

Diabetes

THE NUMBER FIVE KILLER IN NORTH CAROLINA

Your tribe must survive diabetes by using the tools of education and action.

Your challenge is to survey your community on obesity and diabetes.

Survival Plan: The Survey Says . . .

By Annette M. Harris

Central Carolina Community College

Background

Level: My High Intermediate/Advanced students carried out this survival plan (aka project plan). It can be adjusted for lower levels. See **Notes for the Future** at the end of this plan.

Objectives: Students will learn about diabetes and then share information in the community via a project requiring them to

- design a survey on diabetes and obesity,
- administer it,
- evaluate the results, and
- make recommendations for the community based on their survey results.

Time: Our class meets daily for three hours. We completed this project in 4 weeks to meet our survival challenge deadline. We used 2 or 3 classes weekly for a grand total of 30 hours. You can adjust this project to fit your own class timetable.

Education and Action

FIRST WEEK

Introduction

I introduced the challenge—to survey our community on diabetes and obesity—and then guided the students into thinking about the topic by asking questions to see what the class might know about or have experienced with diabetes.

Research

We began class research to find accurate information about diabetes. Our work involved several activities:

- We went to the computer room where I put the students into small groups, mixing the higher levels with the lower levels. They searched the Internet for *diabetes* and *obesity*. Their assignment was to find and write down 12 important facts about diabetes, obesity, and physical activity. I gave them the option of researching in Spanish or English because I really wanted them to understand what they would be writing about.
- I gave each student a folder with handouts in English and Spanish. I used *What is Diabetes?* and *Diabetes and Healthy Eating* from <http://www.learningaboutdiabetes.org/>.
- One student brought in booklets from the health department that can also be found at www.diabetes.niddk.nih.gov. We used the following three booklets:
 - 1) *Lo que debo saber sobre alimentación y la diabetes*
 - 2) *Guía para personas con diabetes tip 1 y tipo 2*
 - 3) *Prevent Diabetes Problems: Keep Your Heart and Blood Vessels Healthy (Easy-to-Read)*

[Note: The website www.diabetes.niddk.nih.gov has numerous publications in both Spanish and English that can be freely printed or ordered from the NIDDK Information Clearinghouses Publications Catalog. NIDDK stands for National Institute of Diabetes and Digestive and Kidney Diseases.]

SECOND WEEK

Write the Survey Questions

After we gathered our information, I put examples of three types of closed-ended questions on the board. I divided the students into three groups and let them form survey questions and sentences on their own without any help from me. One group did **true/false**, another did **multiple choice**, and another did **yes/no**. We reviewed their group work and made the changes that were helpful for the students' level of learning.

I typed the surveys for the class to administer to others. I was able to make five different surveys from all the questions students wrote. Since these surveys would be used, I chose not to reflect the exact spelling and punctuation of the students, but a sample of the questions exactly as the students wrote them is given below.

Person with diagnostic high glucose can them eat everything?

Yes _____ No _____

Which are the signs of the diabetes?

- | | |
|--|---|
| <i>a. tired or sleepy a lot</i> | <i>b. wounds that won't heal</i> |
| <i>c. burry vision</i> | <i>d. all are right</i> |

The diabetes type 2 is common in the children

True _____ False _____

Before to beginning with a routine of exercise what is recommendable?

- | | |
|------------------------------|--|
| <i>a. drink water</i> | <i>b. talk with your doctor</i> |
| <i>c. sleep</i> | <i>d. eat food</i> |

Could people suffer amputates for diabetes?

Yes _____ No _____

THIRD WEEK

Administer the Surveys

Practice: I administered all five of the surveys to the class: I wanted to make sure everyone understood all the questions. We discussed

the questions and answers for each of the five surveys. I then gave every student five surveys (one of each kind) to give to family, neighbors, and friends.

We administered the surveys to five classes at our college. In one ESL class my students personally asked the survey questions—for pronunciation practice—and recorded each subject's response.

→
ESL students give a survey to students in another ESL class.

One ABE class, one Adult High School class, the ESL class mentioned above, and two other ESL classes constituted our survey groups.



Guest Speaker

Maria Soto, a doctor in Mexico who now works for *Chatham County Together*, came to speak to the morning and evening ESL classes.

