

Analysis of the Impact Weekly Diabetes Education Class Has On the Health of Patients with Diabetes Mellitus Type 2

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Abstract

Objectives:

- 1) To evaluate the effects of weekly diabetes education classes on patients' understanding of diabetic related topics and their fasting blood sugar (FBS) and weight.
- 2) To also get patients' feedback about their attitudes towards the health class.

Methods:

- 1) Create an open-ended questionnaire survey to obtain patients' feedback about the health class.
- 2) A 14-multiple-choice-question quiz on the topic of type 2 diabetes mellitus were administered to two diabetic groups: those who have and have never attended the health class.
- 3) Collect weekly FBS levels and weight measurements from class attendees.

Key Findings:

- 1) All patients surveyed reported valuing health class.
- 2) Attendees have better understanding on the topics of diabetes than non-attendees.
- 3) Attendees' collective average decrease of FBS by 5%. Insignificant average weight gain of 0.3 lbs in attendees.

Recommendations:

- 1) Larger sample size
- 2) Longer time span
- 3) Include hemoglobin A1c

Keywords: Diabetes mellitus, blood sugar, community health centers, federally qualified health centers, St. John's Well Child and Family Center, Los Angeles, Spanish, health education class

Introduction

Diabetes mellitus (DM) is a chronic endocrine disorder that results from the body's inability to respond to the hormone insulin and/or inadequate production of insulin. This puts the body in a constantly elevated state of blood sugar called hyperglycemia, which contributes to early morbidity and mortality.

There are three common types of DM. The most prevalent is type 2 diabetes mellitus (DM2), which results from the body's progressive resistance to the action of insulin, leading to chronic hyperglycemia and hyperinsulinemia, and the consequences of these conditions. It often presents as part of the Metabolic Syndrome including hypertension and hyperlipidemia.

Type 1 diabetes mellitus (DM1), which comprises 5% of all diabetes, is the absence of insulin in the body due to autoimmune destruction of beta cells in the pancreas, the unique source of insulin production in the body. Finally, gestational diabetes is a common complication during pregnancy that produces glucose intolerance by a mechanism similar to DM2.

This study mainly focuses on DM2 which represents over 90% of all diabetes. Even though there are many available therapeutic options to treat diabetes, as well as effective preventive measures, the epidemic of diabetes in the US continues to spread.

According to the Center Disease Control (CDC), 8.3 percent of the U.S. population, or 26 million Americans, had diabetes in 2010. Of the 26 million diabetics, 7 million of them were thought to be unaware that they had diabetes.¹ Without proper treatment complications from DM2 include cardiovascular disease, peripheral neuropathy, nephropathy, poor quality of life and early mortality. Untreated and poorly managed diabetes contributes to more than 231,000 deaths each year.¹ A diet which consists of mainly high fat and carbohydrate foods and minimal produce consumption, together with decreasing physical activities, are factors contributing to the

increasing rate of diabetes in the country. The CDC estimates that the number of diabetics will double or triple by 2050.¹

This disease is not only detrimental to individual health it also puts a huge financial burden on the nation. An analysis by the American Diabetes Association reported that in 2012 \$176 billion was collectively spent on treating diabetes, and \$69 billion was lost from disabilities from diabetes due to reduced productivity.³

Although advances in medicine have created the possibility of preventing complications from occurring in diabetes and slowing the progression of the disease, many diabetics do not have their blood sugar optimally controlled and managed. Some contributing factors include lack of access to medical care, patients' lack of understanding of their disease, substandard patient-clinician relationships, and poor therapeutic compliance from patients. Patients with DM2 commonly have no, or mild, symptoms and therefore wait to seek care until they experience debilitating health problems. By this time, their diabetes is chronically uncontrolled and they are experiencing major complications. Most diabetes can be controlled, and in some instances it may be reversible, with a healthy and active lifestyle along with adjunctive pharmacologic therapies. The key is early detection and regular health management. Efforts must continue to be made to improve the management of diabetic patients. These efforts include patient education, building a strong patient-clinician relationship, and empowering patients. When patients feel encouraged and are aware they have control of their health, they are more likely to make healthy choices.

Background

In South Los Angeles (South LA), a region of Los Angeles County, California, 5.5 percent of the population has diabetes, with a diabetes death rate of 34.1 percent. The majority of the residents are non-white, with Latinos at 67.7 percent, and African Americans at 28.5 percent

of the population. South LA has the highest number of uninsured people in LA County at 46.8%. Approximately 62.3% of South LA residents have difficulty accessing medical care because of limited financial resources. ²

Federally Qualified Health Centers (FQHC's) around the country are helping to reduce the high cost of health care and increase access to medical care in medically underserved communities.

