



# Heart failure in women: Taking control

A resilient woman shares her story of hope

SAPARIAH AHMAT

**Dia:gram** catches up with **Mrs. Sapariah Ahmat** from Singapore about her experience of living with heart failure. Her particular type of heart failure - with preserved ejection fraction (HFpEF) - is increasingly the predominant form of heart failure (HF) in the developed world, and remains a challenging clinical condition to diagnose and treat<sup>1</sup>.

Two days after her 51<sup>st</sup> birthday, Mrs. Sapariah Ahmat felt unwell. It was around six in the evening and she was waiting for her husband to get home from work. At first, she had trouble breathing. Then, she started sweating. "It wasn't normal. I was soaked from head to toe," she said. When her husband got home, he was concerned. The couple, who speak Malay, rang her brother, who speaks English. They felt he would be able to communicate more effectively if they needed to see a doctor. While they waited for her brother to arrive, Mrs. Sapariah paced in and out of her bedroom. "I couldn't lie down or get comfortable, I was only able to breathe very slowly," she said.

"Even when my friends make small jokes, I love to laugh," she said. Well known for her cooking, she ran a small catering business for large gatherings, especially during the festive seasons. Before her illness, she ate whatever she liked and never exercised. "But in the hospital, when I was fighting for my life, I decided I would change my lifestyle, starting with food and exercise," she said.

So she diligently went to the hospital-mandated cardiac rehabilitation for three months and learned the exercises that she could do at home. She and her husband bought an exercise bike which sits in the living room where she can use it while watching her favourite television shows.

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When her brother arrived, he immediately called for the ambulance. "I don't think we can wait," he said. Mrs. Sapariah recalled the ambulance ride and the paramedics asking her to strap on the oxygen mask. "They kept saying to me, 'try not to sleep, just keep talking to us' and so I did." Mrs. Sapariah managed to stay awake until they got to the Accident & Emergency department. She did not think her condition was serious. "There was really no pain at all. I thought maybe I was just very tired," she said.

But, changing her diet proved a little more challenging. "The first time I tried eating oats, I couldn't bring myself to swallow it. I had to pray to God to help me to eat healthy," she said before breaking into another laugh. She also substituted steaming for deep-frying and upped her intake of fruit and vegetables.

Doctors discovered that Mrs. Sapariah was suffering from myocardial ischaemia, which is the lack of blood supply to her heart muscle due to blockage of her heart arteries, and heart failure caused by a build-up of fluid in her lungs because her heart was not functioning properly. Luckily, she received treatment at the hospital just in time. "They told my brother that if he had not called the ambulance then, I would not have made it," she said.

That was in 2007. Five years later, in 2012, her symptoms started. Once again, she experienced breathlessness and sweating, though it was far less intense than the first time. This time around, however, she knew she had to go to the hospital immediately and her son drove her there.

Mrs. Sapariah remembers going home with various medications. "I had to take about 10 pills a day. Like kacang puteh (crispy Malay snack)," she said with a laugh. She has a naturally sunny personality.

Doctors diagnosed Mrs. Sapariah with heart failure with preserved ejection fraction (HFpEF). Ejection fraction is a measurement that assesses the pump function of the heart. A heart attack can damage the heart muscle and thereby reduce ejection fraction. However, in HFpEF, the heart pumps normally but is too stiff to fill up properly with blood. This condition represents almost 50 per cent of heart failure cases worldwide and is a leading cause of death and disability<sup>2</sup>.



Studies show that HFpEF is particularly prevalent among women and the elderly who have comorbid conditions like obesity, hypertension and coronary artery disease<sup>3</sup>. Effective treatments are yet to be established and experts are still building consensus on how best to diagnose the condition. Symptoms can be non-specific such as feeling breathless and tired with little to no exertion. This is why accurate diagnosis of the condition in the primary care setting can be difficult.

Current diagnostic algorithms rely on echocardiography and biomarkers called natriuretic peptides. The B-type natriuretic peptide (BNP) and N-terminal pro-B-type natriuretic peptide (NT-proBNP) are hormones mainly secreted by the left ventricle of the heart in distress. NT-proBNP can enable the selection of patients who need to undergo a confirmatory echocardiography and predict future risk of adverse events<sup>4</sup>. Mrs. Sapariah's doctor, Prof. Carolyn Lam, is a senior consultant with the department of cardiology at the National Heart Centre Singapore and oversees a research unit looking at heart disease in women. With a focus on HFpEF, the unit is studying the interplay between gender, ethnicity and development of HFpEF<sup>5</sup>. Prof. Lam is particularly interested in utilising NT-proBNP as a prognostic indicator in Asian patients with HF

In Mrs. Sapariah's case, her diagnosis of HFpEF was confirmed by elevated NT-proBNP, and she was stabilised with medication and asked to maintain her lifestyle changes. Despite the challenges she faced, Mrs. Sapariah remains highly motivated. "I even encouraged my husband to eat salad. For him, that really was the limit. He told me this was food fit for a goat," she said with a big smile.

Mrs. Sapariah also credits a close bond with her cardiologist, Prof. Lam. "She always takes the time to explain everything to me.

I can feel her genuine interest and concern. Each time she explained my blood test results, I noticed she always said my kidneys were good. So I asked her why this was important for my heart. This way I learned more about my condition," she said.

Prof. Lam even invited Mrs. Sapariah to a Singapore Heart Foundation event to share her experience and introduced her as the "patient who manages to stay out of the hospital."

Mrs. Sapariah said people asked her what her secret was and she said it was to follow her doctor's advice and change her lifestyle. She keeps busy with her granddaughter's care and upbringing. "Playing with her makes me happy," she said.

Mrs. Sapariah is now often a source of inspiration for friends who are facing diagnoses of chronic health issues. "I advise them to take it one step at a time. You can't change your sickness overnight, so I tell them to take baby steps."

<sup>1</sup> Sharma, K., Kass, D. A. (2014). *Circulation Research*. 2014; 115:79-96. *Heart Failure with Preserved Ejection Fraction*.

<sup>2</sup> Andersson C., Vasan R.S. (2014). *Heart failure clinics*. 2014; 10 (3): 377-388. *Epidemiology of heart failure with preserved ejection fraction*.

<sup>3</sup> Oktay, A. A., Shah, S.J. (2015). *Curr Cardiol Rev*. 2015 Feb; 11(1): 42-52. *Diagnosis and management of heart failure with preserved ejection fraction*.

<sup>4</sup> Tromp, J., Lam, C., et al. (2018). *ESC Heart Fail*. *N-terminal pro-B-type natriuretic peptide and prognosis in Caucasian vs Asian patients with heart failure*.

<sup>5</sup> Lam, C., Anand, I., Zhang, S., et al. (2013). *Eur J Heart Fail*. *Asian Sudden Cardiac Death in Heart Failure (ASIAN-HF) registry*.



## Ten questions with Sunil Sethi

**Associate Professor Sunil Sethi** took up the role of President of the Asia-Pacific Federation of Clinical Biochemistry (APFCB) in 2017. He is Senior Consultant Chemical Pathologist at the National University Hospital, Singapore; Associate Professor of Pathology at the National University of Singapore; and Group Director of the Applied Sciences Group with Singapore's Health Sciences Authority. In this interview with **Dia:gram**, A/Prof. Sethi talks about his vision for the APFCB and some of his own personal passions.