

Role of Dietary Administration and Physical Activities in Controlling Diabetes

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With the global epidemic of type 2 diabetes, it's critical to invest in effective diabetes prevention and management. Osama Hamdy, Medical Director of the Obesity Clinical Program at Joslin Diabetes says that Nutrition can be used as a medicine to prevent and control diabetes in a very effective way.

One major finding was that certain foods and dietary patterns can help prevent type 2 diabetes even without weight loss. People who eat a Mediterranean diet, with foods such as olive oil, whole grains and leafy vegetables and fruits, have a lower risk of developing diabetes even when they don't lose weight. Foods associated with a higher risk of diabetes include red and processed meat, sugar-sweetened beverages, alcohol in excess quantities and refined grains, such as white flour [1].

Recent studies of fat intake and diabetes incidence support the notion that eating the right kind of fat is beneficial to health. This goes against years of advocacy of a low-fat/high-carbohydrate diet. When people start eating less fat, they compensate by eating more refined carbohydrates, which stimulate insulin secretion and increase fat deposition. A major problem with the American diet is too much refined grains and added sugar, which are associated with the rise in obesity and type 2 diabetes.

The Joslin nutritional guidelines for diabetes recommend a diet with relatively high amounts of healthy fats and protein but moderately low amounts of carbohydrates. The quality of fat and carbohydrates is more important than the quantity of fat and carbohydrates [1].

Counting carbohydrate can help to reach blood glucose goals and prevent diabetes complications. The recommended number of servings is based on weight, activity level, diabetes medicines, and goals for blood glucose levels of a person.

A general guideline is to have:

- 45 - 60 grams of carbohydrate at each meal
- 15 - 20 grams of carbohydrate servings at each snack

To have a balanced meal plan, include protein foods (such as meat, chicken, and fish), non-starchy vegetables (such as salad and broccoli), and a small amount of healthy fats (such as olive oil and nuts) in diet [2].

Insulin resistance is a condition that raises risk for type 2 diabetes and heart disease. In case of insulin resistance, the body has problems using insulin. Over time, this makes the blood glucose (sugar) levels go up. Cutting calories, being active, and losing weight can reverse insulin resistance and lower risk for type 2 diabetes and heart disease. You can eat fewer calories and be physically active. If you do, it's more likely you'll lose weight. Studies have shown that losing even 7% of your weight may help [3].

In pre-diabetes, the blood glucose (sugar) levels are higher than normal but are not high enough to be called diabetes. But if the blood glucose goes higher, the chances are there for development type 2 diabetes. Type 2 diabetes can lead to heart disease, stroke, nerve damage, kidney failure, and eye problems.

To know whether you are pre-diabetes or not a blood test to check your blood glucose level is needed:

- If you're 45 or older, ask your health care provider to check your blood glucose level.
- No matter what your age, if you're overweight and have at least one other risk for diabetes, ask your health care provider about getting tested.

Type 2 diabetes can be delayed or prevented by:

- Losing weight
- Cutting back on calories and saturated fat
- Increasing your daily physical activity [4].

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