St. John's Well Child and Family Center (SJWCFC) at S. Mark Taper Foundation Chronic Disease and Environmental Health Center (St. John's) in Los Angeles, California is an FQHC that mainly serves the communities of South LA. In addition to providing comprehensive medical care, SJWCFC invests in patient education and empowerment by holding a free weekly diabetes education class that includes health presentations and discussions, actual meal tasting consisting of healthy foods, and physical activities. Although the class is open to all SJWCFC patients, approximately 40-50 patients attend the class at any one session. Most attendees are Spanish-speaking, and thus, the teaching is predominantly in Spanish.

Upon arriving at each class session, participants' vital signs are taken and their random blood sugar checked via a glucometer. It has been noted that some long-term participants have accomplished significant improvements in their diabetes status. Some had their diabetes medication either reduced or discontinued by their doctors because their glucose was consistently well controlled.

This research project collected concrete data to quantify the therapeutic effects that lifestyle modifications, such as eating healthy and exercising, have on improving patients' diabetes. The structure of the class and educational materials presented are well organized. The instructors of the class are enthusiastic and committed to assisting diabetic patients maintain a

healthy lifestyle. The participants expressed gratitude for the class and high motivation either to continue the new healthy lifestyle that they have adopted or initiate lifestyle changes. The weekly class not only has an educational and informative function, but it also serves as an unofficial support group. Participants develop a strong bond that gives the class a sense of community, provides moral support and promotes mutual encouragement.

Methodology

Research Design:

There are three components in gathering data for this project. A survey was created to obtain patient feedback about their experience of the weekly diabetes education class. A quiz was designed to assess patient knowledge of diabetes and related health topics. Fasting blood sugar (FBS) and weight measurements were collected and analyzed.

- 1) **Survey:** An open-ended questionnaire survey was designed to obtain patient feedback. The survey asked about their awareness of the existence of the health class, the number of sessions they had attended since January 1, 2014, their likes and dislikes about the class, and any suggestions they had for further improvements for the class.
- 2) **Quiz:** A 14-question multiple-choice quiz on the topic of DM2 was administered to two different diabetic patient groups: those who have attended the weekly diabetes education class offered at St. John's since January 1, 2014, and those who have never attended. The questions assessed the patient's basic understanding of diabetes, common comorbidities, and general recommended health maintenance guidelines.

To ensure the context and content of the survey and quiz were culturally appropriate and consistent with the patient population's literacy level both the survey

and quiz were reviewed by the faculty advisor, site supervisor and chief medical officer of SJWCFC.

3) Data Collection: Weekly FBS levels and weight measurements were collected from diabetic patients who had been attending the weekly diabetic health education class from February to June 2014, were collected. Data was collected only from patients who had attended at least six class sessions.

Results

Survey:

The survey was completed by 26 diabetic patients, whose ages ranged from 41 to over 70 years old: six between 41 and 50, four between 51 and 60, one between 61 and 70, and two over 70. Fifteen participants were females and six were males. The rest of the participants did not reveal their age range or gender.

Twenty-one patients reported they had attended the diabetes education class at least once. Five had never attended an education class. All participants responded they were interested in attending a health education class to learn about diabetes. Most reported that they became aware of the class from SJWCFC medical providers and their friends.

Twelve patients attended the class more than 20 sessions, one attended 15 – 20, one attended 10 – 14, four attended 5 – 9, and three attended fewer than 5. The five participants who had never attended a health class reported conflict with work schedule or lack of transportation.

Diabetes and health education, open discussions, and exercise were the components of the class the participants reported liking the most. There was nothing that the participants disliked. The benefits the participants reported gaining from the class were having a better understanding of diabetes, general health maintenance guidelines, associated chronic health

issues, healthy eating, and the importance of physical activities. Some participants suggested that class incorporated longer and more intense exercise routines.

Quiz:

These same 26 diabetic patients also completed a 14 question quiz. The 21 participants who reported having had attended the health class collectively scored an average of 77% on the quiz, while the five participants who had never attended a class had averaged 59%. The three most commonly missed questions were concepts regarding the hemoglobin A1c test, the recommended frequency of foot examination, and the lifestyles that can improve DM2.

