

# Lifestyle Awareness in Health Conservation: Aspects in Diet, Exercise, and Self-Perception

Tapera Chiwocha Jr.

MD Candidate 2016, Chicago Medical School

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## Introduction:

Communicare Health Center is a comprehensive health center that serves the underserved population of San Antonio. It provides many different services to its patients including dental care, eye care, women services, and general medical services. Diabetes and hypertension are the two major chronic diseases at the center. We can minimize the long-term effects of these diseases by a good understanding of the lifestyles and beliefs of the patients.

## Background:

One of the leading diseases in the United States, hypertension afflicts nearly 76.4 million adults<sup>1</sup>. The Center for Disease Control reported that in 2010, 38.9 million patients who visited physicians' offices were diagnosed with hypertension<sup>5</sup>. If not treated in a timely manner, the disease can, unfortunately, lead to death<sup>1</sup>. According to the CDC, there were 26,634 deaths in the year 2010<sup>5</sup>. However, the effects of hypertension can be improved by proper diet and exercise<sup>9</sup>. Small changes in a patient's attitude and behavior can help minimize the negative effects of hypertension. Patients should adopt good diet and effective exercise as part of their lifestyle<sup>4</sup>. Exercise, particularly cardiovascular exercise, can help in the prevention and treatment of hypertension. Patients need to perform simple vascular exercises for a few hours each week<sup>6</sup>.

We need to understand patients' views on exercise and diet in order to gain insight into the effectiveness of the health center's education program. This can also give us a better understanding of the extent of healthcare literacy in general. In their research study, "Self-Perception of Weight Appropriateness in the United States," Virginia W. Chang and Nicholas A. Christakis considered the effects of the environment on US citizens' self-perception of weight. They found that, "38.3% of women with normal weight thought that they were overweight. On the other hand, 32.8% of overweight men thought they had the right weight or underweight<sup>3</sup>." This could be attributed to media's misrepresentation of what is appropriate weight. An understanding of the patients' self-perception could also reveal the accuracy and level of healthcare literacy. I was involved in a project that ran for 6 weeks. During the first 5 weeks, I met with volunteer patients for several hours each day. I made a statistical analysis from the surveys they filled out.

I used self-generated questions as well as questions from the American Heart Association online tool to conduct a risk assessment of the patients regarding hypertension. Using the patient care clinic population at the CHC in San Antonio, I met with patients during booked appointments to discuss their lifestyle awareness in a research setting. During the appointment, the risk assessment measured the patient's risk for heart attack, stroke, and/or kidney disease based on their blood pressure reading and family history of heart disease, among other measurements. In the surveys, I recorded lifestyle factors, including patients' weight, height, health risks, diseases, and family history of heart disease. From there, I asked survey questions about lifestyle. The questions included understanding of lifestyle's influence on health, whether the patient was willing to make changes in his/her lifestyle. I also asked questions regarding the aspects of lifestyle the patient was willing to change. Examples included desired weight loss, willingness to

exercise, willingness to eat a healthy diet, willingness to eat a low salt diet, and willingness to avoid alcohol abuse. Lastly, I asked whether or not the patient thought he/she was medically obese. Then based on the results of the survey and interview, I presented a BMI chart to the patient (Fig 1), explained how the chart worked, and discussed whether she was medically obese or not.

The following 6 questions were the ones asked in the survey:

**1. Do you feel you would be healthier if you made lifestyle changes? \_\_Yes \_\_No**

**If yes, are you willing to make lifestyle changes? \_\_Yes \_\_ No**

¿Cree que sería más saludable si ha realizado cambios de estilo de vida? \_\_Si \_\_ No

The purpose of these questions was to gauge the patient's perception of the relationship between lifestyle and overall health. Furthermore, the questions probed into the patient's willingness to change lifestyle if he/she felt that it would improve his/her health.

If patient were willing to change lifestyle, I asked the following question:

**2. How much weight do you plan to lose? \_\_\_\_\_**

¿Cuánto peso va a perder? \_\_\_\_\_

The point of this question was to understand the amount of weight the patient wanted to lose.

That is, what was his/her goal?

**3. Would you engage in regular physical activity? Yes \_\_No\_\_ I already do this\_\_**

¿Va a participar en la actividad física regular? Sí\_\_\_\_ No\_\_\_\_ Ya lo hago\_\_\_\_\_

The object of this question was to indicate the patient's willingness to exercise in order to accomplish his/her lifestyle goal.

**4. Will you eat a healthy diet?    Yes \_\_\_\_\_ No \_\_\_\_\_ I already do this \_\_\_\_\_**

¿Va a comer una dieta saludable?    Sí \_\_\_\_\_ No \_\_\_\_\_ Ya lo hago \_\_\_\_\_

This question was intended to understand if the patient was willing to eat healthy food to maintain good health.

**5. Would you eat a lower-salt diet?    Yes \_\_\_\_\_ No \_\_\_\_\_ I already do this \_\_\_\_\_**

¿Va a comer una dieta baja en sal?    Sí \_\_\_\_\_ No \_\_\_\_\_ Ya lo hago \_\_\_\_\_

This question was intended to see if the patient was willing to monitor and limit her salt intake to maintain good health.

