



More than 17 per cent of adults in Malaysia are living with Type 2 diabetes mellitus, with obesity as the major contributing factor. PICTURE FROM WWW.GENESEEVALLEYPT.COM

**M**ORE than 17 per cent of adults in Malaysia are living with Type 2 diabetes mellitus, with obesity as a major contributing factor.

The National Diabetes Registry 2009-2012 revealed that 83.4 per cent of Malaysian patients diagnosed with type 2 diabetes were obese and 75 per cent had abdominal obesity.

Diabetes patients are often recommended to make significant lifestyle changes, particularly in diet and exercise to manage their condition.

However, many patients struggle to make the necessary adjustments and fail to reach their health goals.

In managing diabetes, diet intervention aims to achieve a target weight loss of five to 10 per cent in six months and reduce total calorie intake by incorporating meal replacements, says Professor Dr Winnie Chee Siew Swee, Dean of School of Health Sciences at International Medical University.

In Malaysia, 80 per cent of patients do not adhere to dietary regimens provided by dietitians, making it difficult to achieve those targets. But, why is it hard for patients to follow the recommendation? The answer is simple — Malaysia has an abundance of great food, and cultural factors play a role in what they eat and the impact on their health," she says.

#### NUTRITION ALGORITHM

Dr Chee is lead researcher in a recent study



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PICTURES BY SALHANI IBRAHIM

which shows that managing Type 2 diabetes is not a one-size-fits-all solution.

The study, conducted in Malaysia and published in *BMJ Open Diabetes Research and Care* open access journal last year, showed that creating a diabetes management plan that takes into consideration cultural factors including local food and eating habits can help people reach their health goals, including weight loss and lower blood sugar level.

In the study, supported by Abbott, a group of physicians and dietitians created the trans-cultural diabetes-specific nutrition algorithm or tDNA which includes a structured low-calorie meal plan, diabetes-specific meal replacements and enhanced physical activity.

The researchers observed 230 people with Type 2 diabetes [divided into two groups] to understand the impact of the nutrition algorithm on their health outcomes.

One group received structured diet and lifestyle plan based on the tDNA, which provided meal plans [including a diabetes-specific nutrition formula as meal replacement], motivation counselling and increased activity.

Another group received a similar low-calorie meal plan using usual food and the same amount of exercise and conventional diet consultation.

"We found out that the group which received a structured diet and lifestyle plan had a larger amount of body weight loss (5.8 kg on average), a drop in their Body Mass Index [by three per cent], as well as less body



*Dr Zanariah says managing diabetes is crucial as an uncontrolled condition can lead to a number of short and long-term health complications.*

fat and reduced waist circumference over six months," says Dr Chee.

"The trans-cultural care plan adapted for the Malaysian setting takes into account cultural differences in lifestyle and food availability, providing patients a carefully tailored care plan."

#### STRUCTURED LIFESTYLE INTERVENTION

Dr Chee says providing a structured lifestyle intervention can help patients simplify the decision-making process and make dietary changes easier to follow.

"Incorporating behavioural counselling in the intervention such as motivational interviewing enhances the patient's adherence to the changed lifestyle and leads to significantly better diabetes and weight control," she adds.

She highlights the case of a 58-year-old woman who has diabetes for 10 years and with a Body Mass Index of 29. The patient used to eat roti canai and teh tarik for breakfast, sugary biscuits and coffee for snacks and heavy meals for lunch and dinner, with total energy of 1,700 kcal/day.

With the intervention, her usual meals were replaced with a meal plan of total energy of 1,250 kcal/day. It comprised oats for breakfast, apples for snacks, sandwiches and diabetes-specific nutrition formula for lunch and rice for dinner which followed the Malaysian healthy plate portion [a quarter plate of carbohydrates, a quarter plate of protein and half plate of vegetables and fruit].

"The intervention recommended the patient to exercise for 30 minutes every day and encouraged her to self-monitor her weight, exercise frequency and dietary intake. We also discussed motivational factors that can help to improve her health.

"After six months, there was an improvement in her health. Her weight, for instance, was reduced from 64.5kg to 62.1kg."

#### MANAGING DIABETES IS CRUCIAL

Team researcher Dr Zanariah Hussein, head of department, general medicine at Hospital Putrajaya, says managing diabetes is crucial. When uncontrolled, she says, it can lead to a number of short and long-term health complications to the eyes, nerves, kidneys and heart.

"Being overweight or obese increases resistance to insulin action in the tissues, thus resulting in hyperglycaemia. This makes it more difficult to treat this group of patients.

"However, with the implementation of structured diet and lifestyle to manage diabetes, we can increase patients' adherence to their dietary changes and prevent diabetes-related health complications," she says.

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#QuarterQuarterHalf

*The tailored meal plan includes meal portions following the Malaysian healthy plate concept.*

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