Data Collection (FBS):

There were only 15 class sessions of saved data during a 5-month period from February to June 2014. The diabetic attendees' weekly fasting blood sugar levels and weight measurements were reviewed. Only data from patients who had attended at least 6 class sessions were collected and analyzed.

A total of 14 patients attended between 6 and 14 class sessions. Collectively as a group, the average FBS for the 5-month period was 126 miligram per deciliter (mg/dL). The individual average FBS ranged from 96 to 178 mg/dL. The group averaged a decrease of FBS by 5%. The individual percent change range was between -44% and +27%. In general, it was observed that the more classes a diabetic participant attended, the lower the average FBS levels (see Figure 1).

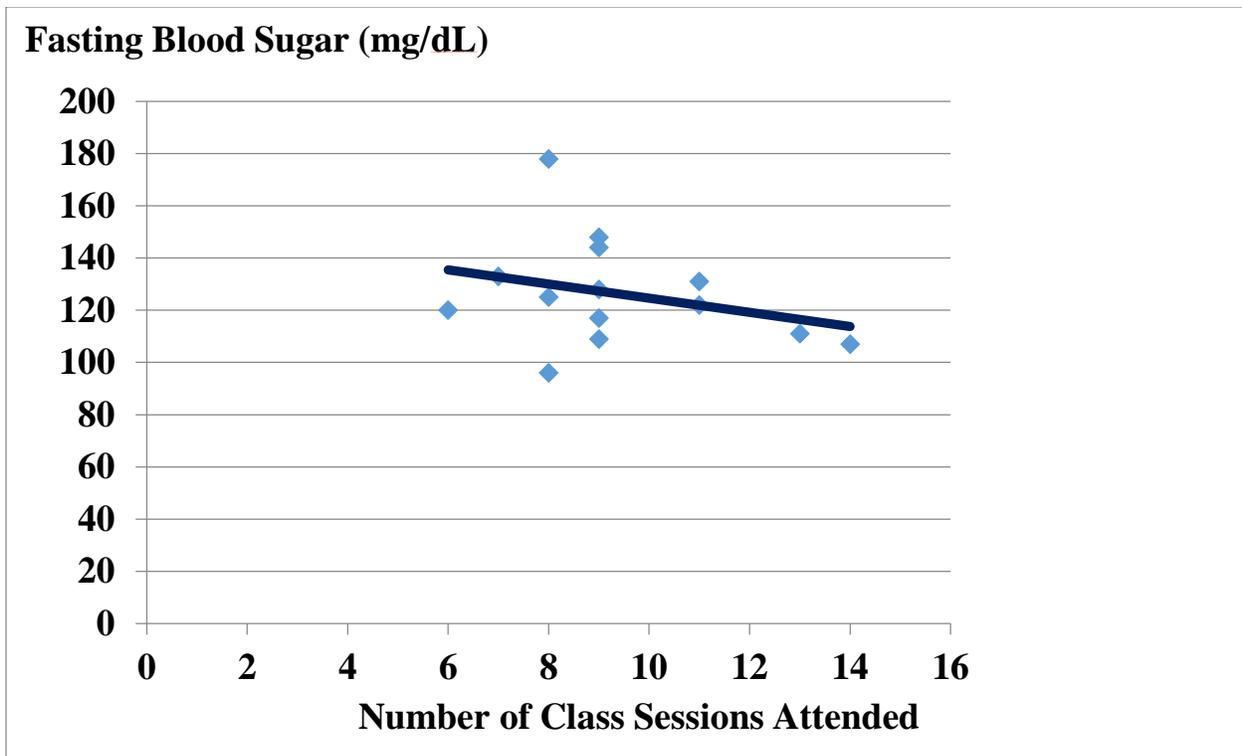


Figure 1. Diabetic patients' number of class sessions attended and their corresponding average FBS levels were plotted and a best-fit line was generated. This graph demonstrates a general relationship between a decrease in average FBS and the number of class sessions attended, i.e., the more classes attended, the lower the average FBS).

Data Collection (Weight):

Some of the 14 diabetic participants whose FBS were studied did not have their weight recorded on some days when they had their FBS levels checked and vice versa. Thus, some weight measurements from patients whose FBS were studied were not included in evaluating the weight outcome from class attendance. These facts being noted, weight measurements from the 14 attendees during the same 5-month period were analyzed. Individual average weight changes ranged from a gain of 4.0 pounds to a loss of 2.7 pounds (lbs). As a group, they averaged a weight gain of 0.3 lbs from February to June 2014. However, there was no significant correlation between the number of class attendance and changes in weight (see Figure 2).

