms usually appear during early childhood.

There is no cure for eczema, but the condition may improve after childhood.



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'Hyper-hygienic' ways

The skin – our body's largest organ – plays a vital role in the immune system by acting as a physical barrier against pathogens, as well as housing its own immune cells.

As 70% of our immune system lies in the gut, an imbalance in the gut microbiome will indirectly influence the immune cells on the skin as well.

Intent on investigating this link, a team of gut microbiome researchers from The Chinese University of Hong Kong's (CUHK's) Medicine Faculty set out to explore the burden of eczema in Hong Kong and its underlying causes in a large-scale study.

They analysed data from 1,152 children aged between one and four years, and found a 46% rise in the incidence of allergy in toddlers born in Hong Kong during the Covid-19 pandemic, compared to before the pandemic.

By sequencing 700 infant stool samples, they also found that the amount of beneficial bacteria associated with immunity in the gut of babies born during the pandemic were less than in those born pre-pandemic.

The alarming findings were published last year (2024) in the journal *Gut Microbes*.

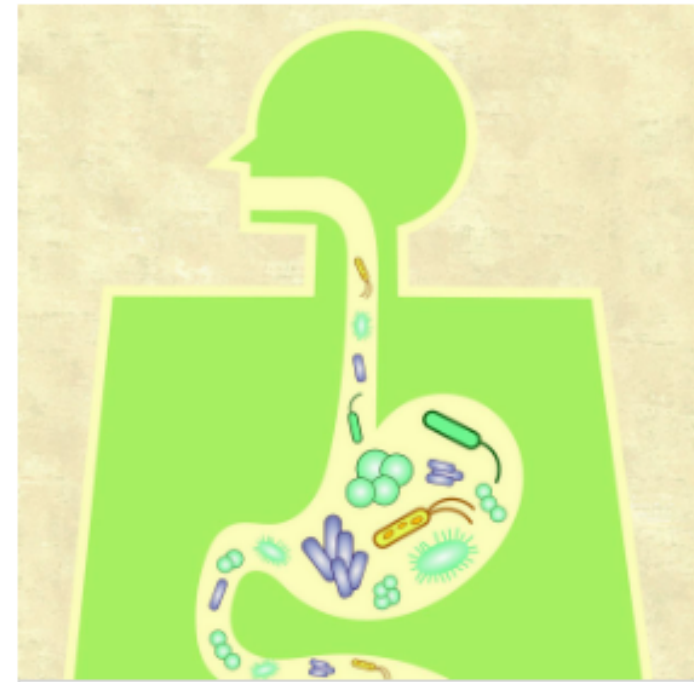
"We found babies born during the pandemic had something bad going on in their gut.

"There was a depletion in richness of microbiome diversity, even now after the pandemic.

"These babies were not exposed to normal bugs because it was a very sterile environment during Covid-19 – we wore masks, washed or disinfected our hands constantly and sterilised spaces.

"We also used a lot of antibiotics and socially isolated ourselves, which changed our immune system.

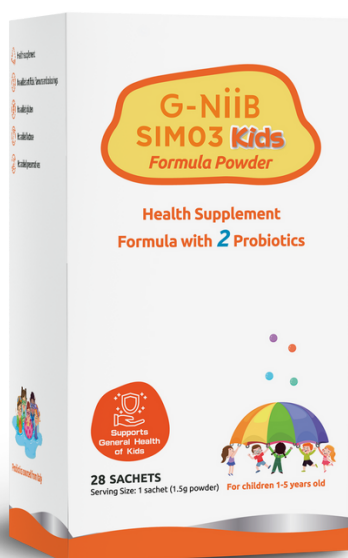
"Due to these reasons, we are now seeing an increase in skin allergy conditions in children," explains study co-investigator and gastroenterologist Professor Dr Siew C. Ng.



An imbalance in our gut microbiome can have negative consequences on other organs, including the skin. – TNS

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Surprising discovery

After three months of daily supplementation, the researchers found that all the babies with moderate eczema had their condition turn mild and half of those with severe eczema had turned moderate.

The subjects' sleep patterns were much better, their quality of life improved and parents were delighted.

Says Prof Ng: "We checked their stool samples before and after supplementation, and discovered that not only were the Bifidobacterium strains higher, but surprisingly, other good bacteria also started blooming, so their gut ecosystem was richer."



Prof Ng says our extremely hygienic environment during Covid-19 has led to a decrease in beneficial gut bacteria in early life. — FAIHAN GHANI/The Star

Based on metagenomic sequencing – the direct genetic analysis of genomes contained within an environmental sample – the researchers found an increase in 23 types of beneficial bacteria in the gut.

"These two strains actually do more than just colonise the gut; they changed the environment to become healthier, and that improved the immune system and reduced eczema," she says.

The results of this study were published in the journal *Scientific Reports* last year (2024).

While some children started displaying symptoms again upon stopping the formula, others were fine and managed to wean off the formula.

"We've been following these children and are going to start a second clinical study soon.

"I actually suspect we need to colonise these bacteria for a longer duration.

"Perhaps then they can reduce flare-ups, eliminate eczema or reduce reliance on steroids or biologics," she says.

The formula is now available as probiotics in sachet form at selected Malaysian pharmacies.

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