Students wrote paragraphs about what they learned. Selected samples of students' writing are included at the end of this project plan, *typed to reflect the spelling, punctuation and paragraphing that they used.*



FOURTH WEEK

Tally Survey Findings

When all surveys were turned in, the students tallied them and I converted their numbers to percentages. One Intermediate ESL class gave fewer correct answers than the other survey groups. We

do not know if their results are impacted more by their health information or their language fluency.

Make Recommendations

For two of the surveys, we discussed the findings and made action recommendations as a class. For the remaining three surveys, I divided the students into small groups. Each group discussed and wrote out the findings of a survey. Then they made recommendations for community action. In the following pages, *the students' recommendations are given in italics, typed to reflect the spelling and punctuation that they used.*

Results

We Met Our Challenge!

Our survey questions, the correct answers, our survey results, and our recommendations are shown in the following pages. They are accompanied by samples of student paragraphs about the things they learned from our guest speaker, Maria Soto.

Project Follow Up

- We are planning to put up a bulletin board in our classroom showing samples of student work.
- The adult ABE class that took one survey was so interested that I am going to combine my class with their class to discuss the findings of the survey they took. I also hope to provide more information to them.

Teacher Observation

I was surprised at how interested the students were and at how hard they worked to complete this project.

Notes for the Future

- An interpreter or a Spanish/English survey may be needed if the surveys we wrote are given to beginning or low intermediate students.

- A teacher can simplify this project by involving the entire class in producing a single survey. After small groups of students research and write questions, use open discussion to put together a single survey. Start by asking students to give a question their group has written about
 1. the cause of diabetes
 2. some symptoms of diabetes
 3. the types of diabetes (type 1, type 2, gestational)
 4. ways to lower your risk of getting diabetes (don't smoke, exercise, control weight, food choices)
[You will need more than one question to cover this topic.]
 5. the treatment (no cure)
 6. what happens if diabetes is left untreated
 7. other

Limit the final survey to ten questions. You may need to help the class combine several of their questions on the same topic into one single question. This finished product of ten questions can then be given to one or many community groups.

DIABETES

Diabetes is the number five killer in North Carolina. Diabetes is caused by high levels of blood sugar. The medical word for “sugar” is glucose.

You can make a decision to live a healthier life at any age. Changes you make today can have a big effect on your health in the future.

How much do you know about diabetes?



What Do You Know About Diabetes?

Take this TRUE / FALSE survey.

Circle your answers.

1. There is no cure for diabetes, but it can be controlled. True / False
2. Type 2 diabetes is more common in children. True / False
3. A person with diabetes produces a lot of insulin. True / False
4. A Urologist is a doctor with special training in diabetes. True / False
5. Being overweight can increase your risk of diabetes. True / False
6. Type 2 diabetes can be controlled if you exercise every day and manage your weight. True / False
7. It is healthy for diabetic people to eat lots of red meat. True / False
8. A high-fiber, low-fat, low-salt diet can help control diabetes. True / False
9. Blindness can be a consequence of having diabetes. True / False
10. You should visit your doctor once a year if you have diabetes. True / False



Graphics from Microsoft Clip Art

TRUE / FALSE SURVEY ANSWERS

1. *True*
2. *False* Type 2 diabetes often starts in adults, but children can have it too. It is more common in overweight people or if someone in the family has diabetes.
3. *False* A person with diabetes does not make insulin, does not make enough insulin, or the insulin they make doesn't work right.
4. *False* An Endocrinologist is a doctor with special training in diabetes.
5. *True*
6. *True*
7. *False* It is not healthy for diabetic people to eat lots of red meat. Fish, poultry, or eggs (in moderation) would be a healthier choice.
8. *True*
9. *True*
10. *False* You should visit your doctor every three months if you have diabetes.



Graphics from Microsoft Clip Art

The true/ false questions and answers for this survey were submitted by Macaria Nava, Adriana Serrano, Luz Zulema Saenz, Ernestina Cortez, Elder Juarez, and Annette Harris.

TRUE / FALSE SURVEY RESULTS

19 people took this survey.

89%

- were aware that being overweight can increase the risk of diabetes.

80%

- knew that a high-fiber, low-fat diet can help control diabetes.

78%

- were aware that although there is no cure for diabetes, it can be controlled.
- were aware that type 2 diabetes is not common in children.
- were aware that type 2 diabetes can be controlled if you exercise most days and manage your weight.

63%

- were aware that is not healthy for diabetic people to eat lots of red meat.
- were aware that blindness can be a consequence of having diabetes.