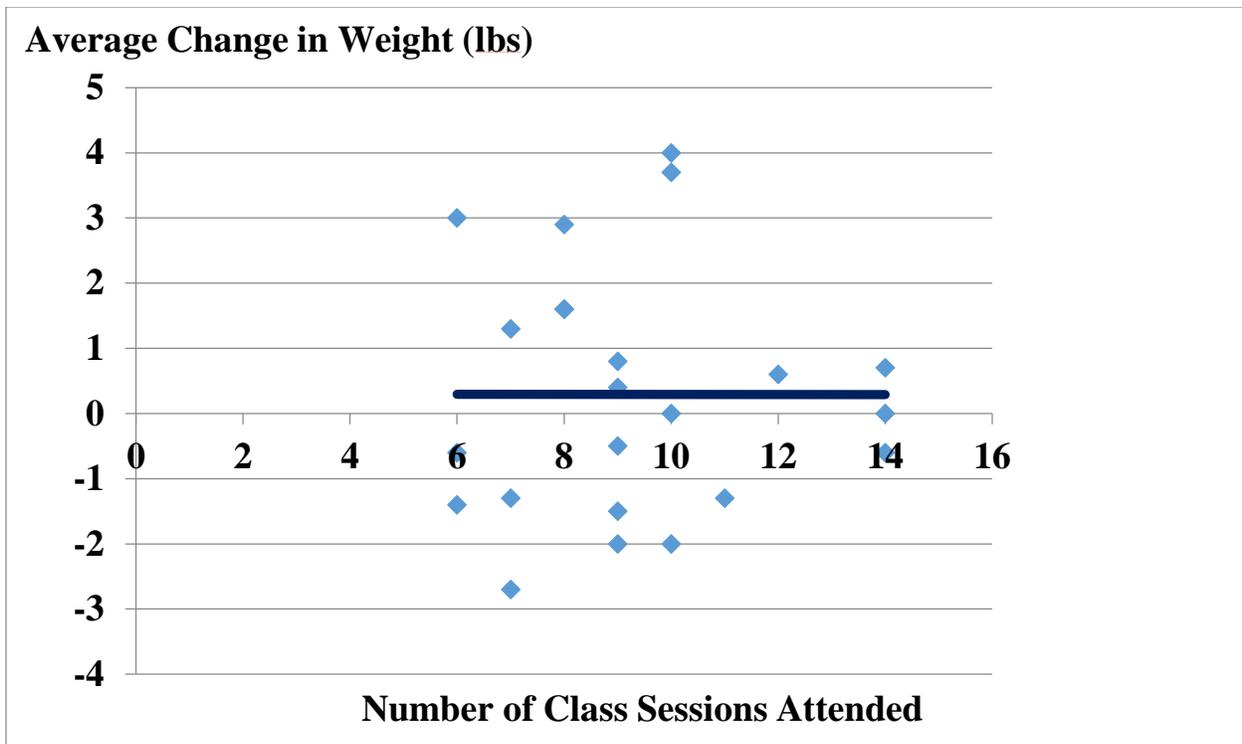


Figure 2. Diabetic patients’ number of class sessions attended and their corresponding average weight changes were plotted and a best-fit line was generated. The best-fit line is neutral. This graph demonstrates no real correlation between the number of classes attended and weight changes.

Discussion

Survey:

The small sample size of 26 diabetic patients who completed the survey and quiz was necessary due to the short time period of six weeks available to conduct this research. The medical assistants were of great help in administering the survey and quiz to known diabetic patients in clinic, but unfortunately and understandably, few diabetic patients completed the survey and quiz because the assistants were busy performing their jobs. Nevertheless, the responses from the survey indicate that all the participants enjoyed the diabetes health education class, valued it, and found it very useful and practical in helping them to take more control and manage their own health.

Quiz:

The results of the quiz taken by diabetic patients showed a higher average score obtained from the group who had attended the class at 77% versus the group who had never attended the class averaged a score of 59%. However, due to the small sample size of 21 diabetic attendees of the class versus five diabetic non-attendees, a definite conclusion cannot be made about attendees having better understanding and more knowledge about the topics of diabetes than non-attendees. However, the results of the quiz help to reveal specific areas in the subject of diabetes where there is lack of knowledge and understanding. For example, none of the non-attendees correctly answered the question regarding the purpose of the test hemoglobin A1c, and seven out of 21 attendees and three out of five non-attendees correctly knew the frequency to have a diabetic foot check. In contrast, the majority in both groups knew about the general definition of diabetes and the hormone insulin.

