



Questions
Commonly Asked
about
NUTRITION

For Patients with Diabetes

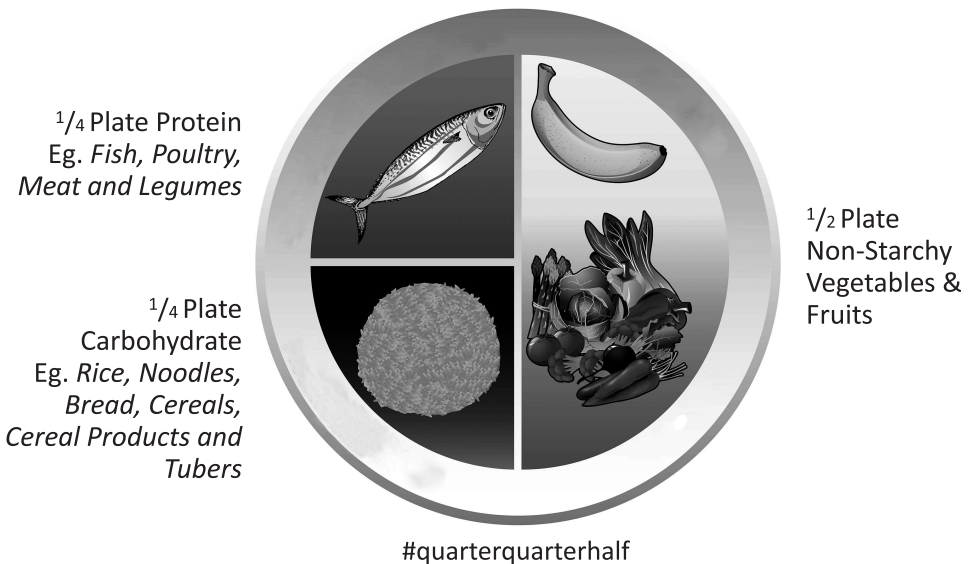
Diabetes is a chronic disease characterized by high blood sugar level. This may occur when there is insufficient production of insulin by the body or insulin is not functioning well or both. Insulin is a hormone produced by pancreas to control blood sugar level.

1. Should all patients with diabetes observe diet?

Diet should be the key management for diabetes. Patients with diabetes should be encouraged to observe diet and maintain healthy weight.

2. Is there a “Diabetic diet”?

There is no specific “Diabetic diet”. However, diet for patients with diabetes is usually a modification of a normal, well-balanced diet. It is based on the nutritional needs of the individual. Please refer to the Malaysian Healthy Plate of Quarter - Quarter - Half as below.



3. What food should I avoid?

This is a favourite question. Strictly speaking, there is no specific food that is absolutely forbidden. However, some foods are less desirable. Generally, food with high sugar (simple carbohydrate) and high fat content should be taken in limited quantities.

4. What food is suitable for patients with diabetes?

Similarly, there is also no “diabetic food”. However, food that is high in complex carbohydrate and fiber is highly recommended and should be taken according to individual’s requirement.

5. What is carbohydrate?

Carbohydrates are the main source of energy. There are two main groups of carbohydrates: starch (complex carbohydrate) and sugar (simple carbohydrate). Both types of carbohydrate are digested to produce glucose, which provides energy. Dietary fiber is also a subgroup of carbohydrate but it is not readily digested.

Table 1: Type of carbohydrate and examples of foods.

| Types of carbohydrate | Examples of foods |
|-----------------------|--|
| Complex carbohydrate | Rice, noodles, bread, cereals, root vegetables or tubers (potato) and legumes (beans / dhal) |
| Simple carbohydrate | Honey, jam, condensed milk, cakes, “kuih”, canned drinks, brown sugar and white sugar |
| Fiber | Fruits, vegetables and wholegrain cereals |

6. How much carbohydrate should I take?

Carbohydrates form about 50 - 60% of total calorie / energy needs*. These should come mainly in the form of complex carbohydrate. Besides, it is important to spread out your carbohydrate intake throughout the day by carbohydrate counting suggested by dietitian.

*Energy requirement is based on ideal weight, age and gender with allowances for physical activity or in special situations, for example during growth, adolescence, pregnancy and illness.

7. What is carbohydrate counting?

Carbohydrate counting is a meal planning technique to keep track of how much carbohydrate you are eating. The purpose is to keep the blood sugar level normal while enjoy a variety of carbohydrate foods.

8. How to count carbohydrate in my daily meal?

You may need to get advice from dietitian to have proper meal planning. The total carbohydrate needed in a day will be distributed for breakfast, lunch, dinner and snack if it is allowed. For example, if your recommended daily carbohydrate intake is 10 servings, you can choose carbohydrate foods from different sources as stated in Table 2 based on the recommended carbohydrate distribution for every meal.

