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| t.Essentuki  THE DIABETIC DIET.   |  |  |  | | --- | --- | --- | |  |  | Abstract on English by Kuranov Alina Olegovna – a student of Essentuki medical college group № 261. |   2002г. |

**DIABETES.**

Diabetes Mellitus (when the term diabetes is used alone, it always refers to diabetes mellitus) is a condition in which the body is unable to use sugar properly. Sugar (carbohydrate) is the substance our body uses as its major source of energy. Once this sugar is absorbed in the blood, it is referred to as blood sugar or blood glucose.   Insulin (a hormone made in the pancreas that regulates the blood sugar) is either missing or deficient. As a result, the body cannot use energy nutrients (carbohydrates, fat, protein) effectively and the cells of the body "starve". The sugar in the blood may rise to high levels instead of being used for energy.  Blood sugar is excreted through urine, which makes extra work for the kidneys causing frequent urination and excessive thirst.

**Treatment**

Diet, exercise and medication are important factors that must be coordinated for diabetes to be kept in control. Medication is not used to treat all cases of diabetes. Medication when used can either be in the form of a pill (oral hypoglycemic agents) or insulin, which must be injected. Diet, exercise and medication all affect treatment but unless the diet plan is followed carefully no method of treatment will be effective. By eating the right foods in the right amounts diet can actually help control the basic problem of diabetes.

According to Control Your Diabetes Education Program for Life, a program sponsored by the National Diabetes Education Program, people who take control of diabetes will, in the short run, feel better, have more energy, and prevent the following signs and symptoms of high blood sugar: thirst, fatigue, frequent urination, weight loss, blurred vision, and slow healing of cuts and bruises.  In the long run, they decrease their chances of developing eye disease, kidney disease, and nerve damage, and add years to their lives.

**THE DIABETIC DIET.**

Purpose: The diabetic diet is designed to achieve and maintain desirable body weight and near normal blood glucose levels, reduce hyperglycemia, glycosuria, and associated symptoms of diabetes in order to minimize the complications frequently associated with this disease.

Use: It is used for the person with either insulin-dependent diabetes mellitus or non-insulin-dependent diabetes mellitus. The calorie-controlled diet may be adapted for weight reduction and weight maintenance.

The calorie level prescribed for the diabetic is based on whether the person needs to lose or gain weight or simply maintain the present weight. The calorie level specified is determined from the height, body build, ideal weight and physical activity level.

**General Guidelines for the Diabetic Diet.**

1. Avoid concentrated sources of carbohydrates (sugars) such as table sugar, honey, jelly, jam, molasses, syrup, corn syrup, candy, regular soft drinks, pies, doughnuts, cookies, pastries, regular chewing gum, and sweet pickles.
2. Avoid sweetened fruits, juices and fruit drinks. Choose fruit, which is fresh, frozen or packed in water or its own juice. Avoid fruits canned in heavy syrup.
3. Avoid sweetened carbonated sodas, juices and water.
4. Learn foods both high and low in sugar that are presented in the No Concentrated Sweet Food List
5. Three meals at regular times should be consumed daily. Do not skip meals.
6. A nutritionally adequate meal plan that limits the amount of saturated fat, cholesterol and salt in the diet. Fat intake should be 30% or less of caloric intake and less than 10% of daily caloric intake from saturated fat. Dietary cholesterol should be limited to 300 mg or less daily. 2,400 mg or less per day of sodium is recommended.
7. Daily consumption of 20-35 g of dietary fiber from a wide variety of foods is recommended.
8. Mild to moderate weight loss (10-20 pounds. has been shown to improve diabetes control, even if desirable body weight is not achieved.)
9. Read the label to determine the sugar content of packaged foods. In addition to sugar, brown sugar and corn syrup, other names that are used on ingredient labels include: sucrose, glucose, dextrose, fructose, maltose, lactose, sorbitol, mannitol, honey, corn syrup, corn syrup solids, high fructose corn syrup, molasses, maple syrup.
10. Monitoring of lipids, blood pressure and body weight is crucial.
11. Glycated hemoglobin (HbA1C) and daily monitoring of blood glucose are standard tools to measure glucose control.

* For individuals with **Type 1 diabetes**, self-monitoring 4 times daily or more is recommended to maintain near-normal blood glucose levels and gain control.  Testing 4 times a day, before each meal, and at bedtime, facilitates adjustments to insulin, meals, and exercise program.
* For individuals with **Type 2 diabetes**, self-monitoring 1-2 times daily or more is recommended to avoid hypoglycemia and hyperglycemia symptoms.
* **Newly diagnosed** individuals should test blood glucose 4 times a day, before each meal, and at bedtime, or more is recommended to maintain near-normal blood glucose levels and gain control.  Testing   facilitates adjustments to insulin, meals, and exercise program.
* After a stable pattern has been established in blood glucose levels, individuals should test before breakfast, 3-7 times each week.  Once or twice each month you should return to testing 4 times a day (before each meal, and at bedtime) to assure maintenance of a stable pattern.

**NO CONCENTRATED SWEETS, LOW FAT DIET.**

**(LOW SUGAR-LOW FAT)**

Purpose: The no concentrated sweets, low fat diet is designed to limit the total amount of fat and sugar in the diet to reduce serum lipid levels and to achieve and maintain near normal blood glucose levels. This diet is for people who find the exchange system too confusing or restricting to follow.

Use: It is used for the person with either non-insulin-dependent diabetes mellitus or for people who need or want to cut down on their sugar and fat intake. The calorie-controlled diet may be adapted for weight reduction and weight maintenance for individuals that do not have diabetes. It is also used for persons with elevated serum cholesterol levels or those who are high-risk candidates for heart disease.

