

Food, Exercise, Smoking and Alcohol effects on Blood-Sugar Level

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There are many factors which affects on blood sugar level of individual. Lifestyle and dialy routine affects the blood sugar level. Food, Smoking and Alcohol, Stress, Medicine and Exercise that effects on the body. Here, we are discussing the lifestyle or daily habits how positive or negative effects on individual blood sugar level.

Food:

A healthy diet helps lower glycated haemoglobin A1c (HbA1c) levels below the acceptable limit of 7%. A healthy diet requires an average of 30% of the total energy intake being dietary fats, less than 10% intake from processed sugars, and an average of 15% of recommended dietary protein. While nutrition's crucial role in controlling and preventing T2DM is established, food presents a significant challenge and a source of conflicting information for those managing the condition. Research indicates that foods with the same amount of carbohydrate exchange can have a fivefold difference in glycaemic impact.

Raid et. al. reported lower vegetable consumption in their study; however, fruit in take was higher. The low fruit and vegetable consumption may be due to affordability issues, as most participants are elderly and unemployed, or due to seasonal availability. The low consumption of fruits and vegetables is prevalent globally. Type-2 diabetes patients should be encouraged to increase their intake of high-fibre fruits and vegetables, aiming for at least five servings per day. These foods enhance satiety and provide phytonutrients, vitamins, and minerals that combat oxidative stress.

What to do:

- Learn about planning balanced meals. A healthy-eating plan includes knowing what to eat and how much to eat. Two common ways to plan meals are carbohydrate counting and the plate method. Ask your healthcare professional or a registered dietitian if either type of meal planning is right for you.
- Understand carbohydrate counting. Counting carbs involves keeping track of how many grams of carbohydrates you eat and drink during the day. If you take diabetes medicine called insulin at mealtimes, it's important to know the amount of carbohydrates in foods and drinks. That way, you can take the right dose of insulin.

Among all foods, carbs often have the biggest impact on blood sugar levels. That's because the body breaks them down into sugar, which raises blood sugar levels. Some carbs are better for you than others. For example, fruits, vegetables and whole grains are full of nutrients. They have fiber that helps keep blood sugar levels more stable too. Eat fewer refined, highly processed carbs. These include white bread, white rice, sugary cereal, cakes, cookies, candy and chips.

- Get to know the plate method. This type of meal planning is simpler than counting carbs. The plate method helps you eat a healthy balance of foods and control portion sizes.

Use a 9-inch plate. Fill half of the plate with nonstarchy vegetables. Examples include lettuce, cucumbers, broccoli, tomatoes and green beans. Divide the other half of the plate into two smaller, equal sections. You might hear these smaller sections called quarters. In one quarter of the plate, place a lean protein. Examples include fish, beans, eggs, and lean meat and poultry. On the other quarter, place healthy carbohydrates such as fruits and whole grains.

- Be mindful of portion sizes. Learn what portion size is right for each type of food. Everyday objects can help you remember. For example, one serving of meat or poultry is about the size of a deck of cards. A serving of cheese is about the size of six grapes. And a serving of cooked pasta or rice is about the size of a fist. You also can use measuring cups or a scale to help make sure you get the right portion sizes.
- Balance your meals and medicines. If you take diabetes medicine, it's important to balance what you eat and drink with your medicine. Too little food in proportion to your diabetes medicine — especially insulin — can lead to dangerously low blood sugar.

This is called hypoglycemia. Too much food may cause your blood sugar level to climb too high. This is called hyperglycemia. Talk to your diabetes health care team about how to best coordinate meal and medicine schedules.

- Limit sugary drinks. Sugar-sweetened drinks tend to be high in calories and low in nutrition. They also cause blood sugar to rise quickly. So it's best to limit these types of drinks if you have diabetes. The exception is if you have a low blood sugar level. Sugary drinks can be used to quickly raise blood sugar that is too low. These drinks include regular soda, juice and sports drinks.

Exercise

Despite the established benefits of physical activity for diabetes management, our study reveals low levels of physical activity and prolonged sitting, with limited or no vigorous activities. Walking, a key activity for diabetes management, falls below recommended levels for nearly half the participants. These findings contrast with studies that found higher activity levels among rural communities engaged in manual labour. The results of this study, however, align with observations of low activity in older adults. A systematic review conducted in South Africa has linked physical inactivity to the increasing burden of T2DM. Engaging in regular physical activity aids the body cells in absorbing glucose, thereby reducing blood glucose levels. People with T2DM should be encouraged to perform 150 minutes of moderate-intensity aerobic exercise, at 50–70% of maximal heart rate, per week, as well as resistance training three times per week. Our data suggest a need for interventions that encourage increased physical activity, particularly among those individuals who engage in prolonged sitting and light activity, regardless of their specific occupational or age demographics.

Exercise is another important part of managing diabetes. When you move and get active, your muscles use blood sugar for energy. Regular physical activity also helps your body use insulin better. These factors work together to lower your blood sugar level. The more strenuous your workout, the longer the effect lasts. But even light activities can improve your blood sugar level. Light activities include housework, gardening and walking.