57%

- knew that a person with diabetes produces a lot of insulin.
- knew that a Urologist is not a doctor with special training in diabetes.

42%

- knew that a person with diabetes should visit the doctor more than once a year.

These survey results reflect the answers of an ESL Beginning and Low Intermediate class.



Graphics from Microsoft Clip Art

Our Recommendations

(These recommendations reflect the spelling and punctuation that students used.)

To Better Inform the Community about Diabetes:

- *Give paper to the people about diabetes in the store, workplace, etc.*
- *Give messages on the Hispanic radio station, information that blindness can be a consequence of diabetes.*
- *The government should make a lot of flyers with information about diabetes. Many people feel great, but they don't know they have diabetes.*
- *Go to make a test with you Dr.*
- *Ask all your parents if you family with diabetes.*



Graphics from Microsoft Clip Art

D I A B E T E S

When you have diabetes your body

- **does not make insulin**
- **does not make enough insulin, or**
- **the insulin you make doesn't work right.**

Blood sugar levels stay high if you don't have enough insulin to move sugar from your blood into your cells.

Over time, uncontrolled high blood sugar levels cause diabetes.

How much do you know about diabetes?



To see what you know about diabetes, take this multiple-choice survey.

Circle your answers.

1. What are the signs of diabetes?
 - a. tired or sleepy a lot
 - b. blurry vision
 - c. wounds that will not heal
 - d. all of the above
2. Which type of diabetes is most common in young children?
 - a. gestational
 - b. type 2
 - c. type 1
 - d. none of the above
3. If you have diabetes, what should you do?
 - a. eat whole grains, fruits, and vegetables
 - b. eat lots of white bread, white rice, and butter
 - c. eat anything you want
 - d. add salt to the food you eat
4. Before beginning an exercise program, what is recommended?
 - a. drink some soda
 - b. talk with your doctor
 - c. go to sleep
 - d. eat food
5. How much alcohol can you drink every day if you have diabetes?
 - a. 5 ounces of wine
 - b. 12 ounces of beer
 - c. 1 ½ ounces of alcohol
 - d. any of the above, but no more than 2 servings
6. If you are overweight, try to:
 - a. exercise most days
 - b. lower the amount of calories you eat
 - c. lower the amount of fat you eat
 - d. all of the above
7. These are good, healthy fats:
 - a. avocados and olive oil
 - b. donuts and french fries
 - c. nuts
 - d. both a and c



Graphics from Microsoft Clip Art

MULTIPLE CHOICE SURVEY ANSWERS

1. d
2. c
3. a
4. b
5. d
6. d
7. d



Graphics from Microsoft Clipart

The questions and answers for this survey were submitted by: Edwin Hernandez, Yolanda Trejo, Martha Olivares, Macaria Nava, Adriana Serrano, and Annette Harris

MULTIPLE CHOICE SURVEY RESULTS

Twenty-one people took this survey.

99% knew that if you have diabetes, you should eat whole grains, fruits, and vegetables.

85% knew that before beginning an exercise program, you should talk with your doctor.

57% knew that avocados, olive oil, and nuts are healthy fats.

47% knew

- that you should exercise most days, lower the amount of calories and fat that you eat if you are overweight
- that being tired or sleepy a lot, blurry vision, and wounds that will not heal are some signs of diabetes

38% knew that type 1 diabetes is most common in young children.

33% knew that you can drink no more than 2 servings of alcohol everyday if you have diabetes. [Serving sizes: 5 ounces of wine, 12 ounces of beer, 1 ½ ounces of alcohol.]



These survey results reflect the answers of an Intermediate and Advanced ESL class.

Graphics from Microsoft Clipart

OUR RECOMMENDATIONS

(These recommendations reflect the spelling and punctuation of the students.)

To Better Inform the Community about Diabetes:

- ◆ *Give in public places fliers with important information about of meals unhealthy for diabetic people.*
- ◆ *An advertisement on the freeway saying: Avocados, olive oil, and nuts are good healthy fats!*
- ◆ *On food labels, put some signs of diabetes.*



Graphics from Microsoft Clipart

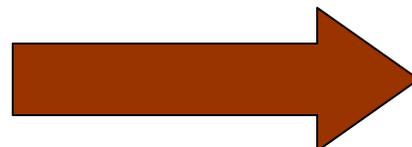
D I A B E T E S

Diabetes is an illness caused by high levels of blood sugar (glucose). High blood sugar can damage many parts of the body, such as the heart, blood vessels, eyes, and kidneys.

