Implementation of Active Intervention Program using Dietary Education and Exercise Training for Lowering Obesity in Hispanic Male Children

By

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Final Report

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I. Introduction

The prevalence of obesity and overweight is greater between African American and Hispanic American groups (Bray, Patton & Edwards, 2003). In 1999-2002, 73 % of Mexican-American adults were overweight and 33 % were obese (Flegal, Ogden & Carroll, 2004). Specifically, childhood overweight among Hispanic children has increased (Rich, Dimarco, Huettig, Essery, Anderson, & Sanborn, 2005). A medical records review indicated that of the Hispanic children between the ages of 7 and 12 years, 38% had a weight status at or above the 85th percentile (Tyler, 2004). Weight gain that occurs in childhood will continue into adolescence and adulthood making people more susceptible to becoming obese. These people are at greater risk for chronic diseases like diabetes, coronary heart disease, and high blood pressure.

Recently, we demonstrated that the majority of Hispanic male children (aged 8 - 13) in Laredo, Texas can be classified as obese based on the data from percent body fat (Lee et al, 2005). We also demonstrated that major factors resulting in prevalence of obesity in Hispanic male children in Laredo, Texas are due to a low level of physical activity and high percent of fat calorie intake are not by the total amount of calorie or extensive media viewing time (Lee, 2006).

Therefore, we wanted to develop an active intervention program to treat (or prevent) childhood obesity targeting Hispanic male children in Laredo, Texas. We demonstrated that 10 weeks of Active Intervention Program using Dietary Education and Exercise Training decreased percent body fat and calorie intake from the fat and increased level of physical activity in this study.

This information can provide practical information for health professionals, school officials and parents in an attempt to treat and/or prevent childhood obesity for this target group.

II. Methods

Subjects and Experimental Design

Total twenty Hispanic male children aged from 8 to 12 years were recruited for this study. A consent form was signed and obtained from their parents or legal guardians.

Also, assent form was signed by children. Then, the subjects were randomly assigned into one of three groups (Control (CON), and Education + Exercise (EE), N=10 each group).

10 weeks Active Intervention Program

Dietary Education with Dietary Log for Parents and Son:

Dietary Educations were provided once a month by a nutritional expert. It consists of explaining major nutrients, the food pyramid, healthy food options, and teaching how to read a food label. A personal daily diet log (three days per week for 10 weeks) was used to assess the dietary pattern.

Pedometer with Goal Setting:

A pedometer is a beeper-sized device that clips onto one's belt or waistband and counts the number of steps its owner takes while walking or jogging. Subjects were asked to wear a pedometer for 10 weeks to measure the level of physical activity. A new goal (20% increases from the previous value) was set by researchers for every other week.

Exercise Training:

Exercise training was conducted individually or in small group basis with personal trainers at least three times per week for 10 weeks at either Texas A& M International University (TAMIU) gym or their house. The personal trainers were student athletes at TAMIU as well as Fitness and Sport majors. The examples of activities are basketball, volleyball, soccer, jogging or any recreational sports activities.

Measurements

Body Composition:

The Body Mass Index (BMI) was calculated based on height and weight. Percent Body Fat (% Fat) was estimated using the data obtained by skin fold caliper based on equation (Jackson & Pollock, 1985). Waist/hip ratio was calculated using measuring tape.

Dietary Patterns:

Personal daily log (recording sheet for food consumption) was given to the subjects. The parents or legal guardians of subjects were asked to record food consumption of their children for three days per week. Diet patterns (total caloric intake, % calories from fat) were assessed by researchers based on the daily log using software called Diet Power (Diet Power, Inc., 7 Kilian Drive, Danbury, CT 06811).

Level of Physical Activity:

Pedometer was used to assess the level of physical activity. A pedometer is a beeper sized device that clips onto one's belt or waistband and counts the number of steps its owner takes while walking or jogging. It has been used in numerous research studies and shown accuracy to estimate the level of physical activity (Beets et al, 2005).

Statistical Analysis

All data were expressed as means ± SD. Paired-sample *t*-test was used to compare all variables pre and post test. A one-way analysis of variance was used to compare all variables among groups. Fisher's least significant difference was used to test for group differences. A significance level of $P < 0.05$ was used for all comparisons. A significance level of $P<0.05$ was used for all comparison.

III. Results

Percent body fat

The average percent body fat after intervention program was significant decreased from the previous value (24.48% ± 3.2 vs 27.37% ± 1.5) ($P<0.05$) (Fig. 1). Recommended levels of relative fats are 15% for male and 23% for female and based upon the Behnke and Wilmore models of the reference male and female (Behnke and Wilmore, 1974). Obesity is defined as a high percentage of body fat, usually >25% for male including children. Even though, percent body fat has been decreased, all subjects in this study can be categorized as obese. There was no significant different between pre and post value in body mass index (BMI). However, BMI was slightly lower after intervention program.

