

Dosage guide for Muslims with Type 2 diabetes to fast safely

Vanessa Liu

Fasting during Ramadan is one of the five pillars of Islam and practised by many Muslims, but it can be dangerous for those with Type 2 diabetes.

Hypoglycaemia, a condition where blood sugar levels become abnormally low, can arise from prolonged fasting and over-consumption of carbohydrates when people break fast in the evening. Symptoms include tremors, fatigue, irritability and, in worst cases, may lead to loss of consciousness or seizures.

National University of Singapore (NUS) researchers have developed a dosage guide for medication for Type 2 diabetes patients so they can fast more safely. Fasting Algorithm for Singaporeans with Type 2 Diabetes, or Fast, is used in consultation with a person's doctor and helps determine how doses should be changed when blood sugar levels fall below or rise above a certain point during Ramadan.

Muslims tend to sleep later in the

night during Ramadan and wake up earlier before going back to sleep, said Mr Lum Zheng Kang, a doctoral student from the pharmacy department at the NUS Faculty of Science and co-investigator of the study. "They also tend to eat larger meals when they break fast and consume more carbohydrates than usual."

These sleeping habits and dietary patterns might result in physiological changes to the body, which in turn may affect blood sugar control, he said. A person's sleep pattern and meal habits can help doctors tailor the guide for the patient before the fasting period starts.

Earlier studies by the team showed that Muslims with diabetes often avoid discussing their intention to fast with their doctors. Mr Lum noted: "Many healthcare professionals tend to advise (diabetics) against fasting instead of providing individualised assessment and advice, due to the lack of cultural and religious understanding and awareness of the needs of these patients."

Fast is the first tailored guide in Singapore for diabetics to manage



their condition when they fast during Ramadan. It was first drafted in 2016 by a principal clinical pharmacist and regularly reviewed by a multidisciplinary healthcare team comprising doctors, nurses and pharmacists. The guide was evaluated using a randomised controlled trial over the Ramadan cycles in 2017 and 2018. The results were pub-

lished in the journal *Annals of Family Medicine* in March and showed the three-month average blood sugar levels of those guided by Fast were four times better than those in the control group, said Mr Lum.

Those who used the Fast guide also did not experience very low blood sugar levels or any additional diabetes distress. Diabetes distress

refers to the emotional responses arising from the stress of coping with the demands of diabetes management.

The NUS team is planning to digitalise the Fast guide and incorporate it into patients' electronic medical records. It will also encourage healthcare practitioners dealing with diabetics to adopt the guide so it be-

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MR LUM ZHENG KANG, co-investigator of the study and a doctoral student from NUS Faculty of Science's pharmacy department.

Muslims in Singapore at evening prayers to mark the eve of the first day of Ramadan in 2015.

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comes part of national practice guidelines for diabetes, said Mr Lum.

Self-management is crucial for diabetics. "It's important they learn how to manage their diet and lifestyle, how to interpret blood sugar levels and adjust their medication accordingly," he added.

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