The information from the quiz will assist the class presenters to clarify topics where patients have shown confusion. Additionally, St. John's medical providers can be informed of these commonly misunderstood topics so they can help better educate their patients during their patient counseling time.

Data Collection (FBS):

This small study suggests that there is a positive outcome in controlling FBS in 14 diabetic patients who had been attending the diabetes health class. The group's average FBS was 126 mg/dL, which is only one point higher than the cut-off FBS level at 125 mg/dL; above that level is considered uncontrolled. An important point to highlight is the group's 5% decrease in their collective average FBS over a 5-month period. This likely indicates that these diabetic patients were making efforts to limit their consumption of high-sugar foods and they were

compliant with their treatment regimen. Healthy eating, physical activities, and patient compliance are three subjects frequently mentioned in the class. It seems reasonable to conclude that these attendees were implementing what they had learned in class by making positive changes in their lifestyles to manage their diabetes.

Of note, the choice that patients with diabetes make to present themselves to a diabetes education class is in itself an indicator that the individual is motivated to make changes. In the “Stages of Change” model, such an individual by definition has advanced beyond the Pre-Contemplative and the Contemplative phases, and thus may be considered likely to initiate more changes in addition to class attendance.

Data Collection (Weight):

Since attendees had made improvements in their FBS by applying what they had learned, it was expected that they would show some weight loss as well. On the contrary, 14 diabetic patients collectively gained an average of 0.3 lbs over a 5 month period. Although this is not a significant gain, there are a few reasons to explain this weight outcome. Most of the participants in this study were older adults above age 41, whose metabolism may be slowing down. These older adults may be making efforts to include exercise in their life, but their endurance may be limited due to their age and de-conditioning, which inhibits them from burning enough calories to cause weight loss. Some also have other chronic diseases such as osteoarthritis, neuropathy, and pain that limit their physical activities. These factors are most likely barriers to weight loss.

Recommendations

This specific project topic has the potential to provide more accurate and useful information regarding health education and its impact on diabetes. For future continuation of this project, and for a more powerful study, improvements could include obtaining a larger sample

size with equal numbers of subjects in the treatment and control groups. This would aid in yielding more accurate results of the differences in health knowledge, fasting blood sugar levels, and weight changes between the two groups. In addition to documenting weekly FBS levels, it is important to also collect hemoglobin A1c (HbA1c) values of each participants. Hemoglobin A1c is a more reliable test to measure the actual average blood sugar levels in the previous 3 months. However, due to the short period of this study, HbA1c was not included as a marker. Lastly, in order to produce more solid information to detect trends in physiological data, such as blood sugar levels and weight measurements, and in health knowledge, the duration of the research project should be at least one year.

Conclusion

Diabetes Mellitus type 2 is a growing and prevalent chronic disease that commonly affects adults. Among the various factors that contribute to the development of diabetes, much is due to unhealthy diet and lack of physical activities. Chronic and uncontrolled elevated blood sugars do not always present with obvious or debilitating signs and symptoms, which may explain why many people with diabetes do not see their medical providers regularly and do not take aggressive steps to prevent or treat it. Patient education and counseling are important in helping patients understand the relationship between their lifestyle and their health to encourage them to alter their unhealthy behaviors in order to improve their quality of life.

St. John's has been doing a great service in managing the care of their diabetic patients by providing them with comprehensive medical care and patient education. The weekly diabetes education class is a beneficial service to their diabetic patients. The feedback from the survey showed that all the attendees enjoy the class and have found it to be very insightful in learning about diabetes and how to take care of their health. In addition to serving as an educational class,

it also functions as an unofficial support group. Participants share their stories about their successes in making health improvements and provide each other moral support and encouragement to lead a healthy lifestyle, and the health presentations help to ease their fears and confusion about diabetes. As a result they gain greater knowledge and feel empowered to be proactive in managing their own health.

The attendee's collective average decrease of FBS by 5% over five months suggest that the health class had been providing them the tools and knowledge to create a healthy meal plan and be compliant with their treatment plan. The diabetic attendees of the class managed to avoid gaining excessive weight over the study period, with only an insignificant average group weight gain of 0.3 lbs. It is suspected that if these patients did not have other debilitating chronic diseases that prevented them from being fully physically active, they would be able to lose weight rather than avoiding weight gain.

