

Taking the war against diabetes to pregnant women

S'pore has among the highest gestational diabetes rates globally

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SINGAPORE – It is a condition that affects up to one in four pregnant women in Singapore, and can result in still-birth or sudden foetal death.

Like diabetes in the adult population here, gestational diabetes rates are rising fast, and some doctors believe early intervention and management of the disease should form an integral part of the nation's war against diabetes, declared by Health Minister



Madam Shamala Suppermaniam, 33, with her husband, Mr Thomas J Isaac, 38, and their children. Mdm Shamala, who had gestational diabetes, changed her diet on the advice of her dietitian. PHOTO: KOH MUI FONG

Gan Kim Yong last year.

More than 1,200 women are diagnosed with gestational diabetes at KK Women's and Children's Hospital (KKH) each year. At National University Hospital (NUH), the figure is about 800 per year — a fourfold increase in the last decade that outpaced the increase in the number of births there. Figures are expected to rise further, reflecting the epidemic of obesity and diabetes among reproductive-age women as well as the fact that more women are having children at a later age, said Dr Claudia Chi, a consultant at NUH Women's Centre.

"It is likely that our modern lifestyle and diet are linked to rising rates of both diabetes and gestational diabetes," she said. In addition, doctors are seeing more mothers who have pre-pregnancy impaired glucose tolerance or diabetes.

A 2012 multinational study found that the Republic has one of the highest rates of gestational diabetes in the world, said Dr Chi.

Studies conducted locally have shown that Asians have a higher risk of the condition, said Professor Tan Kok Hian, head and senior consultant at KKH's Perinatal Audit and Epidemiology Unit. The trend has spurred local hospitals, including KKH, Singapore General Hospital and NUH, to start a routine gestational diabetes-screening programme in the past year for expectant mothers, typically between 24 and 28 weeks of pregnancy.

Previously, testing was usually offered to women with risk factors such as a high body mass index, who were aged 35 and above, had a history of gestational diabetes, a family history of diabetes, or a previous baby with a birth weight of over 4kg. But this screening approach failed to detect up to a third of gestational diabetes cases, and was found to be less cost-

effective than routine screening, according to a local study conducted by KKH and Duke-NUS Medical School, which looked at over 900 women who completed their pregnancy.

"By missing out on such a significant number of women, we are missing the opportunity to provide early medical intervention, which can reduce complication rates for both mother and baby by as much as 40 per cent," said Prof Tan, the principal investigator of the study.

With the routine screening programme, KKH, which saw an annual average of around 1,000 women with gestational diabetes a decade ago, expects the figure to increase to around 1,800 per year.

COUNTING SPOONFULS OF RICE

Diagnosed women are referred to a specialist healthcare team, and taught to check and manage their glucose levels. A dietitian will also guide them on how to eat right to keep blood glucose levels stable throughout pregnancy. Those unable to keep their blood glucose levels within the ideal range through diet and regular exercise may require treatment with insulin injections or medications, said Dr Chi.

Madam Shamala Suppermaniam was among the women diagnosed at KKH last year. Pregnant for the third time (her oldest children are twin boys), the 33-year-old changed her diet on her dietician's advice, counting every spoonful of rice she ate.

Mdm Shamala, who is a staff nurse at KKH, also endured over 350 insulin injections which she gave herself once before every meal, and over 300 finger prick tests to monitor her blood glucose levels over the course of the pregnancy.

"When I was first diagnosed (with gestational diabetes), I was very

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scared because I was aware that it could potentially hurt my baby and may even lead to a stillbirth. I told myself that I had to keep to a strict diet, not for my own sake but for my babies,” said Mdm Shamala, who also suffered from gestational diabetes in her second pregnancy.

Left untreated or poorly controlled, gestational diabetes poses health risks to both mothers and their babies.

As glucose crosses the placenta easily, a mother’s high levels of glucose can have an adverse effect on the unborn child, who produces more insulin to lower its blood glucose levels. This can lead to a larger baby, weighing more than 4kg at birth, thereby increasing the likelihood of birth complications such as induced labour, birth trauma and C-section, said Dr Chi.

Mothers with the condition may develop high blood pressure and go into pre-term labour, while their babies risk developing health issues like low blood sugar and jaundice after birth.

There are also potentially fatal consequences such as pregnancy loss and sudden foetal death. KKH sees one to two cases of stillbirths per year as result of uncontrolled diabetes during pregnancy.

“Poor management of the disease and blood sugar can bring about changes in the expectant mother’s blood vessels and increase the risk of other medical conditions, such as high blood pressure. These, in turn, affect the foetus’ growth and development,” said Prof Tan.

Dr Chi has encountered cases of undiagnosed gestational diabetes ending in tragedy, including that of a 38-year-old mother whose unborn child died in her womb a month before the expected due date. Such incidents can be prevented if the condition is detected and managed accordingly.

“Due to financial and time constraints, the mother did not seek antenatal care for her third pregnancy. Unfortunately, the baby’s heartbeat was no longer present when she presented at the hospital for the first time at around 36 weeks,” she said.

RAISED RISK OF DIABETES LATER IN LIFE

Negative effects of gestational diabetes may linger on long after birth. While most cases of gestational diabetes typically resolve within six weeks after delivery, up to seven in 10 women with the condition will eventually develop Type 2 diabetes in their lifetime, said Prof Tan. The child also faces a higher risk of developing diabetes later in life.

Diabetes affects about one in nine adults here and Singapore has the second-highest proportion of diabetics among developed nations, according to the International Diabetes Federation.

Prof Tan said KKH is looking into ways to develop a more systematic follow-up approach to monitor and track mothers after delivery. The hospital is currently leading a large-scale local study that looks at how women’s

health before conception may affect both mother and child, with the longer-term goal of developing approaches to managing and preventing neurodevelopmental disorders and metabolic diseases such as diabetes.

After delivery, women with gestational diabetes could go for regular follow-ups with their doctor, said Prof Tan. This would include undergoing regular screening and getting medical

advice on managing their risk factors.

With willpower and careful monitoring, Mdm Shamala delivered healthy babies with no complications. Although her blood glucose levels went back to normal after delivering her youngest child about a month ago, Mdm Shamala intends to stick to her new-found taste for smaller portions and more wholesome food.

There was a bonus from her health-

ier diet and more active lifestyle: She shed 10kg from her original 86kg frame during her recent pregnancy.

“It can be really difficult to change one’s lifestyle and dietary habits, but I’d like to urge all mothers diagnosed with gestational diabetes to look at it positively; you can use this period to cultivate healthier eating habits. For me, it was a wake-up call to relook my diet and lifestyle,” she said.



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