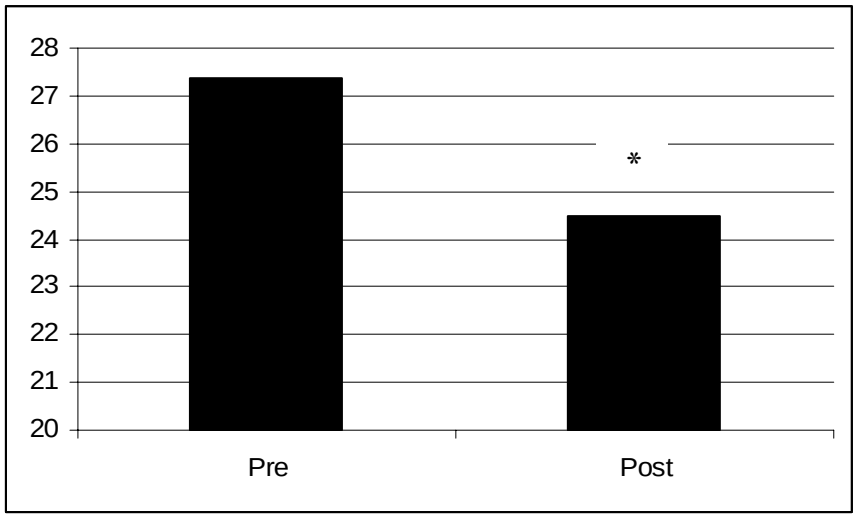


Figure 1. Percent body fat

% BF: percent body fat, *; Significantly different from previous data.

Dietary patterns

The average daily caloric intake after the intervention program was not different from the previous values (1726.1 Kcal ± 344 vs 1875.2 Kcal ± 102). However, percent of calories from the fat after the intervention program was significantly lower than the previous values (35.83% ± 2.9 vs 41.62% ± 1.6) ($P<0.05$) (Fig. 2). This agrees to the result of Stoekli and Keller's study showing that there is strong relationship between obesity and total fat intake (Stoeckli & Keller, 2004). Also, it agrees to our previous results demonstrating that major factors resulting in prevalence of obesity in Hispanic male children in Laredo, Texas are due to high percent of fat calorie intake (Lee et al., 2006)

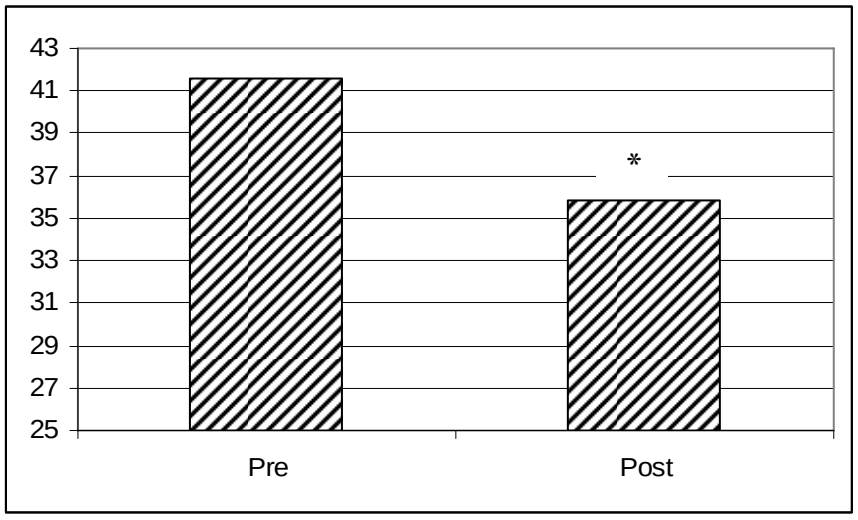


Figure 2. Average daily caloric intake and calorie from the fat.

* : Significantly different from previous value

Level of physical activity

The average step per day after the intervention program was significantly higher than the previous values the previous values (8965 steps ± 332 vs 6612 steps ± 432) ($P<0.05$) (Fig. 3).

There have been numerous studies showing that level of physical activity closely relates to obesity and has an inverse relationship with chronic diseases like diabetes, coronary heart disease and high blood pressure.

