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Internal Medicine

Lancaster Area Diabetic Pitfall Intervention Curriculum

Objective: To increase the awareness of diabetic patients to specific "pitfalls" or common misunderstandings about their diet.

Goals: Patients will be informed of mistakes and counseled on confusing issues specific to the Lancaster area as identified by staff at the Diabetes Education Center. Upon completion of the curriculum patients will demonstrate their increased awareness of dietary issues. Their scores on the post-curriculum examination, and food diaries will measure this. The specific areas of concern are as follows:

1. To resolve the issue **of serving size and carbohydrate calculation**. Many patients read the ingredients on the back panel of food products as instructed by a dietician or doctor. When they see total carbohydrates they think this means the total carbohydrate content in the entire package instead of recognizes that amount to be the carbohydrate content for one serving of the food. This often leads to under-calculation and unexpected increases in blood glucose levels. I must emphasize that the amount on the back panel of foods is not the total amount of carbohydrates in the package unless there is only one serving size per package. This is true even though it says total carbohydrate on the back panel. This is very misleading. You must multiple the total carbohydrates from the back panel by the total number of servings per box if you want to eat the entire box. It would be a good idea to consume only one serving in the package. For example if I purchase a box of oatmeal cookies and the back panel says that the total carbohydrate content is 20 grams my next step is to look above and find the number of servings in one box. If there are ten servings (1 cookie/serving) and I want to eat three cookies I must multiply 3 times 20 for a total carbohydrate content of 60 grams.

2. To explain to patient the **contribution that fats and sedentary lifestyles** have to their diabetic conditions. Patients often do not understand that fatty foods or high caloric intake diets increase total body fat that contributes to the insulin insensitivity that is the underlying problem in type II DM. Furthermore patients are often confused about how exercise can affect their conditions. Patients will be informed that regular exercise will reduce the total body fat content thereby reducing their insulin insensitivity. For overweight diabetic and all diabetics in general an optimal body mass has shown improvement in the management of the disease. For this reason efforts are made to minimize the daily caloric intake all diabetic patients and

especially obese diabetics. Fat has 9 calories per gram. This is substantially increased from both protein and carbohydrates which both have 4 calories per gram. For example if you eat 100 grams of protein and 100 grams of carbohydrate your caloric intake would be about 800. However only 90 grams of fat, much less than the 200 grams, you will have eaten 810 calories. Without the proper utilization of the calories through exercise the body converts these calories into its storage form of energy, fat. This is why a reduction in fat and an increase in activity level would improve the condition of all diabetics.

3. To understand that **milk is a significant source of carbohydrate**. Therefore the amount used in an average bowl of cereal must be counted as a source of sugar whether you drink the milk after the cereal or not. For example- 1 serving of skim milk has 12 grams of carbohydrate, 8 grams of protein and 0-3 grams of fat for a total of 90 calories. Because skim milk has the least amount of fat the caloric intake of reduced fat and whole mild are higher. Reduced fat milk has 5 grams of fat per serving so 120 calories per serving. Whole milk has 8 grams of fat per serving so 150 calories per serving.

4. To recognize **fruit as a source of sugar**. Many patients think that since it is natural they do not have to count the apple or bowl of grapes as a sugar source. The suggested portion of fruit is:

   1/2 cup canned fruit, fresh fruit, or fruit juice
   1/4 cup of dried fruit
   1 small or medium sized whole fruit

   Remember that this is about a handful of fruit. Fruit has about 15 grams of carbohydrate per serving. This is less that most candy like Snickers, Tootsie Rolls etc. While fruits are better that a candy bar per gram they are still significant sources of sugar.

   -Now that we have gone through some of these issues do you think you will change any of your eating habits?

   -What are the biggest problems you see with your diabetic control?

   -What are the biggest problems you see with the diabetic diet in general?

   -Where there any areas of confusion or is there any feedback that you would like to share with me at this time?

5. -What would be a good time for me to see you next week? Don’t forget to take those glucose levels and keep the food diary.