Table 2: Carbohydrate food sources and exchange of 1 serving.

| Foods group | Examples of 1 serving |
|-------------------------|--|
| Cereal, grain and bread | <ul style="list-style-type: none">- 1/2 cup of rice- 1 cup rice porridge- 1/2 cup of kuey teow / mee hoon / tang hoon / spaghetti / macaroni- 1 slice of bread (white / wholemeal)- 1/2 piece of tosai- 1/3 piece of capati- 3 rounded tablespoons of oat- 3 pieces of plain biscuits |
| Tubers | <ul style="list-style-type: none">- 1 small size of potato- 1/2 cup of sweet potato / yam- 1 small corn on the cob (6cm) |
| Legumes | <ul style="list-style-type: none">- 1/2 cup of dhal- 1/2 cup of beans |
| Fruits | <ul style="list-style-type: none">- 1/2 guava / mango- 1 medium size of apple / orange / pear / kiwi / persimmon- 1 small banana- 1 slice of papaya / watermelon / pineapple / honeydew- 2 mangosteen- 5 rambutan / laici- 8 grapes / langsung |
| Milk | <ul style="list-style-type: none">- 4 rounded tablespoons of powdered milk (skim / low fat / full cream)- 1 cup of UHT fresh milk (240ml)- 3/4 cup of plain yogurt (low fat) |

9. How to detect the presence of simple sugar in the packaging food?

Always refer to the ingredient lists to spot the words like sugar, sucrose, glucose, fructose, high-fructose corn syrup, honey, molasses, brown sugar, cane sugar, maltose and fruit juice concentrate to detect the presence of simple sugar.

10. How much fiber should I eat?

Studies have shown a beneficial effect of foods rich in fiber on blood sugar control. Current recommendation of 25 - 30g per day is equivalent to at least 5 servings of vegetables and fruits, 1 serving of tubers / legumes and one main meal with wholegrain (unpolished rice, wholemeal bread) as its main component.

1 standard serving of vegetable is equivalent to ½ cup of cooked vegetable or 1 cup raw vegetable. Please refer **Table 2** for standard serving of fruits, tubers and legumes.

Tips to increase fiber intake

- Choose high fiber cereals, bread and biscuits.
- Eat unpolished rice rather than white rice.
- Eat more fruits and vegetables.
- Eat fresh fruits rather than drinking fruit juices.

11. Fruit is a healthy food, so is it okay to eat as much of it as I want?

Fruits are loaded with vitamins, minerals and fiber but they do contain carbohydrate. So you need to count it as part of your meal plan. It is also recommended to eat fruit as a whole instead of juice.

12. Can I use low-calorie sweeteners?

Yes. Low-calorie sweeteners do not raise blood sugar or insulin levels. Many Malaysians enjoy sweetened food. Low-calorie sweeteners offer a chance for diabetic patients to enjoy sweetened food and drinks with no or minimal calories.

Table 3: Type of low calorie sweeteners & the specifications.

| Types of Low Calorie Sweeteners | Specifications |
|--------------------------------------|--|
| Stevia extract | <ul style="list-style-type: none">• Naturally extracted from the leaves of stevia plant• Calorie-free• 200 - 300 times sweeter than sugar• Stable when heated |
| Acesulfame Potassium or acesulfame K | <ul style="list-style-type: none">• Calorie-free• 200 times sweeter than sugar• Stable when heated |

| Types of Low Calorie Sweeteners | Specifications |
|---|--|
| Aspartame | <ul style="list-style-type: none"> • Very low calorie • 200 times sweeter than sugar • Not stable when heated • Not suitable for persons with a rare hereditary disease, phenylketonuria (PKU) |
| Saccharin | <ul style="list-style-type: none"> • Calorie-free • 300 times sweeter than sugar • Stable when heated |
| Sucralose | <ul style="list-style-type: none"> • Calorie-free • 600 times sweeter than sugar • Highly stable when heated |
| Polyols (Sugar Alcohols) Eg: Sorbitol / mannitol and isomalt | <ul style="list-style-type: none"> • Contain some calories and carbohydrates • Common use in sugar-free foods |

However, it must be emphasized that diabetic patients do not need to use low-calorie sweeteners. Many do not find it necessary. But for those who have difficulty giving up the habit of taking sweetened foods or drinks, low-calorie sweeteners may help.

13. Are low calorie sweeteners safe to use?

Yes. All low-calorie sweeteners have undergone extensive safety evaluation and approval as food ingredients by the US Food and Drug Administration (FDA). Before receiving FDA approval, these ingredients were first tested in experimental models at consumption levels far in excess than what is used in products intended for human use.

14. Should I buy special “diabetic food”?

Special “diabetic food” refers to food and beverages produced specifically for patients with diabetes. The major attraction of diabetic foods is that they enable you to have something sweet.