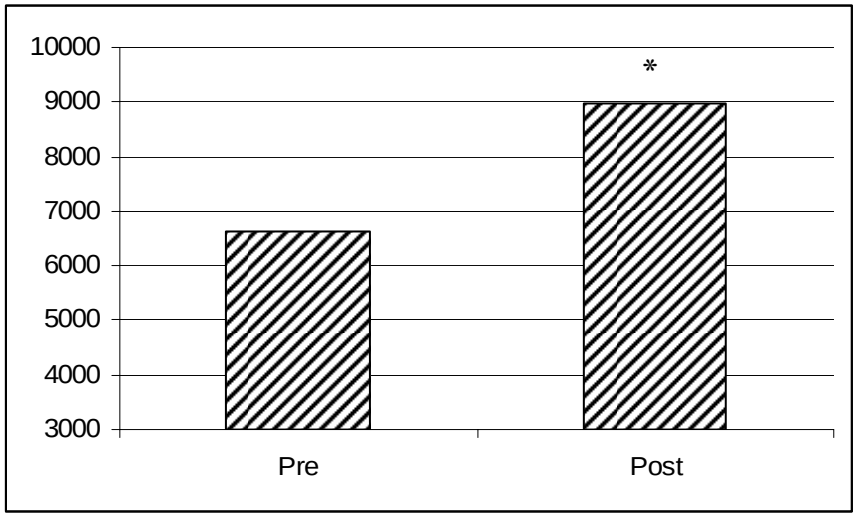


Figure 4. The average step per day

* : Significantly different from the previous value

Adopting a formal exercise program, or simply becoming more active, is valuable to burn fat, increase energy expenditure, and maintain lost weight. Most studies of children have not shown exercise to be a successful strategy for weight loss unless coupled with another intervention, such as nutrition education or behavior modification.

However, exercise has additional health benefits. Even when children's body weight and fatness did not change following 50 minutes of aerobic exercise three times per week, blood lipid profiles and blood pressure did improve (Becque, Katch, Rocchini, Marks, & Moorehead, 1988).

IV. Conclusion

In conclusion, we demonstrated that 10 weeks of Active Intervention Program using Dietary Education and Exercise Training decreased percent body fat and calorie intake from the fat not total calorie intake. Also it increased level of physical activity measured by pedometer. Obesity is easier to prevent than to treat. So, school based intervention program at the early age would be recommended.

V. Direction of future studies

Future researches that may further clarify the present findings and improve experimental design are the following:

1. The more number of subjects who can complete all experimental procedures.
2. The better controlled research monitoring diet pattern and physical activity.
3. Research study focusing on female group.

Acknowledgements

I would like to thank Dora L. Herrera, Desiree Arredondo, Joe Flores and Javier Reyes for their excellent work on this project. I would also thank to Mr. Leo Hernandez and Mr. Juan Martinez for their great support on this study.

Appendices

A. Consent form (English & Spanish version)

CONSENT TO ACT AS A RESEARCH SUBJECT FOR MINORS

Implementation of Active Intervention Program using Dietary Education and Exercise Training for Lowering Obesity in Hispanic Male Children

I (Dr. Lee) am conducting a study to develop an active intervention program to prevent (or treat) childhood obesity targeting Hispanic male children in Laredo, Texas. Your son, a minor, may be asked to participate as a volunteer for this study. For this reason, we would like to have your parental consent to authorize your son to participate in this study.

The only people who will be allowed to view your responses are the researchers involved in this project. The results from this study can provide practical information for health professionals, school officials and parents in an attempt to treat and/or prevent childhood obesity for Hispanic male children.

Participation in this study is entirely voluntary, your son may refuse to participate or withdraw at any time for any reason. Research records will be kept confidential to the extent provided by the law. All data will be given a code and personal information will not be associated when it is used in the research.

If you agree, your son will be randomly assigned into one of three groups (Control (CON), Education (EDU) and Education + Exercise (EE), N=11 each group) by the researchers. **Depending on group assignment**, your son may be asked to participate in testing and training session for data collection for 10 weeks.

Active Intervention Program

Dietary education with diet log for parents and son

Dietary Education will be provided by a nutritional expert based on the experimental schedule. Education consists of explaining major nutrients, the food pyramid, healthy food options and teaching how to read a food label. A personal daily diet log for three days will be used to assess the dietary patterns (total caloric intake, % calories from fat and carbohydrates) of your child. The parent/guardian will be asked to record food consumption of their son once a week every third week.

Pedometer with goal setting

A pedometer is a beeper-sized device that clips onto one's belt or waistband and counts the number of steps its owner takes while walking or jogging. Your son will be asked to wear pedometer for 10 weeks to measure the level of physical activity. A new goal (20% increases from the previous value) will be set by researchers for every other week.

Exercise training

Exercise training will be conducted individually in small group basis with personal trainers at either Texas A & M International University (TAMIU) gym or your choice. The personal trainers are student-athletes at TAMIU majoring in Fitness and Sports. The examples of activities

are basketball, volleyball, soccer, jogging or any recreational sports activities based on you and your son's choice.

Measurement

Body Composition
The Body Mass Index (BMI) will be calculated based on height and weight. Percent Body Fat (% Fat) will be estimated using the data obtained by a skin fold caliper. The thickness of the skin will be measured and used for calculations for percent body fat based on previous research. Waist/hip ratio will be calculated using measuring tape.