**6. Will you limit alcohol abuse?    Yes \_\_\_\_\_ No \_\_\_\_\_ I already do this \_\_\_\_\_**

¿Va a limitar el abuso de alcohol?    Sí \_\_\_\_\_ No \_\_\_\_\_ Ya lo hago \_\_\_\_\_

This question was intended to see if the patient would limit the amount of alcohol in order to maintain good health. Finally, I ended the survey with a quick question on whether the survey was difficult to fill out or not. The purpose of this survey was to see if the way questions were asked in the survey were user friendly to the patient or whether they were difficult to answer. This was to get a better idea of what the patient thought of the questions and how they were asked.

The object of the project was (A) to identify the health benefits of modifying lifestyle behaviors; (B) to draw conclusions based on the results of the survey; (C) to discuss the results with the patient; (D) and to suggest that minimal behavior changes in lifestyle can cause significant reduction in the risk for heart attack, stroke, and/or kidney disease.

In order to carry out this independent project, I needed access to the patient care facility at the CHC, West Campus. I needed access to the online assessment tool by the American Heart Association. And I needed the ability to meet with patients (as granted by Dr. Thacheray and Dr. Ramos), and ability to meet with the patients to measure their blood pressure (if necessary). Lastly, I needed time to meet with the patients to discuss the results.

### Results:

The demographic, weight, BMI, and “will to change” lifestyle results were as follows:

The majority of the patient population (90 %) surveyed was female (Fig 1).

### **THE AVERAGE WEIGHT Fig 2**

The average weight for all patients surveyed was 172lb

Average weight for males only was 236lbs

Average weight for females only was 165lbs

### **THE AVERAGE AGE Fig 3**

For both men and women: 41

For males only : 40

For females only: 51

**BMI Fig 4**

For men and women: 31

For males only:33

For females only :31

**BLOOD PRESSURE Fig 5**

For men and women Systolic 120 and Diastolic 72

For males only: Systolic 132 and Diastolic 83

For females only: Systolic118 and Diastolic 71

**DO YOU CONSIDER YOURSELF OBESE? Fig 9**

Yes for men and women was 56

Yes for men only 33

Yes for females only 60

**WOULD YOU BE WILLING TO ENGAGE IN PHYSICAL EXERCISE Fig 10**

For men and women 56% yes

For men only 100% yes

For women only 48% yes

**WOULD YOU BE WILLING TO TAKE A LOWER SALT DIET? Fig 11**

For men and women 61% YES

For men only 75% YES

For women only 59% YES

**WOULD YOU REDUCE ALCOHOL CONSUMPTION? Fig 12**

For men and women 37% YES

For men only 57% YES

For females only 34% YES

#### ANALYSIS OF THE RESULTS:

Fifty six percent of the total population surveyed would be willing to engage in physical activity. 100 percent of the males were willing to engage in physical activity, while 48 percent of the females were willing to engage in physical activity (Fig. 10). Sixty one percent of the participants were willing to have a lower salt diet. Seventy five percent of males were willing to have a lower salt diet while 59 percent of females were willing to have a lower salt diet (Fig 11). Thirty seven percent of the total population was willing to limit their alcohol use. Fifty percent of males were willing to limit their alcohol use while 34 percent of females were willing to limit their alcohol use (Fig 12).

#### DISCUSSION:

Most of the patients that participated in this project were Hispanic and a majority of them were women. This project also served as an “in-house” assessment study for evaluating patients within CHC.

The average age of the patients fell in the low 40s, and females tended to be older than the males. This could be multifactorial; 1) there was a lower participation by males than females; 2) more females than males suffered from chronic disease; 3) women are more proactive about getting health treatment.

Curiously, women might be more comfortable seeing Dr. Thackeray who is female but not an OB/GYN. While men might be comfortable seeing Dr. Nyugen who is male, but they have no use for him because he is an OB/GYN. This might very well explain why there are so few men in the study sample. Women should automatically go to Dr. Nyugen since he is an OB/GYN, and Dr. Thackeray should have a high proportion of women as well because of their increased comfort with her.

The average BMI of males was slightly higher than that of females. Both were in the range of obesity, the difference being two points higher for men. A higher obesity in men could reflect the fact that men tend to eat more than women. It could also be that due to the social expectation that men should eat more than women. Alternatively, the difference in the perception of obesity among project's participants likely reflected the fact that many patients were recruited from clinics that have high rates of diabetes. The average blood pressure was not representative of hypertension in the general population, and was more or less constant among males and females. Hypertension is determined by a systolic pressure above 140 or a diastolic pressure value above 90.

One aspect of the study that is interesting is the fact that males are more willing to engage in physical activity, lose more weight, eat a low salt diet, and drink less alcohol than females. This may be due to several reasons. Males might have played sports or been more active in their childhood so that it is not a big leap for them to reengage in physical activity. On the other hand, females may be more realistic about the changes they expect to make in their lifestyle. Also, males may be more optimistic about eating and exercising than females. In Rebecca Mathew's

study on lifestyle changes in Diabetes 2 patients, “both male and female participants repeatedly voiced struggles with food restriction, moderation and integration of dietary recommendations, but dietary struggles were a much more prominent part of women’s self-care behavior<sup>8</sup>.” In addition, many of the women probably shouldered more than their fair share of parenting than men such that they had less time to workout than men.

