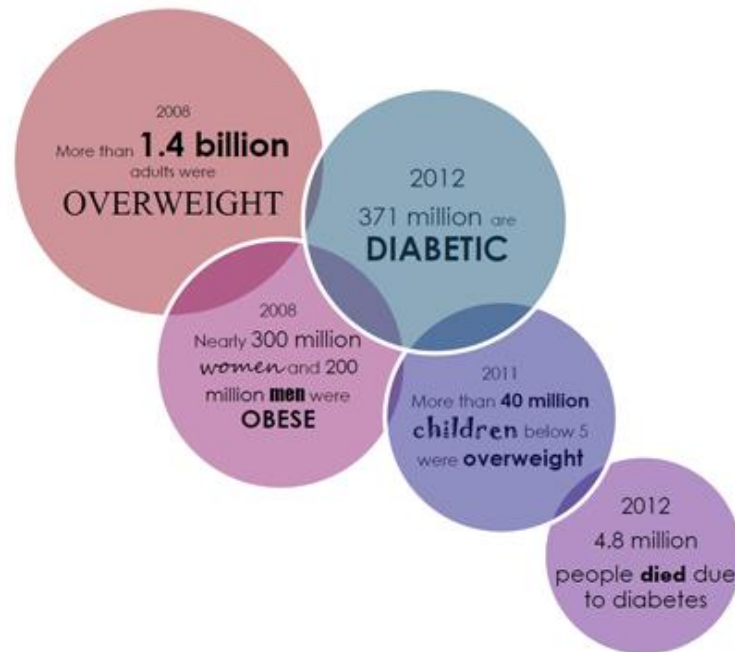


## Natural Low GI Fruit Sugar

### Introduction

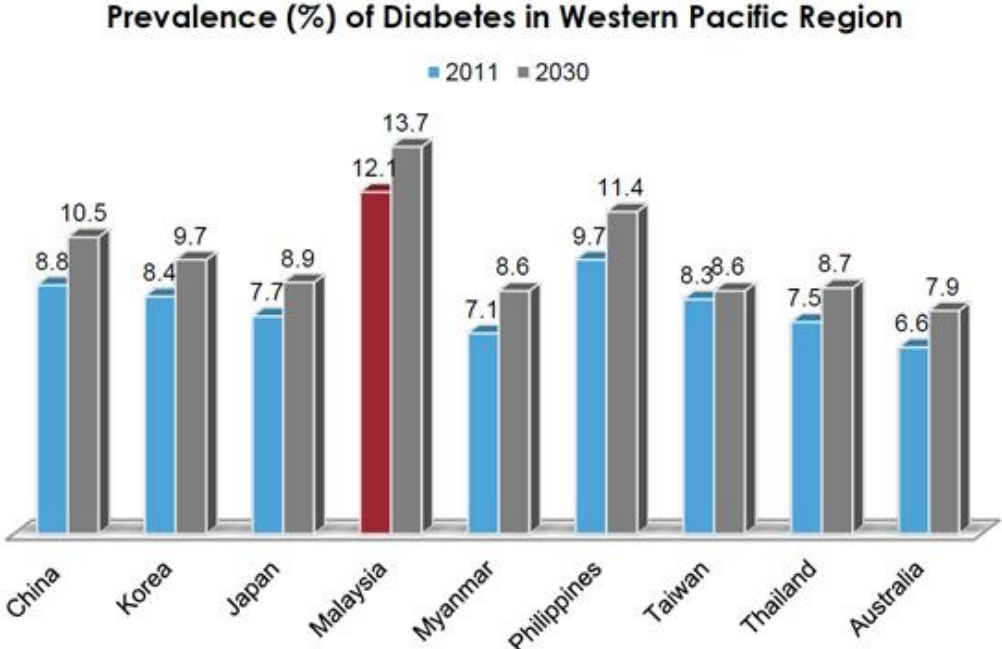
#### 1.1 Diabetes and Obesity Worldwide



IDF Diabetes Atlas 5th Edition, 2013; World Health Organization, March & October 2013

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# 1.2 Diabetes in the Western Pacific Region



**Figure 1.1**  
Comparison of prevalence and estimated diabetes (adjusted to world population) among adults 20-79 years for the years 2011 and 2030