Examples of products found in market:

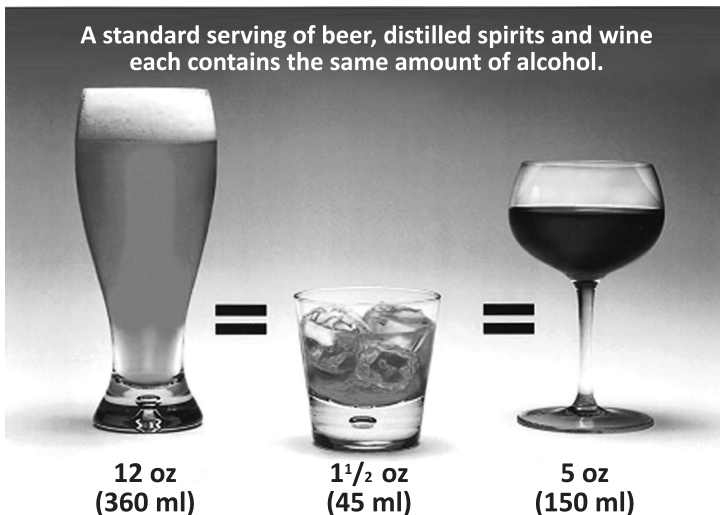
- Diabetic Jam
- Diabetic Chocolates and Sweets
- Diabetic Cookies

Special “diabetic food” does not have any special positive effect on diabetes but may be considered as a convenient preparation of certain types of food that would contain a lot of sugar. They are usually more expensive and are not necessary but can be used if desired.

It should be reminded that “diabetic food” contains calories, and excessive intake can also increase the blood sugar level.

15. Can patients with diabetes drink alcohol?

In Malaysia, alcohol is usually taken on special occasions rather than as an everyday beverage. If you choose to drink, limit to 2 units / day for men and 1 unit /day for women. (Refer to standard serving of alcohol chart)



However, there are few things you have to remember:

- Excessive alcohol intake can cause low blood sugar several hours later.
- Alcohol has high calorie content and its intake should be reduced if you are trying to lose weight.

16. Should patients with diabetes choose food with Low Glycaemic Index (GI)?

GI measures how fast a food is likely to raise your blood sugar. Patients with diabetes have been urged to eat carbohydrate foods with a low GI, that is, foods that cause minimal change in blood sugar. Complex carbohydrates are generally believed to have lower GI than simple carbohydrates. However, the speed of digestion is a major determinant of how much blood sugar changes and many factors affect the speed of digestion, including the preparation method, the presence of fat in the meal and the degree of ripeness of fruits and vegetables.

It is more practical to control total carbohydrate intake rather than to try to control the blood sugar by choosing low GI food.

The bottom line is low GI diet is not recommended as a primary strategy in meal planning. (American Diabetes Association, 2004)

17. Why does losing weight help my diabetes?

Weight loss helps you in two important ways. First, it lowers insulin resistance. This allows your natural insulin (in people with type 2 diabetes) to do a better job lowering blood glucose levels. If you take a diabetes medicine, losing weight lowers blood glucose and may allow you to reduce the amount you're taking, or quit taking it altogether. Second, it improves blood fat and blood pressure levels. Patients with diabetes are twice more likely to get cardiovascular disease. Lowering blood fats and blood pressure reduce that risk.

18. How much weight should I lose each week?

Limiting your weight loss to 0.5 to 1 kg a week will keep you healthy, and let you enjoy the foods you love in small amounts. A slow steady weight loss is the key to maintain weight loss.

19. How to plan healthy diet for patients with diabetes?

General tips for healthy eating

1. Have regular meals. Spread carbohydrate intake evenly.
 - Three main meals (If you are on oral medication)
 - Three main meals and three snacks a day (If you are on insulin injection)
2. Enjoy a variety of foods.
3. Maintain healthy body weight by balancing food intake with regular physical activity.

4. Eat plenty of complex carbohydrates from rice, cereals, vegetables and fruits.
5. Limit intake of simple carbohydrates (sugar).
6. Minimize fat in food preparation. Choose prepared foods that are low in fat and cholesterol.
7. Use salt sparingly. Choose food low in salt.
8. Drink plenty of water.
9. If main meal is delayed, suggest to eat a snack before the next main meal.
10. When eating out, check the portion of foods with the waiter.

However, do you know how many calories you should eat each day? How to cut down on the fat in your meals? How to make eating time more interesting? A certified dietitian can help you learn the answers to these, and lots of other questions. Your dietitian will work with you to create a healthy eating plan that includes your favourite foods.

References:

1. Medical Nutrition Therapy Guidelines for Type 2 Diabetes, Malaysian Dietitians' Association, 2nd Edition (2013)
2. International Food Information Council Foundation, Washington, DC. Website: <https://foodinsight.org>
3. American Diabetes Association
4. Panduan Pinggan Sihat Malaysia, Kementerian Kesihatan Malaysia (2016)

Please contact the dietitian for further
dietary advices and appointment

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(For Internal Circulation Only)