References

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Appendix

Diabetes Quiz (English Version)

Dear St. John's Patients,

Please take a moment to answer the following voluntary short quiz to the best of your abilities. This information will help us organize the diabetes class to cater to your needs. Your response is completely anonymous and will not affect your services at St. John's clinic. Thank you for your participation! ☺

Today's date: _____

Instructions: Please circle only one answer you believe is correct for each question. Do not worry about answering the question wrong, your best guess is absolutely okay.

1. What is diabetes?
 - a. It is high blood pressure
 - b. It is high cholesterol in the blood
 - c. It is high blood sugar
 - d. It is low blood sugar
2. Which of the following increases your risk of developing diabetes?
 - a. Being too skinny
 - b. Being overweight
 - c. Drinking too much water
 - d. Sleeping too much
3. Which of the following is the goal blood sugar number first thing in the morning (fasting)?
 - a. Exactly at 0 mg/dL
 - b. Less than 130 mg/dL
 - c. More than 130 mg/dL
 - d. Exactly 200 mg/dL
4. Which of the following fasting blood sugar numbers may indicate you have diabetes?
 - a. 0 – 70 mg/dL
 - b. 70 to 100 mg/dL
 - c. 101 – 125 mg/dL
 - d. Higher than 125 mg/dL
5. What does hemoglobin A1c test measure?
 - a. It measures the amount of sugar in your blood after you have eaten food
 - b. It measures the amount of sugar in your blood when you are fasting
 - c. It measures the amount of cholesterol in your blood
 - d. It measures your average blood sugar level over the previous 3 months

6. What should the goal hemoglobin A1c number be if you have diabetes?
 - a. 0%
 - b. Less than 7%
 - c. More than 7%
 - d. 10%
7. If you have diabetes, how often should you have your feet examined?
 - a. Every time you see a doctor
 - b. At least once a year
 - c. At least once every two years
 - d. There is no need to have the feet examined
8. Which of the following blood pressure numbers should people with diabetes have?
 - a. Exactly at 160/80 mmHg
 - b. Less than 120/80 mmHg
 - c. Approximately 80/80 mmHg
 - d. High than 200/80 mmHg
9. Besides medications, which of the following can help to fight diabetes?
 - a. Eating more fruits and vegetables
 - b. Losing weight
 - c. Exercising
 - d. All of the above
10. Which of the following is the main hormone that the body makes to help the body use sugar and lowers the sugar in the body?
 - a. Glucagon
 - b. Protein
 - c. Insulin
 - d. Carbohydrates
11. Which of the following can happen if you do not treat diabetes?
 - a. Develop eye problems, including blindness
 - b. Develop kidney problems (kidneys are organs that filter your blood and make urine)
 - c. Develop a heart attack
 - d. All of the above
12. If you have diabetes, how often should you see an ophthalmologist (eye specialist)?
 - a. At least once a year
 - b. At least once every two years
 - c. At least once every three years
 - d. People with diabetes do not need to see an ophthalmologist
13. If you have diabetes, what should your LDL cholesterol goal be?
 - a. Exactly 0 mg/dL
 - b. Less than 100 mg/dL
 - c. More than 100 mg/dL

- d. Exactly 200 mg/dL
14. If you have diabetes, how often should you see your doctor?
- a. Once every 3 – 6 months
 - b. Once a year
 - c. Once every 2 years
 - d. Only when you have symptoms
15. What is your age?
- a. Under 30
 - b. 31 – 40
 - c. 41 – 50
 - d. 51 – 60
 - e. 61 – 70
 - f. over 70
16. What is your gender?
- a. Female
 - b. Male
17. What is your racial background?
- a. Hispanic/Latino
 - b. African-American/Black
 - c. White/Caucasian
 - d. Asian American
 - e. Native American
 - f. Other: _____
18. What is your zip code? _____

Diabetes Quiz (Spanish Version)

Estimados pacientes de St. John's,
 Por favor tome un momento para contestar el cuestionario segun la mejor de sus capacidades.
 Esta información nos ayudará a organizar la clase de la diabetes para satisfacer sus necesidades.
 Su respuesta es completamente anónima y no afectará sus servicios en la clínica de St. John's.
 ¡Gracias por su participación! 😊

Fecha de hoy: _____

Instrucciones: Por favor marque una sola respuesta que cree que es correcta para cada pregunta . No se preocupe por equivocarse en la respuesta, porque su mejor respuesta es absolutamente bien.