In 2012, International Diabetes Foundation reported that Malaysia had

**2,082,480** diabetes case<sup>\*3</sup>

**25,859** diabetes related deaths<sup>\*3</sup>

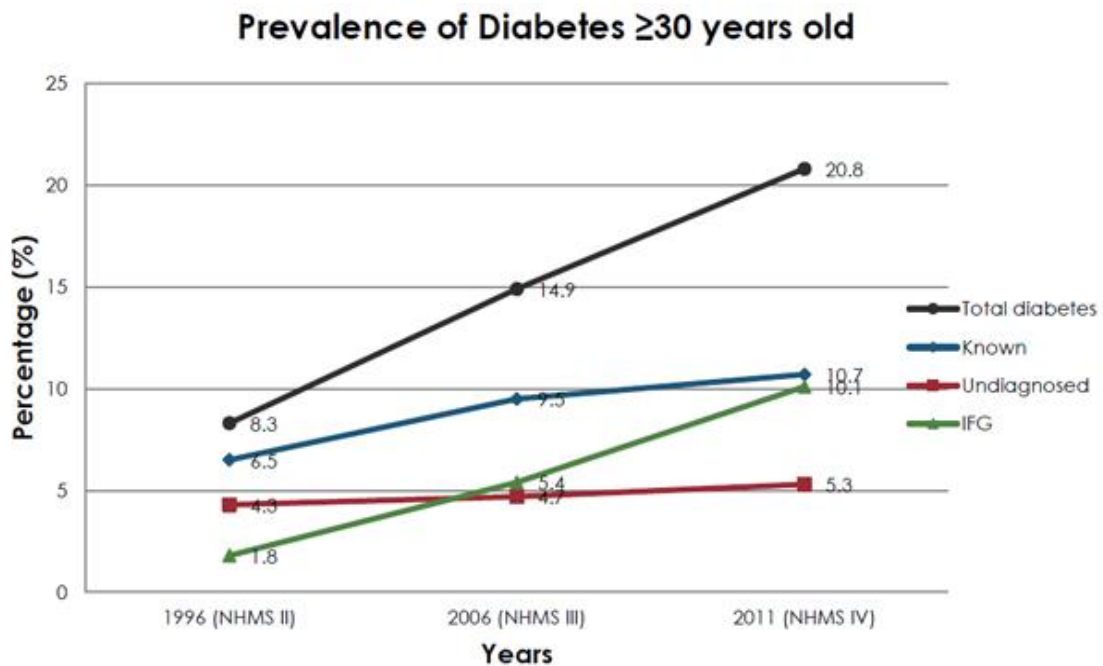
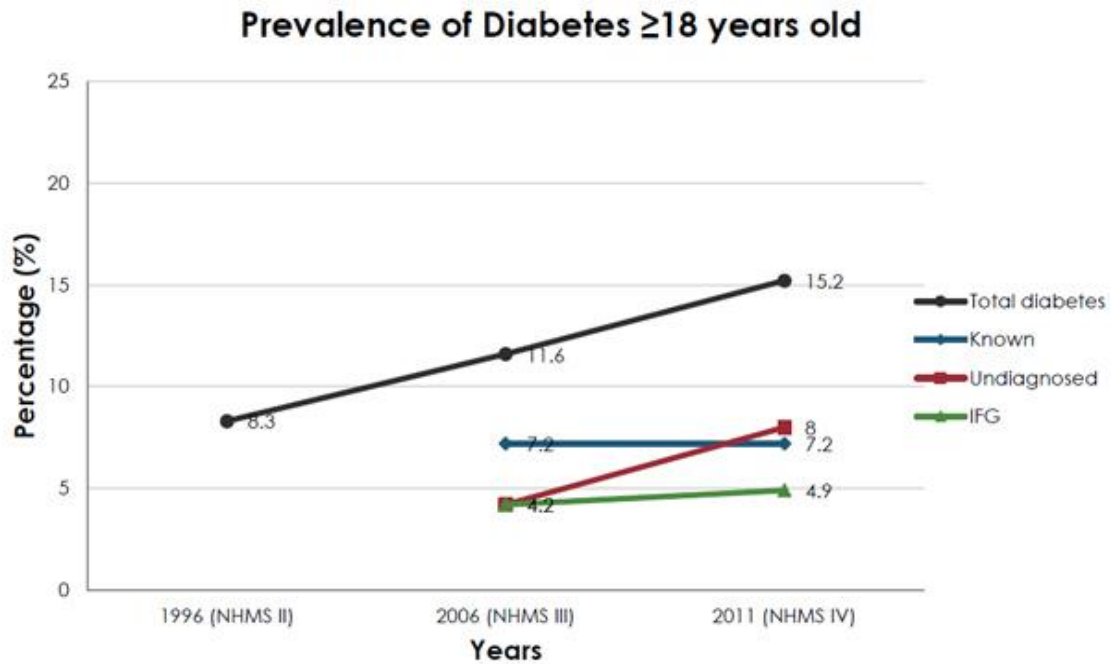
The average diabetes-related expenditure is \$513.01 (USD) per person<sup>\*3</sup>

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### 1.3 Current Diabetes in Malaysia