Level of Physical Activity

A pedometer will be used to assess the level of physical activity. A pedometer is a beeper-sized device that clips onto one's belt or waistband and counts the number of steps its owner takes while walking or jogging. It has been used in numerous research studies and shown accuracy to estimate the level of physical activity (Beets et al, 2005).

Dietary Patterns

A personal daily log will be used to assess the dietary pattern (total caloric intake, % calories from fat and carbohydrates) of your child. The parent/guardian will be asked to record three-day-food consumption of their children for twice a month during study period.

Local fat deposition in abdominal area

It is well established that abdominal adiposity is a strong predictor of morbidity and mortality. Visceral fat (intra-abdominal adipose tissue) and subcutaneous (under the skin) abdominal fat are two discrete compartments of fat that have been studied in association with health outcomes. Visceral and subcutaneous fat will be measured using the data obtained by MRI (magnetic resonance image, AIRIS Elite, HITACHI, Twinsburg, OH) technique at local clinic.

Survey questions

The questions regarding healthy life style, exercise, nutrition, acculturation and depression will be asked. It will take approximately 25-30 minutes to complete survey.

Blood screen

The trained health professionals (physician or registered nurse) will draw a blood sample (6 ml) for lipid profile and screening for cardiovascular disease risk factors. I understand that stored blood sample will be given a code and personal information will not be associated when it is used in future research.

The schedule of all sessions including testing, education and training will be at you and your son's convenience time and place by appointment (even over the weekend).

If your son is assigned into Control (CON) group, pedometer, dietary education, exercise training will be provided at the end of study period based on your request. If your son is assigned into Education (EDU) group, exercise training will be provided at the end of study period based on your request.

Upon completion of this study, your son will be rewarded with a pedometer (retail value over $30). The results of blood test will be provided to all the respondents free of cost (worth $500). Also, we will provide insurance for your son, a guest pass and a parking permit at TAMIU during the training period.

Participation is entirely voluntary, your son may refuse to participate or withdraw at any time for any reason. Research records will be kept confidential to the extent provided by the law. The risky for participation include pain for finger pricks, vein puncture, and knowledge of your son's disease status for hypertension, diabetes and high cholesterol.

I _____ (your name) understand the objective and procedures of this study and all my questions have been answered. I understand that no compensation is available from Texas A & M International University and its employees for any injury resulting from the participation in this research. If I choose not to come to the exercise training session with my son, then I authorize the personal trainer to act as a legal guardian during the training secession. If I have any questions or concerns about this study, I may contact Dr. Lee, Fitness and Sports program, KL 419C, 956-326-2672, slee@tamiu.edu or Dr. Doris J. Rosenow, Chair of the Institutional Review Board, 956-326-2576, drosenow@tamiu.edu or Dr. Lira, Chairperson of The Curriculum and Instruction, KL332B, 956-326-2535, jlira@tamiu.edu. 5201 University BLVD, Laredo, TX 78041.

I authorize my son (first:_____ last: _____) to participate in this study.

_____ 2006

Parent or Guardian Signature Date

Address: Laredo, TX, zip ( )

Home phone: Cell phone: Email :

_____ 2006

Signature of Investigator or Research Assistant Date

Forma de consentimiento de participantes

Implementando el programa de intervencion activa usando educacion de dietas y entrenimiento de ejercicio para reducer obesidad en ninos hispanos

Dr. Lee esta eniciando un estudio de intervencion para el crecimiento para previnir obesidad en ninos hispanos de Laredo, Texas. Su hijo (menor de edad) sele ofresera participar en este studio voluntariamente. Por esta razon se require una forma de consentimiento. Favor de firmar su consentimiento.

Solamente los investigadores seran permetidos a reviser sus respuestas en este estudio. Los resultos de este estudio seran util para profesionales, oficiales de la escuela y padres para intentar un tratamiento o para prevetar la obesidad en ninos hispanos.

Si ustede aprueba, su hijo sera escojido para uno de tres grupos (control (CON), educacion (EDU), y educacion + ejercicio (EE), N=10 en cada grupo) por los investigadores. Depender del grupo, su hijo puede ser posible a participar en pruebas y sesiones de entrenamiento para coleccion de datos por 10 semanas.

programa de intervencion active

educacion dietético con informacion para el nino y los padres

Educacion dietico por un nutricionista estara providente depende en el tiempo de la clase. La educacion consiste de informacion de nutrients, comidas saludables, y como escojer la comida que es buena. Los padres ayudaran a sus hijos, un avec a la semana cada tres semanas, apuntar la comida que consume.

podometro con metas ajustados

Un podometro se usa para contra el numbero de pasos que se hacen cuando caminan o corren. Su hijo va usar un podometro para checar el nivel de su actividad fisica por 10 semanas.

