

Non-Communicable Diseases Watch

October 2018



衛生防護中心
Centre for Health Protection



衛生署
Department of Health

Diabetes : A Common Chronic Disease

Key Messages

- ※ Diabetes is a common chronic disease. With rising tides of obesity, provision of energy-dense diets and physical inactivity, the global prevalence of diabetes among adults nearly doubled from 4.7% in 1980 to 8.5% in 2014.
- ※ In Hong Kong, the Population Health Survey 2014/15 of the Department of Health observed that the total prevalence of diabetes among non-institutionalised persons aged 15–84 was 8.4% (10.5% for males; 6.4% for females), with 54.1% of them being undiagnosed before the survey. The prevalence of diabetes increased with age from 0.2% for persons aged 15–24 to 25.4% for persons aged 65–84.
- ※ In May 2018, the Hong Kong SAR Government launched “Towards 2025: Strategy and Action Plan to Prevent and Control Non-communicable Diseases in Hong Kong” announcing a list of committed actions and a number of targets, among other things, to prevent and control diabetes, including Target 7: Halt the rise in diabetes (and obesity) and the overall Target 1: Reduce premature mortality from non-communicable diseases including diabetes by 2025.
- ※ To halt the rise in diabetes, the Government will organise large scale and systematic health communication campaigns to raise public health literacy; strengthen the health system at all levels for prevention, early detection and management of those who already have diabetes; and ensure access to cost-effective drugs and therapies for treatment of diabetes.
- ※ At the individual level, key actions to reduce the risk of developing diabetes include maintaining an optimal body weight and waist circumference, eating healthier diets, being physically active, not smoking and refraining from alcohol use.



邁 TOWARDS
向 2025

香港非傳染病防控策略及行動計劃
Strategy and Action Plan to
Prevent and Control NCD in Hong Kong



Target 7 :

Halt the rise of diabetes (and obesity)



Target 1:

Reduce premature mortality
from non-communicable diseases,
including diabetes

Diabetes : A Common Chronic Disease

Diabetes is characterised by elevated levels of blood glucose when the pancreas cannot produce any or enough insulin (a hormone which helps glucose get into the cells for use), or the body cannot use insulin effectively. As a result, the excess glucose is excreted out of the body through urine. Diabetes can be diagnosed based on the biochemical testing of fasting plasma glucose levels, 2-hour plasma glucose levels after a 75 gram oral glucose tolerance test, or glycated haemoglobin. According to its causes and symptoms, there are three main types of diabetes: type 1 diabetes (the pancreas does not produce enough insulin), type 2 diabetes (the pancreas produces insulin but the body cannot effectively use it), and gestational diabetes (a temporary condition in pregnancy).^{1, 2} It is noteworthy that before people develop type 2 diabetes, they almost always have “prediabetes” in which blood glucose levels are higher than normal but are not high enough for a diagnosis of diabetes.³ Studies show that between 5% and 10% of people with prediabetes progress to diabetes each year, and up to 70% of prediabetic individuals eventually develop diabetes.⁴ While

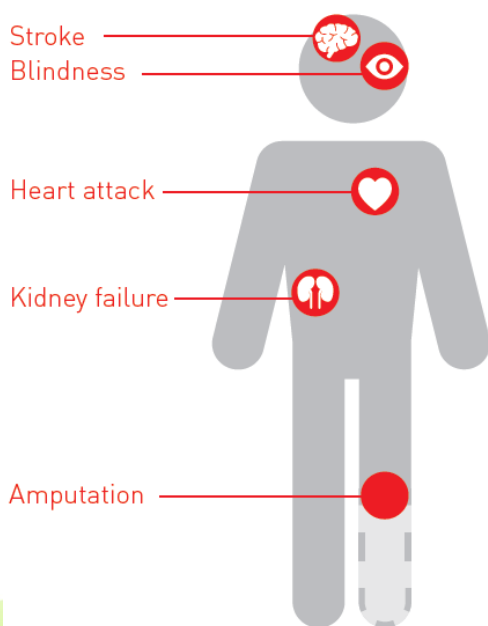
people can have prediabetes for years with no obvious symptoms, they may still have a higher risk of cardiovascular diseases and kidney diseases compared with individuals with normal blood glucose level.⁵ Thus, early detection of prediabetes is of importance in initiating timely interventions (such as lifestyle modifications) to prevent its progression to diabetes and related complications (Figure 1).⁶