There is no cure for diabetes, but you can do a lot to prevent it or slow it down. The most common types of diabetes are type 1 and type 2.

Healthy eating is important for people with diabetes and everyone else. You can begin to change unhealthy habits one step at a time.

What Do You Know About Diabetes?



Take this survey to see what you know about diabetes.

Circle your Answers.

1. Some foods have good fats. Some foods have bad fats. True False
2. If you exercise once a month, you can reduce diabetes. True False
3. A high level of blood sugar (glucose) is healthy. True False
4. Type 2 diabetes is more common in overweight people or if someone in the family has diabetes. True False
5. You should eat foods high in fiber, such as oat bran, oatmeal, whole-grain breads and cereals, fruits and vegetables. True False
6. What types of foods should you eat less?
 - a. white bread and white rice
 - b. vegetables
 - c. fruits
 - d. fish
7. What are some signs of diabetes?
 - a. always thirsty
 - b. problems having sex
 - c. wounds that won't heal
 - d. all of the above
8. If you have diabetes, you should:
 - a. not smoke
 - b. eat high fat foods
 - c. take your medicines
 - d. both a and c
9. What are other ways to cut the fat in your diet?
 - a. remove skin from chicken
 - b. bake, grill, or broil food
 - c. drink low fat milk
 - d. all of the above
10. Diabetes cannot be cured, but it can be controlled if you
 - a. get regular checkups
 - b. change unhealthy habits
 - c. smoke
 - d. both a and b



Graphics from Microsoft Clip Art

TRUE/FALSE - MULTIPLE CHOICE SURVEY ANSWERS

1. True
2. False You should exercise at least 30 minutes on most days.
3. False
4. True
5. True
6. A
7. D
8. D
9. D
10. D



Graphics from Microsoft Clip Art

The questions and answers for this survey were submitted by: Yolanda Trejo, Edwin Hernandez, Martha Olivares, Ernestina Cortez, Luz Saenz, Elder Juarez, and Annette Harris.

TRUE / FALSE – MULTIPLE CHOICE SURVEY RESULTS

Twenty-three people took this survey

96% knew that you should eat foods high in fiber, such as oat bran, oatmeal, whole-grain breads and cereals, fruits and vegetables.

91% were aware that type 2 diabetes is more common in overweight people or if someone in the family has diabetes.

86% knew that some foods have good fats and some have bad fats.

83% knew that a high level of blood sugar is unhealthy. Eighty-three percent knew that there are three ways to cut fat in their diet: remove skin from chicken, drink low fat milk, and bake, grill, or boil food.

78% were aware that diabetes cannot be cured, but can be controlled if you get regular checkups, and change unhealthy habits.

74% were aware that if you have diabetes, you should take your medicines and not smoke.

65% knew that you should eat less white bread and white rice.

52% knew that exercising only once a month will not reduce diabetes.

39% knew that some signs of diabetes are:
always thirsty, wounds that won't heal, and problems having sex.



These survey results reflect the answers of our Adult High School Class.

Our Recommendations

(These recommendations reflect the spelling and punctuation of the students.)

To better inform the community about diabetes:

- *Have a free conference about diabetes and explain the principal points to know if you have diabetes.*
- *At the conference tell them that exercise is very important to have a healthy life, exercise 2 or 3 times a week, some sport.*
- *We should to be conscious, the principal signs of diabetes are wounds that won't heal, feel thirsty and problems having sex.*



Gabriel Cabollero, Sergio Gonzalez, Claudia Ibarra

DIABETES

Diabetes is a disease that affects the way the body uses food for energy. Sometimes it can be treated with diet and exercise. Oral medications or insulin injections are needed in some cases.

Type 1 diabetes affects children and young adults, usually under the age of 30. Type 2 diabetes often starts in adults, but children can have it also.

Diabetes cannot be cured, but it can be controlled. You can lead a healthy life with diabetes if you make healthy choices. Your doctor can help you make the choices.

Healthy choices include exercising, getting enough rest, eating less white rice, white bread, white pasta, potatoes, soda, red meat, and sweets. You should eat more vegetables, fruits and whole grains.



Graphics from Microsoft Clip Art



See What You Know About Diabetes!

Take this yes/no survey.

Circle your answers.