entrenamiento de ejercicio

el entrenamiento de ejercicio estara cunductado individualmente or en grupos chicos con entrenadores personales en el gimnasio de Texas A & M International University (TAMIU) o en su opcion disponible. Los entrenadores son estudiantes y atletas que tomaran una carrera en Fitness and Sports en TAMIU. Ejemplos de actividades son basketball, volleyball, soccer, corriendo, o otras actividades dependiendo en su hijo y usted.

medidas

composicion del cuerpo
Body Mass Index (BMI) esta calculado con el peso y estatura.

nivel de la actividad fisica
El nivel de la actividad de su hijo va esta medida con un podemetro. Un podometro se usa para contar el numbero de pasos que se hacen cuando caminan o corren. Los podemetros se han usado para varios estudios y ensenado que si drabajan para medir la actividad fisica (Beets et al, 2005).

maneras de su dieta

Un registro personal se va a usar para evaluar las maneras dieteticas de su hijo. Los padres apuntaran la comida que come su hijo por tres dias, dos veces al mes.

gordura en el abdomen

Esta bien establisado que la gordura en el abdomen es una fuerte prediccion de morbidez y mortalidad. Se le va hacer un MRI en una clinica local.

preguntas

Las preguntas son para que el investigador se informe del tipo de ejercicio de su hijo, su nutricion, su salud, y depression. Se tomara aproximadamente 25-30 minutos para contester las preguntas.

prueba de sangre

Una enfermera le va sacar una prueba de sangre (6 ml) a su hijo para unos examenes en el estudio. Yo entiendo que la prueba de sangre se le dara un clave y informacion personal no se usara en estudios futuros.

Las session de los examenes, la educacion y el entranamiento pueden hacer a su convenencia.

Para los ninos que esten asignado en el grupo de Control (CON) recibira un podometro, educacion dietica, entrenamiento de ejercicio al fin del estudio. En el grupo de Educacion (EDU), entrenamiento de ejercicio se le ofreceran al fin de el estudio.

Al fin de el estudio, su hijo va esta recompensado con un podometro (mas de $30). Tambien los resultos del examen de sangre van hacer gratis (valor $500). En TAMIU su hijo recibira seguro, un pase de visita, y una licencia de estacionamiento durante el entrenamiento.

Participacion es completamente voluntario y su hijo se puede slir del estudio al cualquier tiemp por cualquier razon. Los datos van a permanecer confidencial.

Yo _____ (su nombre) entiendo que el objetivo y los precedimientos de este estudio y mis preguntas an sido contentestadas. TAMIU y sus empleados no son culpables por ningunos acidentes en el estudio. Participacion es completamente voluntario y su hijo se puede slir del estudio al cualquier tiemp por cualquier razon. Por cualquier pregunta, se puede comunicar con Dr. Lee, Fitness and Sports program, KL 419C, 956-326-2672, slee@tamiu.edu or Dr. Doris J. Rosenow, Chair of the Institutional Review Board, 956-326-2576, drosenow@tamiu.edu or Dr. Lira, Chairperson of The Curriculum and Instruction, KL332B, 956-326-2535, jlira@tamiu.edu. 5201 University BLVD, Laredo, TX 78041.

Yo authorize que mi hijo (nombre:_____ apellido:_____) puede participar en este estudio.

_____ _____2006

padres/costoria legal fecha

direccion: _____ Laredo,TX. Zip (_____)

tel.: _____ cel.: _____ Email: _____

_____ _____2006

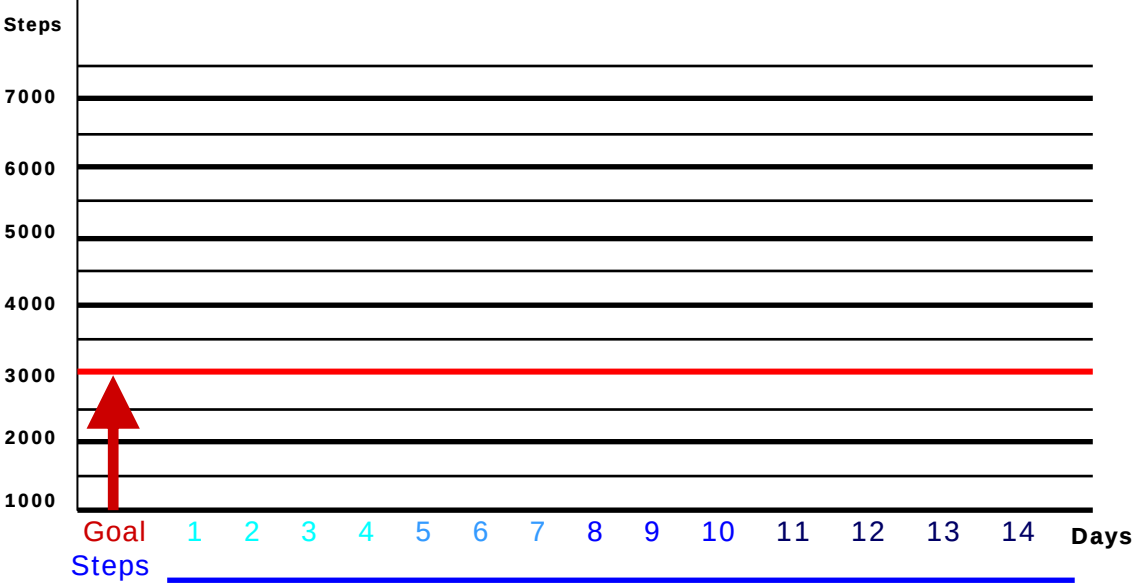
firma del investigador o asistente fecha