1. ¿Qué es la diabetes?
 - a. Es la presión arterial alta
 - b. Es el colesterol alto en la sangre
 - c. Es el azúcar elevado en la sangre
 - d. Es falta de azúcar en la sangre
2. ¿Cuál de los siguientes factores aumentan el riesgo de desarrollar diabetes?
 - a. Ser demasiado flaco
 - b. Tener sobrepeso
 - c. Beber demasiada agua
 - d. Dormir demasiado
3. ¿Cuál de las siguiente azúcar en la sangre en ayunas número es el meta para?

- a. Exactamente 0 mg/dl
 - b. Menos que 130 mg/dl
 - c. Más que 130 mg/dL
 - d. Exactamente 200 mg/dL
4. ¿Cuál de los siguientes azúcar en la sangre en ayunas número puede indicar que usted tiene diabetes?
- a. 0 - 70 mg / dl
 - b. 70 - 100 mg / dl
 - c. 101 - 125 mg / dL
 - d. Por encima de 125 mg / dL
5. ¿Qué mide la prueba llamada “hemoglobina A1c”?
- a. Mide la cantidad del azúcar en su sangre después de que ha comido la comida
 - b. Mide la cantidad de azúcar en la sangre cuando se ayuna
 - c. Mide la cantidad del colesterol en su sangre
 - d. Mide su nivel de azúcar en la sangre medio durante los 3 meses anteriores
6. Si usted tiene diabetes, ¿cuál debe ser su meta de hemoglobin A1c?
- a. 0%
 - b. Menos que 7%
 - c. Más que 7%
 - d. 10%
7. Si usted tiene diabetes, ¿con qué frecuencia debe usted hacer examinacion a los pies?
- a. Cada vez que vea un médico
 - b. Al menos una vez al año
 - c. Al menos una vez cada dos años
 - d. No hay necesidad de hacer examinacion de los pies
8. ¿Cuál de los siguientes números de la presión arterial deben tener las personas con diabetes?
- a. Exactamente a 160/80 mmHg
 - b. A menos de 120/80 mmHg
 - c. Aproximadamente el 80/80 mmHg
 - d. Alta de 200/80 mmHg
9. Además de los medicamentos, cuáles de los siguientes pueden ayudar a combatir la diabetes?
- a. Comer más frutas y verduras
 - b. Bajar de peso
 - c. Ejercicio
 - d. Todo arriba

10. ¿Cuál de las siguientes es la principal hormona que el cuerpo produce para ayudar al cuerpo a usar el azúcar y disminuir el azúcar en el cuerpo?
- El glucagón
 - Proteína
 - La insulina
 - El carbohidrato
11. ¿Cuál de las siguientes puede suceder si usted no recibe tratamiento para la diabetes?
- Desarrollar problemas oculares , incluyendo la ceguera
 - Desarrollar problemas renales (riñones son órganos que filtran la sangre y producen la orina)
 - Desarrollar un ataque al corazón
 - Todo arriba
12. Si usted tiene diabetes, ¿con qué frecuencia se debe consultar a un oftalmólogo (especialista del ojo)?
- Al menos una vez al año
 - Al menos una vez cada dos años
 - Al menos una vez cada tres años
 - Las personas con diabetes no tienen que consultar a un oftalmólogo
13. Si usted tiene diabetes, ¿cuál debe ser su meta de colesterol LDL?
- Exactamente 0 mg/dl
 - Menos que 100 mg/dl
 - Más que 100 mg/dL
 - Exactamente 200 mg/dL
14. Si tiene la diabetes, ¿con qué frecuencia debería ver a su doctor?
- Una vez cada 3 – 6 meses
 - Una vez al año
 - Una vez cada dos años
 - Sólo cuando tiene síntomas
15. ¿Cuántos años tiene?
- Menores de 30
 - 31 – 40
 - 41 – 50
 - 51 – 60
 - 61 – 70
 - Más de 70
16. ¿Cuál es su sexo?
- Mujer
 - Hombre
17. ¿Cuál es su raza?
- Hispano/Latino
 - Afroamericano
 - Blanco/Caucásico
 - Asiático
 - Nativo Americano
 - Otro: _____
18. ¿Cuál es su código postal? _____

Diabetes Survey (English Version)

Dear St. John’s Patients,

Please take a moment to complete this voluntary survey. Your response is completely anonymous and will not affect your services at St. John’s clinic. This information will help us organize the diabetes class to cater to your needs. Thank you for your participation! ☺

Today’s date: _____

1. Do you have diabetes?
 - a. Yes
 - b. No

2. Are you aware that St. John’s offers free diabetes education class every Wednesday morning at 8:30am?
 - a. Yes
 - b. No

3. Are you interested in attending our free diabetes education class every Wednesday morning?
 - a. Yes *If yes, please ask a staff for more information and come join us! ☺
 - b. No *If no, this completes the survey. Thank you for your time.