What to do:

- Talk to your healthcare professional about an exercise plan. Ask your healthcare professional what type of exercise is right for you. In general, most adults should get at least 150 minutes a week of moderate aerobic activity. That includes activities that get

the heart pumping, such as walking, biking and swimming. Aim for about 30 minutes of moderate aerobic activity a day on most days of the week. Most adults also should aim to do strength-building exercise 2 to 3 times a week.

If you haven't been active for a long time, your healthcare professional may want to check your overall health first. Then the right balance of aerobic and muscle-strengthening exercise can be recommended.

- Keep an exercise schedule. Ask your healthcare professional about the best time of day for you to exercise. That way, your workout routine is aligned with your meal and medicine schedules.
- Know your numbers. Talk with your healthcare professional about what blood sugar levels are right for you before you start exercise.
- Check your blood sugar level. Also talk with your healthcare professional about your blood sugar testing needs. If you don't take insulin or other diabetes medicines, you likely won't need to check your blood sugar before or during exercise.

But if you take insulin or other diabetes medicines, testing is important. Check your blood sugar before, during and after exercise. Many diabetes medicines lower blood sugar. So does exercise, and its effects can last up to a day later. The risk of low blood sugar is greater if the activity is new to you. The risk also is greater if you start to exercise at a more intense level. Be aware of symptoms of low blood sugar. These include feeling shaky, weak, tired, hungry, lightheaded, irritable, anxious or confused.

- See if you need a snack. Have a small snack before you exercise if you use insulin and your blood sugar level is low. A blood sugar level below 90 milligrams per deciliter (mg/dL), which is 5.0 millimoles per liter (mmol/L), is too low. The snack you have before exercise should contain about 15 to 30 grams of carbs. Or you could take 10 to 20 grams of glucose products. This helps prevent a low blood sugar level. If your blood sugar is 90 to 124 mg/dL (5.0 to 6.9 mmol/L), have 10 grams of glucose before you exercise.
- Stay hydrated. Drink plenty of water or other fluids while exercising. Dehydration can affect blood sugar levels.

- Be prepared. Always have a small snack, glucose tablets or glucose gel with you during exercise. You'll need a quick way to boost your blood sugar if it drops too low. Carry medical identification too. In case of an emergency, medical identification can show others that you have diabetes. It also can show whether you take diabetes medicine such as insulin. Medical IDs come in forms such as cards, bracelets and necklaces.

Smoking:

Evidence shows that regular smoking is a significant risk factor for cardiovascular morbidity and mortality in patients living with T2DM. Tobacco inhalation causes endothelial cell dysfunction, increases lipid oxidation, and activates both pro-inflammatory and pro-coagulation states, which cause coronary arterial disease. A study conducted by Boua et al. found that most smokers were males, indicating a gender-specific pattern, as older females, in particular, preferred chewing tobacco. Campagna et al. indicated that people who quit smoking still face a 10–20% risk of developing cardiovascular diseases compared with those who have never smoked. The low prevalence of smoking observed among participants in this study reflects positive health behaviour, which may contribute to slowing the progression of diabetes complications and reducing cardiovascular risk in this population.

Alcohol

Alcohol consumption can increase the risk of hypoglycaemia, particularly when combined with insulin or insulin secretagogues, and may also lead to premature death. Therefore, patient education on safe alcohol use is critical in diabetes management. It's risky for some people with diabetes to drink alcohol. Alcohol can lead to low blood sugar shortly after you drink it and for hours afterward. The liver usually releases stored sugar to offset falling blood sugar levels. But if your liver is processing alcohol, it may not give your blood sugar the needed boost.

What to do:

- **Get your healthcare professional's OK to drink alcohol.** With diabetes, drinking too much alcohol sometimes can lead to health conditions such as nerve damage. But if your diabetes is under control and your healthcare professional agrees, an occasional alcoholic drink is fine.

Women should have no more than one drink a day. Men should have no more than two drinks a day. One drink equals a 12-ounce beer, 5 ounces of wine or 1.5 ounces of distilled spirits.

- **Don't drink alcohol on an empty stomach.** If you take insulin or other diabetes medicines, eat before you drink alcohol. This helps prevent low blood sugar. Or drink alcohol with a meal.
- **Choose your drinks carefully.** Light beer and dry wines have fewer calories and carbohydrates than do other alcoholic drinks. If you prefer mixed drinks, sugar-free mixers won't raise your blood sugar. Some examples of sugar-free mixers are diet soda, diet tonic, club soda and seltzer.
- **Add up calories from alcohol.** If you count calories, include the calories from any alcohol you drink in your daily count. Ask your healthcare professional or a registered dietitian how to make calories and carbohydrates from alcoholic drinks part of your diet plan.
- **Check your blood sugar level before bed.** Alcohol can lower blood sugar levels long after you've had your last drink. So check your blood sugar level before you go to sleep. If your blood sugar isn't between 100 mg/dL and 140 mg/dL (5.6 mm/L and 7.8 mmol/L), have a snack before bed. The snack can counter a drop in your blood sugar.

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