Disease Burden of Diabetes

With rising tides of obesity, provision of energy-dense diets and physical inactivity, the global prevalence of diabetes among adults over 18 years of age nearly doubled from 4.7% in 1980 to 8.5% in 2014. In 2015, an estimated 1.6 million deaths were directly caused by diabetes.⁶

In Hong Kong, diabetes is a public health issue that deserves particular attention. The Population Health Survey 2014/15 of the Department of Health collected data of both diagnosed and undiagnosed cases of diabetes through self-reporting of existing diagnosis and biomedical testing of fasting plasma glucose and glycated haemoglobin respectively. The survey observed that 3.8% of non-institutionalised persons aged 15–84 (4.6% for males; 3.2% for females) self-reported of having doctor-diagnosed diabetes and another 4.5% (6.0% for males; 3.2% for females) were previously undiagnosed but tested to have diabetes during health examination (defined by either a fasting plasma glucose ≥ 7.0 mmol/L or glycated haemoglobin $\geq 6.5\%$). Combining the self-reported doctor-diagnosed and biochemical testing detected cases, the total prevalence of diabetes among non-institutionalised persons aged 15–84 was 8.4% (10.5% for males; 6.4% for females), with 54.1% of them being undiagnosed before the survey. As shown in Table 1, the prevalence of diabetes increased with age from 0.2% for persons aged 15–24 to 25.4% for persons aged 65–84.⁷

Figure 1: The major diabetic complications



(Source: World Health Organization)

Table 1: Prevalence of diabetes among non-institutionalised persons aged 15–84 by age group and history of diabetes

Age group	Previously diagnosed diabetes	No previous history and newly diagnosed diabetes*	Total
15–24	0.2%	-	0.2%
25–34	-	0.5%	0.5%
35–44	1.0%	2.9%	3.9%
45–54	2.5%	4.9%	7.3%
55–64	5.5%	6.8%	12.3%
65–84	14.0%	11.4%	25.4%
Total	3.8%	4.5%	8.4%

Base: All respondents aged 15–84 who had participated in the health examination.

Notes: * No known history of diabetes but tested to have fasting plasma glucose ≥ 7.0 mmol/L or glycated haemoglobin $\geq 6.5\%$ during health examination; ‘-’ denotes a nil figure.

Source: Population Health Survey 2014/15, Department of Health.

Halt the Rise of Diabetes

The Government of the Hong Kong Special Administrative Region is committed to safeguarding public health and reducing the disease burden of NCD, including diabetes. In May 2018, the Government launched “Towards 2025: Strategy and Action Plan to Prevent and Control Non-communicable Diseases in Hong Kong” (SAP) announcing 9 local NCD targets to be achieved by 2025, many of which are related to the prevention and control of diabetes (Box 1). To halt the rise of diabetes, the Government will organise large scale, systematic and outcome-based health communication campaigns to raise public awareness of lifestyle factors (such as healthy diet, physical activity, avoidance of tobacco and alcohol), their relevance to biomedical states (such as blood glucose, body weight, blood pressure and blood lipids) and diabetes risk, encouraging the public to make changes for better health; strengthen the health system at all levels, in particular a comprehensive primary care for prevention, early detection and management of those who already have diabetes based on the family doctor model; and regularly review and update drug lists and clinical protocols based on scientific and clinical evidence to ensure equitable access by patients to cost-effective drugs

and therapies of proven safety and efficacy for treatment of diabetes in all public hospitals and clinics.⁸

Although it is not yet possible to prevent type 1 diabetes, simple lifestyle changes have been shown to be effective in preventing or delaying the onset of type 2 diabetes as well as control the disease. For individuals, key actions include —

Maintain an optimal body weight and waist circumference. Chinese adults should aim to maintain a body mass index (BMI) between 18.5 and 22.9. Irrespective of BMI, men should keep their waist circumference below 90 cm (~ 35.5 inches) and women should keep theirs below 80 cm (~ 31.5 inches).