B. Pedometer log

1 & 2 weeks

Let's work out for fun!

1. Draw line on day 2. Write step counts



C. Dietary log

Dietary Log

Name : _____ Age: _____ Phone #: _____
ID : _____

Please list all food consumption for the day including drinks, candy, chips etc.
Please provide as much information and details as possible. (Ex: calories & servings)
**If meal is from a fast food restaurant, please specify from which one.

Examples are as follows:

Drinks: 1 cup of 2% milk, 2 cups of orange juice, 1 – 12 oz coke, 1-16 oz diet coke, 1 – 32 oz Gatorade, small milkshake from McDonalds, 1 –12 oz water, etc.

Bread: 2 slices of white bread, 1 slice of wheat bread, 1 bagel (whole), ½ bagel, 2 slices of hamburger bread, 1 hot dog bun, 2 flour tortillas, 3 corn tortillas, etc.

Pasta: 1 serving of spaghetti, 1 serving of pasta with alfredo sauce, 2 servings of cheese ravioli, 1 serving of lasagna, etc.

Pizza: 2 slices of pepperoni pizza from Donimo's, 2 slices of sausage pizza from Papa John's, 2 slices of meat lover's pizza from Pizza Hut, 2 slices cheese pizza from Little Ceasar's, etc.

Burger: 1 cheeseburger, 1 bacon cheeseburger, 1 plain hamburger, 1 hamburger with lettuce, tomato and onions, 1 hamburger/(Burger King, McDonald's, Wendy's, Whataburger, Jack in the Box), etc.

Meat: 1 chicken breast, 1 serving of fajitas, 1-hamburger patty, 1 – 8 oz steak, 6 chicken nuggets, 2- chicken legs, 1 chicken leg quarter, 6 fish sticks, 2 wieners, 1 slice of ham, 1 slice of bologna, (Taco Palenque, Popeye's, Church's, KFC, Long John Silver's), etc.

Fruit: 2 slices of watermelon, 1 orange, 1 medium sized apple, 2 bananas, 2 slices of mango, etc.

Candy: 1 snack size Milky Way, 1 regular size Snickers, 1 king size Butterfinger, 1 slice of Bubble Yum gum, 1 bag of Gummi Bears, etc.

ETC.: 1 ice cream cone from Dairy Queen, 1 small bag of buttered popcorn, 1 bag of flower seeds, 1 bag of Doritos, 3 Chips Ahoy cookies, 1 Krispy Kreme donut, small French fries, large Onion rings, 2 slices of cheese, etc.

	Breakfast	**Lunch**	**Dinner**	**Snacks**	*Total Calories Official Use:*
Day 1					
Total calories Official Use*:*					
Day 2					
Total calories Official Use:					
Day 3					
Total Calories Official Use:					

For Official Use Only:
Total caloric intake : _____
% of calories from fat :_____
% of calories from carbohydrates: _____

D. Survey questions

Questionnaire

Name:_____ Group :
Male:_____
Age:_____ Date of Birth(mm/day/year)____/____/_____.

Knowledge of Diabetes and CVD Risk Factors

1. How important is it to you personally to eat a healthy diet?

1 = Very important 8 = Don't know

2 = Some what important

3 = Not important

2. How important is it to you personally to exercise regularly?

1 = Very important 8 = Don't know

2 = Some what important

3 = Not important

Acculturative Rating Scale for Mexican-Americans-II (ARSMA-II)
English Version

What is your religious preference?_____

In what country?_____

******The above heading and questions will not be included in the study******

<u>Circle the generation that best applies to you. Circle only one.</u>

1. 1st generation= You were born in Mexico or other country.

2. 2nd generation= You were born in USA; either parent born in Mexico or other country.

3. 3rd generation= You were born in USA, both parents were born in USA, and all grandparents were born
in Mexico or other country.
4. 4th generation= You and your parents were born in USA and at least one grandparent was born in
Mexico or other country with remainder born in USA.

5. 5th generation= You and your parents born in the USA and all grandparents were born in the USA.

ARSMA-II SCALE 1: English version
Circle a number between 1-5 next to each item that best applies.

