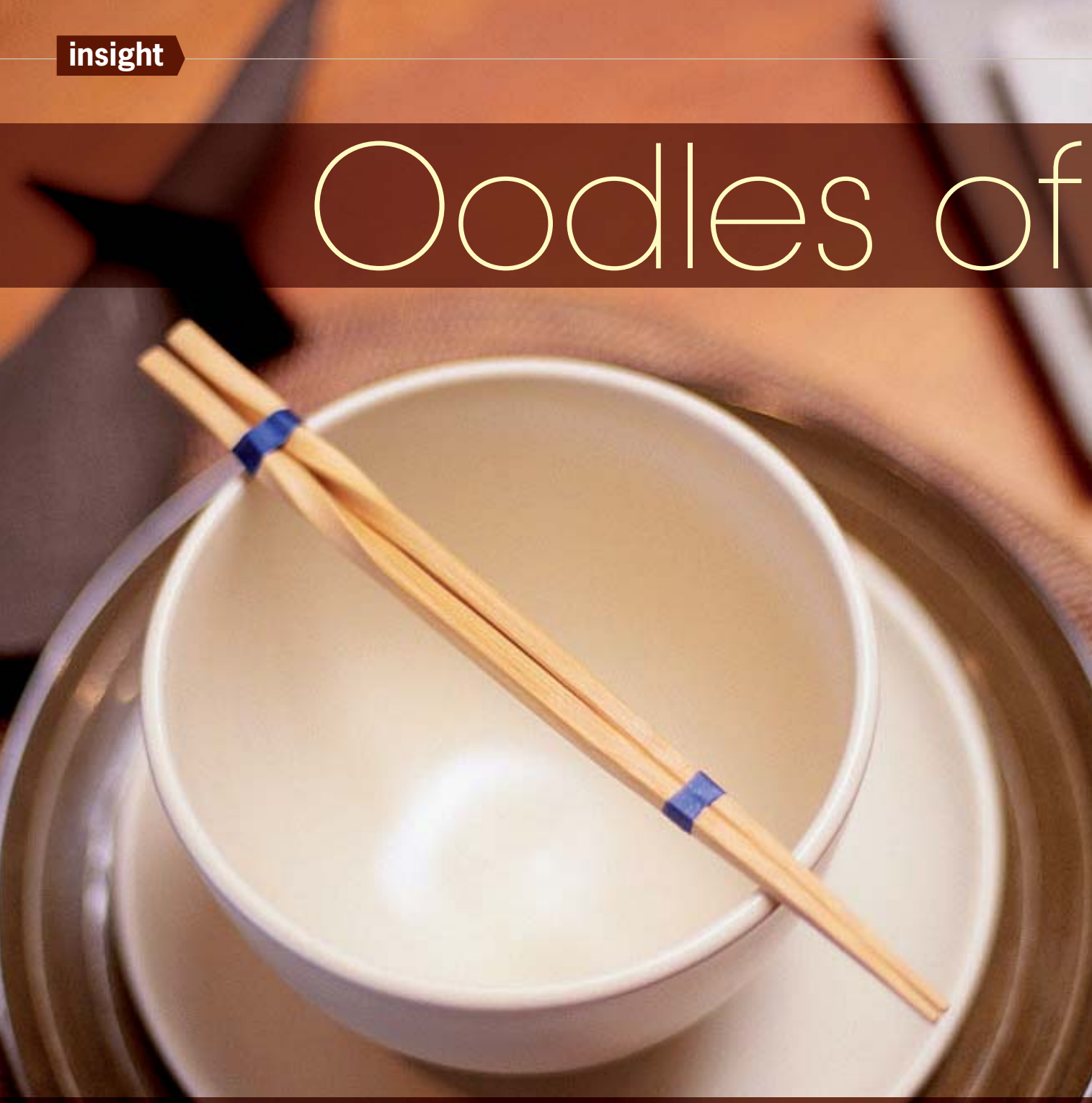
Oodles of



Have you ever wondered if the food products you see on the shop shelves labelled 'diabetic' (meaning suitable for people with diabetes) have been tested and are suitable for you? And have you been curious about how these so-called 'diabetic foods' will affect your blood glucose? Wouldn't you like to know, asks Dr Lim Heok Seng, senior consultant (Endocrinology) and director, Diabetes Centre, Department of Medicine, Changi General Hospital, and senior consultant, Department of Endocrinology, Singapore General Hospital.

Good Health

Photo Credit : Ye Liew

When the 'inventor' of one such product, who also happens to be a doctor, approached me to initiate a clinical study on her product, Diabetrim® (a scientifically engineered noodle product for diabetes), I thought it was a good opportunity to find some answers for myself!