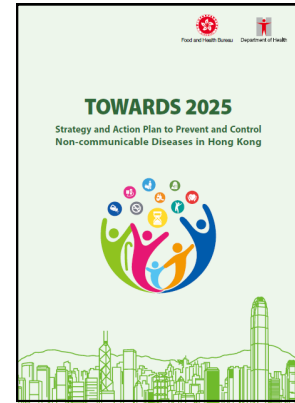
Eat healthier. Have at least 2 servings of fruit and 3 servings of vegetables a day, choose whole grains over refined grains, eat less sugar and fats (especially saturated fats), this helps maintain a healthy body weight and lower the risk of type 2 diabetes.

Be physically active. Regular physical activity improves insulin sensitivity and enhances glucose uptake by the muscles, which in turn helps regulate blood glucose level and reduce the risk of diabetes.

Do not smoke. Smoking is a risk factor for insulin resistance and diabetes. Smokers should quit smoking as soon as possible.

Refrain from alcohol use. Alcohol can affect carbohydrate metabolism and raise blood glucose level. Moreover, alcohol contains lots of empty calories with no nutritional value. Drinkers are encouraged to reduce or quit drinking completely.

For more information about the Government key initiatives and specific actions to halt the rise in diabetes, please refer to the SAP which can be found at the Change for Health Website of DH <https://www.change4health.gov.hk/en/saptowards2025/>.



Box 1: 9 local NCD targets by 2025



Target 1

A 25% relative reduction in risk of premature mortality from cardiovascular diseases, cancers, diabetes, or chronic respiratory diseases



Target 2

At least 10% relative reduction in the prevalence of binge drinking and harmful use of alcohol (harmful drinking/ alcohol dependence) among adults and in the prevalence of drinking among youth



Target 3

A 10% relative reduction in the prevalence of insufficient physical activity among adolescents and adults



Target 4

A 30% relative reduction in mean population daily intake of salt/sodium



Target 5

A 30% relative reduction in the prevalence of current tobacco use in persons aged 15+ years



Target 6

Contain the prevalence of raised blood pressure



Target 7

Halt the rise in diabetes and obesity



Target 8

Prevent heart attacks and strokes through drug therapy and counselling



Target 9

Improve availability of affordable basic technologies and essential medicines to treat major NCD

References

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World Diabetes Day

14 November



**DIABETES
CONCERNS
EVERY FAMILY**



#WDD2018



The World Diabetes Day (WDD) is celebrated every year on 14 November. It was designated in 1991 by the International Diabetes Federation (IDF) and the World Health Organization to address the growing concerns about the escalating threat that diabetes poses.

Every year, WDD campaign focuses on a theme that runs for one or more years. The theme for WDD 2018 and 2019 is **The Family and Diabetes**. It aims to:

- Raise awareness of the impact that diabetes has on the family and support network of those affected.
- Promote the role of the family in the management, care, prevention and education of diabetes.

For live update of WDD2018, follow #WDD2018. To know more about WDD and relevant activities, please visit <http://www.worlddiabetesday.org/>.

Non-Communicable Diseases (NCD) WATCH is dedicated to promote public's awareness of and disseminate health information about non-communicable diseases and related issues, and the importance of their prevention and control. It is also an indication of our commitments in responsive risk communication and to address the growing non-communicable disease threats to the health of our community. The Editorial Board welcomes your views and comments. Please send all comments and/or questions to so_dp3@dh.gov.hk.

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