	Not at all	Very little or not very often		Much or Moderately	Extremely often or very often	almost always
1. I speak Spanish	1	2	3	4	5	
2. I speak English	1	2	3	4	5	
3. I enjoy speaking Spanish	1	2	3	4	5	
4. I associate with Anglos	1	2	3	4	5	
5. I associate with Mexicans and/or Mexican Americans	1	2	3	4	5	
6. I enjoy listening to Spanish language music	1	2	3	4	5	
7. I enjoy listening to English language music	1	2	3	4	5	
8. I enjoy Spanish language TV	1	2	3	4	5	
9. I enjoy English language TV	1	2	3	4	5	
10. I enjoy English language movies	1	2	3	4	5	
11. I enjoy Spanish language movies	1	2	3	4	5	
12. I enjoy reading (e.g.	1	2	3	4	5	

books) in Spanish				
13. I enjoy reading (e.g. books) in English	1	2	3	4 5
14. I write (e.g. letters) in Spanish	1	2	3	4 5
15. I write (e.g. letters) in English	1	2	3	4 5
16. My thinking is done in the English language	1	2	3	4 5

	Not at all	Very little or not very often	Much or Moderately	Extremely often or very almost always
17. My thinking is done in the Spanish language	1	2	3	4 5
18. My contact with Mexico has been	1	2	3	4 5
19. My contact with the USA has been	1	2	3	4 5
20. My father identifies or identified himself as ‘Mexicano’	1	2	3	4 5
21. My mother identifies or identified herself as ‘Mexicana’	1	2	3	4 5

22. My friends, while I was growing up, were of Mexican origin	1	2	3	4 5
23. My friends, while I was growing up, were of Anglo origin	1	2	3	4 5
24. My family cooks Mexican foods	1	2	3	4 5
25. My friends now are of Anglo origin	1	2	3	4 5
26. My friends now are of Mexican origin	1	2	3	4 5
27. I like to identify myself as an Anglo American	1	2	3	4 5
28. I like to identify myself as a Mexican American	1	2	3	4 5
29. I like to identify myself as a Mexican	1	2	3	4 5
30. I like to identify myself as an American	1	2	3	4 5

ARSMA-II SCALE 2: English version

	Extremely Not at all	Very little or not very often	Much or Moderately	Extremely often or very almost always
1. I have difficulty accepting	1	2	3	4 5

	some ideas held by Anglos				
2. 5	I have difficulty accepting certain attitudes held by Anglos	1	2	3	4
3. 5	I have difficulty accepting some behaviors exhibited by Anglos	1	2	3	4
4. 5	I have difficulty accepting some values held by some Anglos	1	2	3	4
5. 5	I have difficulty accepting certain practices and customs commonly found in some Anglos	1	2	3	4
6. 5	I have, or think I would have, difficulty accepting Anglos as close personal friends	1	2	3	4
7. 5	I have difficulty accepting ideas held by some Mexicans	1	2	3	4
8. 5	I have difficulty accepting certain attitudes held by Mexicans	1	2	3	4
9. 5	I have difficulty accepting some behaviors exhibited by Mexicans	1	2	3	4
10. 5	I have difficulty accepting some values held by some Mexicans	1	2	3	4
11. 5	I have difficulty accepting certain practices and customs commonly found in	1	2	3	4

some Mexicans

	Not at all	Very little or not very often	Much or Moderately	Extremely or very often or almost always
12. I have, or think I would have, difficulty accepting Mexicans as close personal friends	1	2	3	4 5
13. I have difficulty accepting certain attitudes held by Mexican Americans	1	2	3	4 5
14. I have difficulty accepting some behaviors exhibited by Mexican Americans	1	2	3	4 5
15. I have difficulty accepting some behaviors exhibited by Mexican Americans	1	2	3	4 5
16. I have difficulty accepting some values held by Mexican Americans	1	2	3	4 5
17. I have difficulty accepting certain practices and customs commonly found in some Mexican Americans	1	2	3	4 5
18. I have, or think I would have, difficulty accepting Mexican Americans as close personal friends	1	2	3	4 5

Health Background

1. Do you currently use tobacco everyday, some days, or not at all?

    a. Everyday

    b. Some days

    c. Not at all (skip to question 4)

2. Do you use: Chewing tobacco _____ Cigarettes _____ Smokeless tobacco _____
   (Check all that apply)

3. On average, about how many cigarettes/cigars/chewing tobacco/smokeless tobacco a day do you now
   use? Number _____
4. Considering all types of alcoholic beverages, how many times during the past month did you have 5 or
   more drinks on occasion?

   _____None _____Once _____Twice _____3 to 5 times

   _____6 to 9 times _____10 or more times

5. Do you have any family history of illness of any of the following (please do not include spouse and his/her family members)?