1. Exercise and junk food can prevent diabetes. Yes/No
2. Can the abuse of alcohol and drugs help cause diabetes? Yes/No
3. People who are overweight are at a high risk to have a stroke. Yes/No
4. Can people with high blood sugar eat everything? Yes/No
5. Can people lose their vision if they have diabetes? Yes/No
6. You should try to exercise at least 30 minutes most days of the week. Yes/No
7. Reading labels can help you make healthy food choices. Yes/No
8. The best way to prevent diabetes is to ignore it. Yes/No



Graphics from Microsoft Clip Art

Yes/No Survey Answers

1. no
2. yes
3. yes
4. no
5. yes
6. yes
7. yes
8. no



Graphics from Microsoft Clip Art

The questions/statements and answers for this survey were submitted by:
Luz Zulema Saenz, Maria Moreno, Ernestina Cortez, Yolanda Trejo, Martha
Oliveras, Edwin Hernandez, and Annette Harris.

Results for Yes/No Survey

Twenty-seven people took this survey.

100% of the people who took this survey knew that people who are overweight are at a high risk to have a stroke.

96%

- knew that reading labels can help you make healthy food choices.
- knew that people can lose their vision if they have diabetes.

92%

- knew that the abuse of alcohol and drugs can help cause diabetes.
- knew that you should try to exercise at least 30 minutes most days of the week.
- knew that the best way to prevent diabetes is not to ignore it.

77% were aware that people with high blood sugar cannot eat everything.

37% were aware that exercise and junk food cannot prevent diabetes.



Graphics from Microsoft Clip Art

These survey results reflect the answers of a Beginning and Intermediate ESL Class.

Our Recommendations

(These recommendations reflect the spelling and punctuation of the students.)

To better inform the community about diabetes:

- ❖ *Make meeting for the community and speak about diabetes.*
- ❖ *Recommend the people do exercise everyday, and keep the weight.*
- ❖ *Give information about the foods they should eat healthy.*



Maria Moreno and Luz Saenz

Graphics from Microsoft Clipart

DIABETES

Diabetes is a chronic disease that affects millions of people. People with diabetes are not able to use the glucose in their food for energy. The glucose accumulates in the bloodstream, where it can damage the heart, kidneys, eyes, and nerves.

Diabetes is the fifth leading cause of death and disability in the U. S. Many people don't even know that they have it. There is no cure for it, but it can be controlled. You can help prevent it with diet, exercise, and regular checkups.

What do you know about diabetes?



See what you know about diabetes!

Circle your answers.

1. Can men who have diabetes have problems having sex? Yes/No
2. When you have type 2 diabetes your body does not have enough insulin. Yes/No
3. Can type 1 diabetes be reduced with exercise only? Yes/No
4. Physical activities are not recommended for people with diabetes. Yes/No
5. You should eat vegetables three or more times every day. Yes/No
6. Some pregnant women get gestational diabetes during pregnancy. Yes/No
7. What can increase your risk of having diabetes?
 - a. eating a diet high in fat and calories
 - b. being overweight or obese
 - c. smoking
 - d. all of the above
8. Some symptoms of diabetes are:
 - a. hungry all the time
 - b. both a and d
 - c. lots of energy
 - d. tired and sleepy a lot



Answers for Yes/No - Multiple Choice survey



1. yes
2. yes
3. no
4. no
5. yes
6. yes
7. d
8. b



Graphics from Microsoft Clip Art

The questions and answers for this survey were submitted by: Luz Saenz, Ernestina Cortez, Elder Juarez, Maria Moreno, Macaria Garcia, Adriana Serrano, and Annette Harris.

YES/NO – MULTIPLE CHOICE SURVEY RESULTS

Sixteen people took this survey.

- 81%**
 - were aware that men who have diabetes can have problems having sex.
 - were aware that they should eat vegetables 3 or more times everyday.

- 75%** knew that type 1 diabetes cannot be reduced with exercise only.

- 69%**
 - knew that some pregnant women get gestational diabetes during pregnancy.
 - Knew that some pregnant women get gestational diabetes during pregnancy.

- 62%** knew that being hungry all the time and being tired and sleepy a lot are some symptoms of diabetes.

- 50%** knew that physical activities are recommended for people with diabetes.

- 31%** knew that when you have diabetes your body does not have enough insulin.



Graphics from Microsoft Clip Art

These survey results reflect the answers of our Adult Basic Education class.