**General Guidelines.**

* Limit total fat intake to less than 30% of totaldaily calories.
* Reduce saturated fat intake (red meat, cheese, whole milk, butter, ice cream, etc.)
* Eat less *trans* fat (stick margarine, shortening, cakes, pies, French fries, snack chips.)
* Eat less cholesterol (limit egg yolks to more than 4 per week and meat, fish, poultry to no more than 6 ounces a day)
* Reduce sugar intake.
* Eat more fruits, vegetables, beans, whole grain breads, and cereals.
* Maintain a healthy weight.
* Exercise at least 30 minutes on most days (brisk walking, aerobics, biking, etc.)
* Experiment with recipes by gradually reducing the amount of sugar by 1/4th then l/3rd then 1/2.
* Use the "sweet" spices—cinnamon cloves ginger or nutmeg—to bring out sweetness in baked goods.
* Be careful when using special diet or dietetic foods such as dietetic cake, cookies, candy and ice cream. These foods contain some form of sweetener and, therefore, calories.

**NO CONCENTRATED SWEET FOOD LIST.**

Purpose: The no concentrated sweets diet is designed to achieve and maintain near normal blood glucose levels, and reduce associated symptoms of diabetes in order to minimize the complications frequently associated with this disease. This diet is for people who find the exchange system too confusing or restricting to follow.

Use: It is used for the person with either non-insulin-dependent diabetes mellitus or for people who need or want to cut down on their sugar intake. It is not intended for the person with diabetes taking insulin. The calorie-controlled diet may be adapted for weight reduction and weight maintenance.

* Eat three meals at regular times. Do not skip meals.
* Limit total fat intake to less than 30% of totaldaily calories.
* Reduce saturated fat intake (red meat, cheese, whole milk, butter, ice cream, etc.)
* Eat less *trans* fat (stick margarine, shortening, cakes, pies, french fries, snack chips.)
* Eat less cholesterol (limit egg yolks to more than 4 per week and meat, fish, poultry to no more than 6 ounces a day.)
* Reduce salt intake (canned and dried soups, fast food, frozen dinners, pizza, processed meats and cheese.)
* Eat more fruits, vegetables, beans, whole grain breads, and cereals.
* Maintain a healthy weight. Mild to moderate weight loss (10-20 lbs. has been shown to improve diabetes control, even if desirable body weight is not achieved.)
* Recommend 20-35 grams/day of dietary fiber from a wide variety of foods.
* Be careful when using special diet or dietetic foods such as dietetic cake, cookies, candy and ice cream. These foods contain some form of sweetener and, therefore, calories.
* Monitor blood glucose, glycated hemoglobin, lipids, blood pressure and body weight.
* Exercise at least 30 minutes on most days (brisk walking, aerobics, biking, etc). Regular exercise improves control of blood sugar and is an important part of any healthy lifestyle.
* Experiment with recipes by gradually reducing the amount of sugar by 1/4th then l/3rd then 1/2.
* Use the "sweet" spices—cinnamon cloves ginger or nutmeg—to bring out sweetness in baked goods.
* Read the label to determine the sugar content of packaged foods. In addition to sugar, brown sugar and corn syrup, other names that are used on ingredient labels include: sucrose, glucose, dextrose, fructose, maltose, modified food starch, natural sweeteners, lactose, sorbitol, mannitol, honey, corn syrup, corn syrup solids, high fructose corn syrup, molasses, maple syrup.

**ABOUT THE MAJOR NUTRIENTS IN THE DIABETIC DIET.**

CARBOHYDRATES are made up of simple sugars, complex carbohydrates, and fiber. Simple carbohydrates are commonly known as sugars, sources of simple carbohydrates include table sugar, candies and other sweets, sodas and bakery goods. The sugar in these foods is in a form that is absorbed easily by the body, as opposed to the slower-digesting complex carbohydrates.

Complex carbohydrates include all the complex starches and fiber, such as those found in grains, cereals, breads and starchy vegetables like potatoes, corn, peas and beans. Milk, fruit and vegetables also contribute significant amounts of carbohydrate in the diet.

100% of the carbohydrates eaten are broken down into glucose. Therefore carbohydrates elevate the blood sugar at a faster rate than either protein or fat so only measured amounts should be consumed. Complex carbohydrates contain many essential nutrients and are the body's most effective source of energy.

**PROTEIN** provides amino acids for your body to build, maintain, and repair cells and muscle tissue, heal wounds, and support the immune system. It is very easy to get protein in our diet, in fact, most Americans consume 2-3 times more protein than necessary. Excess protein does not create muscle, as many hope, but is stored as fat. Excess protein can put strain on the liver and kidneys. The best protein sources are milk, yogurt, cheese, lean meat, poultry, fish, beans, eggs, and nuts. Breads, cereals and vegetables contribute small amounts of protein in the diet. About 60% of the protein eaten are broken down into glucose.

Nutritionists recommend about 45 to 50 grams of protein a day for most women and 50 to 60 grams a day for most men or 10 percent to 20 percent of daily calories. Children and infants, who are growing rapidly, need more protein, as do pregnant women.

**FAT**, like carbohydrates, are used by the body for fuel and are essential for the absorption of certain vitamins. Although some fat in the diet is necessary, too much fat can lead to heart disease, obesity and other health problems. Fats should comprise no more than 30 % of daily calories, or even lower.

Fats in the diet may be of animal or vegetable origin. Examples of fat in the diet are gravy, bacon, margarine, butter, cream, salad dressings and nuts. Meats and some milk products also contain significant amounts of fat. About 10% of the fat eaten is broken down into glucose. The remainder is stored as fat for future use