Condition	**Brother**	**Sister**	**Father**	**Mother**	**Grandparents/ uncles, aunts, etc**
Diabetes					
Heart attacks before the age of 50					
High blood pressure					
Stroke					
Kidney dialysis					
Cancer (please specify what kind)					
Jaundice					
Arthritis					
High Blood Cholesterol					
Depression					

6. Do you have any Dietary Restriction (medical)?
   No_____ Yes_____
   (If Yes, please specify: _____)

Health Promotion Lifestyle Profile

The following questions in this section are about your personal habits. You will answer either Never, Sometimes, Often, or Always to indicate how often you engage in each behavior. Circle the answer that is the most appropriate.

Item # Question	Never (N)	Sometimes (S)	Often (O) Always (A)
1. How often do you choose a diet low in fat, saturated fat, and cholesterol?	N	S	O A
2. How often do you limit your use of sugars and food containing sugar (sweets)?	N	S	O A
3. How often do you eat 6-11 servings of bread and tortillas (corn and flour)?	N	S	O A
4. How often do you eat 2-4 servings of fruit each day?	N	S	O A
5. How often do you eat 3-5 servings of vegetables each day?	N	S	O A
6. How often do you eat 2-3 servings of milk, buttermilk, or curd each day?	N	S	O A
7. How often do you eat only 2-3 servings from the meat, poultry, fish, eggs, and nuts group each day?	N	S	O A
8. How often do you read labels to identify nutrients, fats, and sodium content in packaged food?	N	S	O A
9. How often you eat breakfast?	N	S	O A

Physical Activity

How Physically Active Are You?

Please check the appropriate box.

I almost never do any physical activity.	Yes ☐	No ☐

I do some **light** and/or **moderate** physical activities, but not every week.	Yes □	No □
I do **light** physical activities every week.	Yes □	No □
I do **moderate** physical activities every week, but less than 5 times per week.	Yes □	No □
I do **vigorous** physical activities every week, but less than 3 times per week.	Yes □	No □
I do 30 minutes or more per day of **moderate** physical activities 5 or more days per week.	Yes □	No □
I do 20 minutes or more per day of **vigorous** physical activities 3 or more days per week.	Yes □	No □
I do activities to increase muscle strength, such as lifting weights or calisthenics, once a week or more.	Yes □	No □
I do activities to improve flexibility, such as stretching or yoga, once a week or more.	Yes □	No □

Reinforcing Factors

1. What are the main reasons that **prevent you** from eating a healthier diet?

_____ It is not a priority for me

_____ I have a very busy life

_____ Healthy foods are expensive

_____ Healthy foods take too much time to make

_____ Healthy foods do not taste good

_____ Healthy foods do not look good

_____ My family would not eat it

_____ Family and friends are not supportive

_____ I do not want to give up cultural traditions

_____ I already eat a very healthy diet

2. What would **motivate you** to eat a healthier diet?

_____ I want to lose weight

_____ I am diagnosed with a disease or illness

_____ To become a better role model for my kids

_____ Someone close is diagnosed with a disease

_____ To prevent getting certain diseases

_____ If restaurants offered more healthy foods

_____ I can find quick healthy recipes

_____ If somebody else cooked it

_____ Family members are willing to change _____ I already eat a very healthy diet

3. What are the main reasons that **prevent you** from getting more exercise?

_____ It is not a priority for me _____ I have a very busy life

_____ It requires too much hair care _____ I do not have anyone to exercise with

_____ My neighborhood is not safe _____ I can't afford to join a gym

_____ I get home too late _____ I don't have time

_____ I don't have a babysitter _____ I get enough exercise

4. What would **motivate you** to get more exercise?

_____ To lose weight _____ To look better

_____ If my boyfriend or girlfriend/ significant other asked me _____ Being diagnosed with a disease or illness

_____ To become a better role model _____ Having someone to exercise with

_____ Having a membership to a gym _____ Nothing would motivate me

_____ I get enough exercise

The Center for Epidemiologic Studies Depression Scale
For the following 20 items, please select the choice that best describes how you have felt over the past week:

Item #	Question	Rarely or none of the time (<1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of the time (3-4 days)	Most or all of the time (5-7 days)
1.	I did not feel like eating; my appetite was poor.				

2. I felt that I was not as good as other people.

3. I felt depressed.

4. I felt fearful.

11. My sleep was restless.

12. I was unhappy.

13. I talked less than usual.

14. I felt lonely.

15. People were unfriendly.

16. I did not enjoy life.

Item #	Question	Rarely or none of the time (<1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of the time (3-4 days)	Most or all of the time (5-7 days)
17.	I had crying spells.				
18.	I felt sad.				
19.	I felt that people disliked me.				
20.	I could not get "going".				

21. Is there any event in the past six months that has triggered any feelings of depression? If yes, please list the events below.

_____
_____
_____

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