Our Recommendations*

To better inform the community about diabetes:

- ✓ There should be more commercials on television telling people what diabetes is and showing the symptoms.
- ✓ Churches could come together and hold health fairs.
- ✓ Organizations could set up displays, hand out flyers and talk to people at different times of the year at places like Wal-Mart, Food Lion, the laundry mats, and the library.



* *These recommendations reflect the spelling and punctuation used by the students.*

Our Guest Speaker



Instructor Annette Harris introduces speaker Maria Soto



Maria was a medical doctor in Mexico.



She talks with students about diabetes and the strategies to prevent and/or live with it.

Student Writing

Things We Learned

August 23, 2007

Yesterday Maria Soto comes to class. I learn about diabetes and she talk about this disease. And this is the fifth principal cause of death in Carolina del Norte. It's necessary to combat this disease have a good discipline to eat food and make exercise. This disease have not a solution but you can control with good feed and make a exercise.

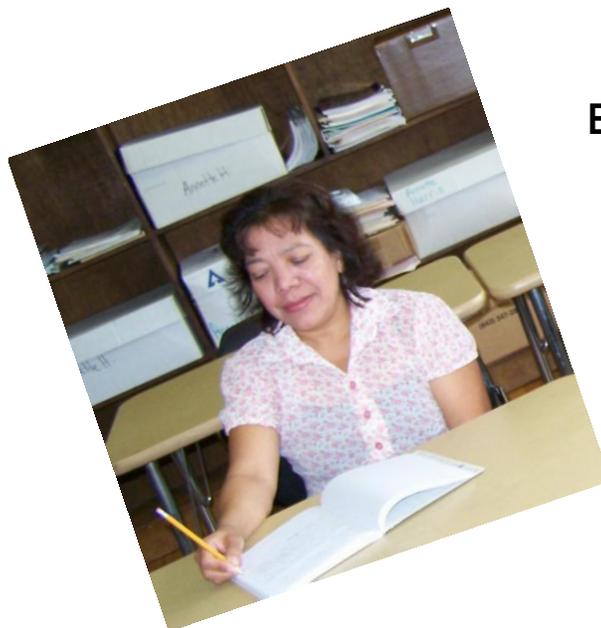
Sergio Gonzalez

Sergio is a new low-level advanced student from Mexico.



August 23, 2007

Yesturday Maria Soto, came to class to talk about diabetes. Maria Soto was a doctor in Mexico. She new works with *Chatham County Together*. Yesturday, I learn about the consequence of diabetes. Some people have problems with the skin, kidney, high pressure, sex, blinness and amputate. I learn too when a person have a impression if she or he have problems and they ignore it's. The diabetes is not a consequence of impression. The person have problems before.



Ernestina Cortez

Ernestina Cortez is a very dedicated, low-level advanced student from Guatemala. She became a U.S. citizen this year.

August 23, 2007

Yesterday Maria Soto came to class. I learned yesterday the diabetes type 1 star before the 40 years old. And diabetes type star after 40 years old. When one lady had a baby born eight pounds up the lady has many provability or have diabetes. The people with diabetes type 1 is the people use insolin.

Luz Zulema Saenz



Luz Saenz is a very dedicated, low-level advanced student from Mexico. She became a U.S. citizen in 1997.

August 24, 2007

Maria Soto came to our class to talk about diabetes. I learn that diabetes is one sickness than can to prevent with good nutrition end have exercise. Also learn with about mother I have to make sure than my dauhter has good nutrition find before I have to make good nutrition. I learn that have two type the diabetes 1 end 2. Also learn the diabetes 1 is more comun en children and young en type 2 in old people. The diabetes type 2 these people can control with exercise end good nutrition. The diabetes type 1 thise people need insulin.



Maria Felix Moreno

Maria Felix Moreno

Maria Felix Moreno is a high-level intermediate student. She is from Mexico.



I learn:

There are 2 types of diabetes. Type 1 and type 2 or mellitus. The type 1 of diabetes is most common in young and children. These people have to use the insulin. The type 2 of diabetes. It use to be called no-insulin dependent diabetes mellitus. The people prone type 2 of diabetes are old people or 40 years old. The risk factors for type 2 diabetes are: increased age, high blood pressure and high cholesterol, family history and genetics, unhealthy eating habits and obesity.

Martha Olivares Juarez

Martha Olivares Juarez is a low-level advanced student. She is from Guatemala.