Source: *The Straits Times,* pA19
Date: 2 July 2025

Seeking ways for Singaporeans to age more healthily

Eternal youth might be a pipe dream, but having healthier bodies as one ages is a reality that the Healthy Longevity Translational Research Programme hopes to make possible for people.

Its mission is to add healthy years of life by delaying ageing, as well as having people stay free of disease for as long as possible, so they are able to lead physically adept and socially active lives.

It is an ambitious project involving about 45 NUS Yong Loo Lin School of Medicine faculty members. They are leading or participating in many associated projects that look at different aspects of ageing, with the aim of slowing its progression.

The programme, headed by Distinguished Professor Brian Kennedy, who was trained in biochemistry, mathematics and biology, was launched in 2022. Prof Kennedy said they hope to accomplish this goal "through developing biomarkers to measure ageing, testing interventions to slow ageing, and creating implementation strategies to extend healthy life expectancy in Singapore".

The programme has developed an algorithm to calculate people's biological clock, which could be different from their years of life and indicates their mortality risk. Prof Kennedy said Singaporean Chinese, in general, have a biological age that is three to four years younger than their chronological age.

But while Singaporeans today have a life expectancy of 83.5 years, they will spend an average of 10 years in relatively poor health.

Prof Kennedy said: "Ageing impacts every aspect of how you function. It's the biggest risk factor for everything that goes wrong. So if we understand that, we can understand why people are getting sick and what to do about it better."

The team pursues a two-pronged approach. One is the effect of lifestyle, which means understanding the role of exercise, mental health, sleep and nutrition in ageing. The other focuses on the small molecules that impact ageing.

Prof Kennedy said: "We test supplements and repurpose drugs that we would target for people while they're still healthy to keep them healthy, rather than waiting until they get a diagnosis of some disease (before) trying to treat them at that stage."

Keeping its population healthy and active as it matures is what will make Singapore economically strong and give its citizens the best quality of life, he added.

But while there are many products on the market that claim to keep people healthier for longer, there is also a lack of unbiased science around these products for people to know what truly is useful.

"We're trying to provide that credibility," said Prof Kennedy. Many of the supplements his team tests are commercially available. "These are not drugs that need 10 years to be developed. There are things that consumers can already purchase."

One supplement the team has studied that he is confident of pushing is alpha ketoglutarate (AKG), a compound made by the body that is involved in hundreds of different cell reactions. As people age, their levels of AKG drop.

He said AKG acts as a kind of lubricant that allows enzymes to do what they need to do at the right time. "But when the levels drop, the cell has trouble compensating for changes in its environment. We're trying to restore that, as in a way, that slows ageing and promotes health," he explained.

The team is also looking at the possibility of repurposing several drugs that have shown anti-ageing effects. Studies are still being done on these prescription-only drugs.

Prof Kennedy added that there is no one magic bullet, but many different things which, together, can slow the ageing process. "Small, sustainable changes make differences. Maybe it only gives you two to five years of extra health, but that's still a big effect."

One study involved deep phenotyping – determining and predicting the similarities and differences in how people age biologically and how the impact of the environment affects a person's health – of 400 people across ethnicities here. It measured the participants' biological age, physical function, body composition of fat, muscle and bone, and their grip strength. They were also given cognitive tests.

"We're trying to understand how Singaporeans are ageing, and what's unique in the Singapore population that may need to be addressed," Prof Kennedy said. The study has been completed and is awaiting publication.

Asians lose more bone density with age, compared with Caucasians. Prof Kennedy said that in the West, obesity and diabetes are driving age-related complications. Among Asians, the bigger issue is loss of muscle strength and frailty.

Salma Khalik

Professor Brian Kennedy heads NUS Medicine's Healthy Longevity Translational Research Programme, whose mission is to add healthy years of life by delaying ageing, and having people stay free of disease for as long as possible, so they are able to lead physically adept and socially active lives. PHOTO: NUS

Source: The Straits Times © SPH Media Limited. Permission required for reproduction.