”Malaysia is the number one country in South East Asia for having the highest number of diabetics”

\*15



**Figure 1.2**

Comparison of prevalence for diabetes above 18 and 30 year old in Malaysia across the years from the National Health and Morbidity Survey (NHMS IV)

- **2006** 1.5 million people suffering from diabetes (NHMS III)\*1
- **2011** 2X increase from 1.5million to 2.6 million of diabetics. All in the span of 5 years from 2006 (NHMS IV) \*1,5,12
- About 2 million people in Malaysia with high blood sugar are still undiagnosed with diabetes \*1,12
  - Worldwide, World Health Organization (WHO) estimates that 3.4 million<sup>4</sup>
  - people died from consequences of high fasting blood sugar \*20
  - Many are unaware that they have diabetes until 7 or 10 years later, as there are no symptoms until complications develop \*1,13

### 1.3.1 Complications of Diabetes



[Adapted from International Diabetes Federation. 2013]4

#### Blindness

- 1 in 4 severe diabetic-related retina damage end up blind\*11
- Out of 13, 973 patients with diabetic retinopathy, 3, 311 suffered retinal damage and out of this, 774 with irreversible blindness. \*11

#### Heart Attack

- Diabetics are 2 to 4X more likely to have heart disease & 5X more likely to suffer a stroke. \*8

#### Kidney Failure

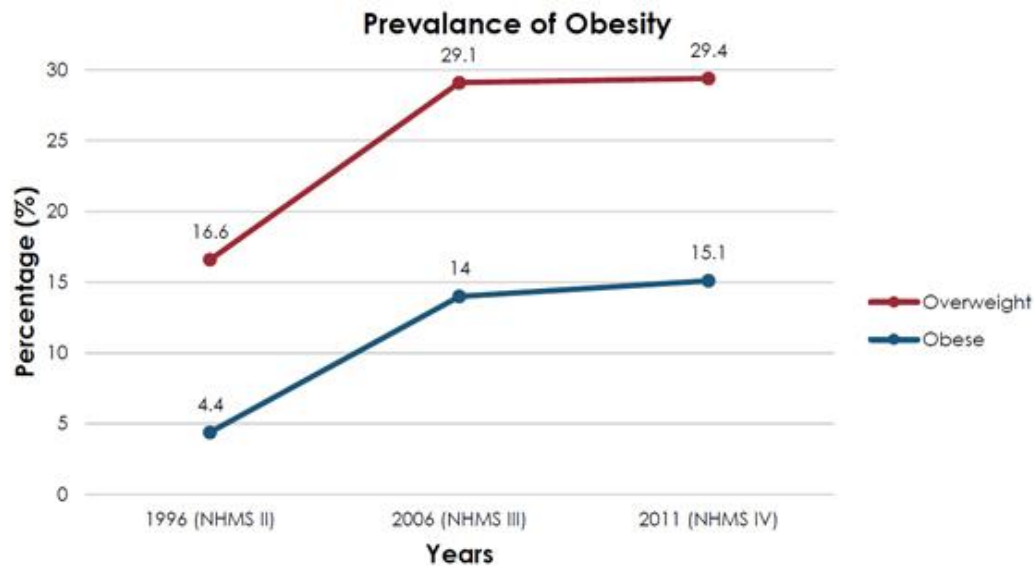
- Out of the 5, 800 new kidney patients, 58% who require dialysis or kidney transplants have diabetes.\*10

#### Amputation

Diabetics are 25% more likely to lose a leg. \*2  
 More than one million people with diabetes lose a leg every year. \*2  
 Every 30 seconds, a lower limb or a part of a lower limb is lost somewhere in the world as a consequence of diabetes. \*2  
 Out of 34, 539 diabetics in Malaysia, 4 – 7% had undergone toe or leg amputations. \*5

## 1.4 Current Obesity in Malaysia

“Malaysia is the fattest country in South East Asia” \*14



**Figure 1.3**

Comparison of prevalence for obesity; overweight and obese individuals above 18 years old in Malaysia across the years from the National Health and Morbidity Survey (NHMS)

- 8.5 million Malaysians are suffering from the overweight problem while approximately 50% (4.4 million) of them are obese \*9
- Obesity is an important underlying factor for Type 2 Diabetes Mellitus (T2DM). \*16
- **Obese** subjects have a **2 to 3X increased risk** of diabetes and impaired glucose tolerance. \*18
- **Diet and physical activity** is the **first line of prevention** in the management of lifestyle diseases such as diabetes (T2DM) and obesity. \*7

### Lifestyle modification vs. Drug intervention

Diet and physical activity	Metformin (drug)
▼ risk of diabetes by <b>58%</b> *6,17	▼ risk of diabetes by <b>31%</b> *6