4. How did you hear about the free diabetes class?
 - a. Your doctor
 - b. Your friends
 - c. Flyer
 - d. Other:

5. If you answered “yes” to question “2” above, how many times have you attended the class since January 1, 2014 ?
 - a. More than 20
 - b. 15 – 20
 - c. 10 – 14
 - d. 5 – 9
 - e. Less than 5
 - f. Never

6. If you answered “never” to question “5” above, please share with us any reasons why you have never attended the class.
 - a. Problems with transportation
 - b. Work schedule
 - c. Not interested in learning about diabetes
 - d. Other:

7. If you have attended the diabetes class in the past, please tell us what you like and dislike about the class.
- a. Likes: _____

- b. Dislikes: _____

8. If you have attended the diabetes class, please share with us any positive outcomes, if any, that you've had. (examples: weight loss, better understanding of diabetes, feeling better about diabetes etc.)
- a. _____

9. What suggestions do you have to improve the diabetes class?
- a. _____

10. What is your age?
- a. Under 30 b. 31 – 40 c. 41 – 50 d. 51 – 60 e. 61 – 70 f. over 70
11. What is your gender?
- a. Female b. Male
12. What is your racial background?
- a. Hispanic/Latino b. African-American/Black c. White/Caucasian d. Asian American e. Native American f. Other: _____
13. What is your zip code? _____

Diabetes Survey (Spanish Version)

Estimado pacientes de St. John's,
 Por favor tome un momento para completar esta encuesta voluntaria. Su respuesta es completamente anónima y no afectará sus servicios en la clínica de St. John's. Esta información nos ayudará a organizar la clase de la diabetes para satisfacer sus necesidades. Gracias por su participación! 😊
 Fecha de hoy: _____

1. ¿Tiene diabetes ?
 - a. Sí
 - b. No

2. ¿Es usted consciente de que las ofertas de St. John de la clase de educación en diabetes gratuita todos los miércoles por la mañana a las 8:30 am?
 - a. Sí
 - b. No

3. ¿Está usted interesado en asistir a nuestra clase de educación en diabetes gratuita todos los miércoles por la mañana?
 - a. Sí *En caso afirmativo, por favor pida una plantilla de más información y únete a nosotros! ☺
 - b. No *Si no, esto termina la encuesta. Gracias por su tiempo.

4. ¿Cómo se enteró acerca de la clase de diabetes gratis?
 - a. Los médicos
 - b. Amigos
 - c. Volante
 - d. Otra:

5. Si usted contestó "sí " a la pregunta "2" arriba, ¿Cuántas veces ha asistido a la clase desde el 1 de enero de 2014?
 - a. Más de 20
 - b. 15 – 20
 - c. 10 – 14
 - d. 5 – 9
 - e. Menos de 5
 - f. Nunca

6. Si su respuesta es "Nunca " a la pregunta "5" arriba, por favor díganos las razones de por qué nunca ha asistido a la clase.
 - a. Problemas con el transporte
 - b. El horario de trabajo
 - c. No estoy interesado en aprender acerca de la diabetes
 - d. Otra:

7. Si usted ha asistido a la clase de diabetes en el pasado, por favor díganos qué gusta y disgusta de la clase.
 - a. ¿Qué le gusta?:

b. ¿Qué no le gusta?:

8. Si usted ha asistido a la clase de diabetes, por favor, por favor díganos qué has ganado de la clase. (ejemplos: el control del peso, el conocimiento de la diabetes, los sentimientos, etc):

9. ¿Qué sugerencias tiene que mejorar la clase de diabetes?

10. ¿Cuántos años tiene?

- a. Menores de 30 b. 31 – 40 c. 41 – 50 d. 51 – 60 e. 61 – 70 f. Más de 70

11. ¿Cuál es su sexo?

- a. Mujer b. Hombre

12. ¿Cuál es su raza?

- a. Hispano/Latino b. Afroamericano c. Blanco/Caucásico d. Asiático
e. Nativo Americano f. Otro: _____

13. ¿Cuál es su código postal? _____