We, therefore, did a simple clinical study at the Diabetes Centre and Clinical Trial and Research Unit (CTRU) of Changi General Hospital to put Diabetrim® to the test; to see what this food product actually does to the blood glucose in 30 adults with type 2 diabetes.

In the study each of the participants was given Diabetrim® noodles to eat as breakfast on one day and a well-established ordinary wheat-based noodles on another day. The ordinary wheat noodle was used as a comparison, that is, as the 'control' noodle. Our hospital kitchen prepared the two different noodles in the same portion size, with the same soup, the same amounts of vegetables and minced chicken and made them look 'alike'. The study was a 'single blind study' because only we knew which noodle was the ordinary one and which was Diabetrim® noodle while the participants did not.

In order to avoid undesirable confounding factors we selected only participants who had been on diet only or sulphonylurea diabetes pills only for their diabetes. On the morning of the tests, the diabetes medication was withheld.

We checked the blood glucose level of the participants before they ate each noodle and again one hour and two hours after the start of the meal which had to be consumed within ten minutes (not difficult, considering that the noodles were so deliciously prepared!).

The objective was to look at all these 'before meal' and 'after meal' blood glucose to determine what the rise in blood glucose was with Diabetrim® noodle compared to that with the ordinary wheat noodle.

The study gave very interesting results upon analysis. We found that the rise in blood glucose after the meal was much less with Diabetrim® noodle. At one hour the rise was only 2.1 mmol/L (36mg/dL) for the Diabetrim® noodle compared to 4.5 mmol/L (81mg/dL) for the ordinary wheat n oodles. This represented 54 percent less.

At the two hour point the rise was 1.4 mmol/L (25mg/L) for the Diabetrim® noodle whereas it was 3.4 mmol/l (61mg/dL) for the control noodles, that is 59 percent less.

The reason for the difference lies in the composition of Diabetrim® noodle. It has less calories, carbohydrate and fats, but more protein and fibre per 100 gram compared to the control noodle. Although we were not comparing noodles with similar amounts of nutrient composition we were comparing one noodle with another.You may say that we were not comparing

like with like but we were comparing noodles with noodles. To be sure, the manufacturer of the control noodle used in the study does not claim it to be special for people with diabetes.

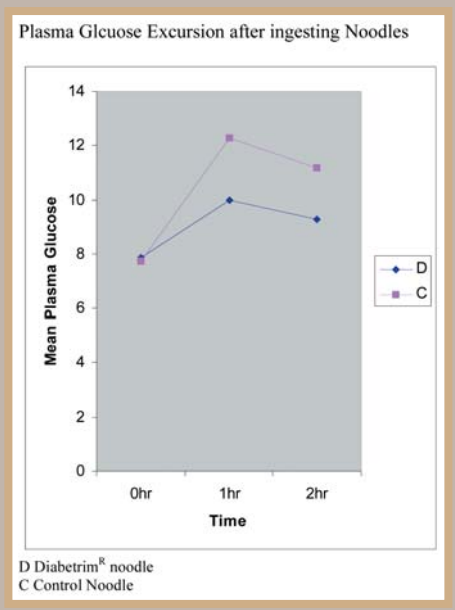
The lesson really is that Diabetrim® noodle passed our test. Another lesson is that if you choose foods that have lower carbohydrate and higher fibre content you are more likely to have a smaller blood glucose rise after eating it.

From the viewpoint of doctors treating diabetes, managing the diet of Asian patients with diabetes has always been a challenge both for the patients and for the doctor because practically all our staple foods (e.g. rice, noodles and breads) are carbohydrate based. As we know, carbohydrate foods, after digestion, turn into glucose which is then absorbed into the bloodstream. When people with diabetes eat carbohydrate staples several times a day, their blood glucose after each meal may rise to unacceptably high levels. All these daily 'spikes' in blood glucose will cumulatively raise their HbA1c which is a measure of the average blood glucose over two to three months.

Hence, controlling the after-meal blood glucose by food modification will bring down the HbA1c. A good target for HbA1c is a value below 7% (provided the treatment to achieve it does not cause frequent hypoglycaemia or low blood glucose). Studies have shown that maintaining this strict target can reduce the risk of diabetic complications such a kidney, retina and nerve damage, heart attacks and strokes.

My innovative doctor friend is, of course, delighted with the results.

As far as I am concerned, one can eat 'anything' one likes but my advice is that if you have diabetes, check your blood glucose before and after taking that food or snack. See for yourself how it matches your diabetes medications (including insulin) and what it does to your blood glucose. Try something else or a smaller portion of the same if your blood glucose is above the acceptable target.



While I was able to test one 'diabetic' product, the question still remains for me regarding all the other products out there that are similarly labelled. So, perhaps the next time you use a 'diabetic' product, check your blood glucose before and after taking it. Perhaps it will indeed do wonders for your glucose control….or perhaps it will do nothing at all. Wouldn't you like to know?