In response to questions about self-perception regarding obesity, interestingly women considered themselves to be obese. Less men than women thought that they were obese even though more of them were in fact more so than women. This could be attributed to popular culture’s influence on the self-perception of females and males. For slight weight gain, females often tend to be considered obese while men were less scrutinized. Another factor could be that women are more proactive about their health so that they tend to notice even minor changes in their appearances.

We can draw a couple of lessons from these observations. Men need to learn and understand more about their own weight because they are frequently unaware of the levels of their obesity. Women’s sensitivity to questions of overweight status leads them to take corrective measures such as exercise and diet control. They also educate themselves about diet and exercise in addition to making more frequent visits to the doctor’s office than men do.

When I asked patients if they would like us to discuss their BMI and locate their place on the chart, they resisted. Since we were in the waiting room, their objection might have been due to fear of embarrassment or a sense of insecurity about their weight. It could also be due to a lack of scientific curiosity, wanting only to know whether or not they were obese.

### Conclusion:

In Conclusion, the purpose of this project was to make patients aware of their own medical health; aware of their lifestyle behaviors; of how small changes can greatly improve overall health; and of how patients' willingness to make these small lifestyle changes can greatly improve their health. By asking questions about lifestyle awareness, lifestyle behavior changes, and health self-perception, I was able to make conclusions on lifestyle awareness and self-perception in the community. Females have more strict self-perceptions of obesity than males, even though their recorded BMIs and blood pressure are fairly similar to males. By understanding patients and their beliefs better, we can help minimize the negative effects of diseases such as hypertension and diabetes. This preliminary study could be a stepping-stone to a more in depth study of different aspects of self-perception and patient literacy in the future.

### Recommendations:

Hypertension is a chronic disease that can be prevented or treated by lifestyle changes. Lifestyle change is influenced by awareness, and increased awareness is correlated to better blood pressure control<sup>2</sup>. So, by increasing the patients' sensitivity to and awareness of lifestyle changes, as well as how they influence health, we contribute to the stoppage of the hypertension epidemic and minimize its deleterious effects once acquired.

A good follow up to this study might include finding out more about the patient's awareness. For example, a good follow up might ask the patients if they understand diabetes. Especially for the patients who have the disease, asking questions like, "What is diabetes?" or "What is hypertension?" are very helpful in understanding their awareness. If the patient doesn't even

understand the disease that is affecting his/her health, we cannot expect them to fight against it effectively. Understanding is the first step toward solution. Regarding hypertension, a patient needs to realize that there is extra pressure on the veins and that decreasing it is very important so that the heart does not overwork. Through proper patient understanding of how to fight the disease, he/she teams up with the doctor in the battle against it.

Appendix: Lifestyle Awareness Survey

Please Check or answer all that apply.

Basic Stats :

Sex: M or F

What is your weight? \_\_\_\_\_

What is your age? \_\_\_\_\_

How tall are you? \_\_\_\_\_

What is your zip code? \_\_\_\_\_

Blood Pressure \_\_\_\_\_

Do you have any of the following \_\_\_\_\_

Heart attack \_\_\_\_\_

Coronary artery disease \_\_\_\_\_

Stroke \_\_\_\_\_

Peripheral vascular disease \_\_\_\_\_

Heart failure \_\_\_\_\_

High cholesterol \_\_\_\_\_

Kidney disease \_\_\_\_\_

Diabetes \_\_\_\_\_ Smoking \_\_\_\_\_

Does a blood relative in your family have a history of heart disease (i.e., heart attacks?) \_\_\_\_\_

Do you consider yourself to be medically obese? \_\_\_\_\_

Lifestyle Survey Questions:

Do you feel that you would be healthier if you made lifestyle changes? \_\_Yes \_\_No

If yes, are you willing to make lifestyle changes? \_\_Yes \_\_No

If yes, could you answer the following?

How much weight do you plan to lose? \_\_\_\_\_

Will you engage in regular physical activity? Yes No I already do this

Will you eat a healthy diet? Yes No I already do this

Will you eat a lower-salt diet? Yes No I already do this

Will you limit alcohol abuse? Yes No I already do this

(Based off of the American Heart Association Survey:

[http://www.heart.org/beatyourrisk/en\\_US/hbpRiskCalc.html](http://www.heart.org/beatyourrisk/en_US/hbpRiskCalc.html))

Was this survey easy to fill out? \_\_\_\_\_

## BODY MASS INDEX CHART (BMI CHART)

		WEIGHT IN POUNDS																	
		80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250
HEIGHT IN INCHES	48	24.4	27.5	30.5	33.6	36.6	39.7	42.7	45.8	48.8	51.9	54.9	58	61	64.1	67.1	70.2	73.2	76.3
	50	22.5	25.3	28.1	30.9	33.7	36.6	39.4	42.2	45	47.8	50.6	53.4	56.2	59.1	61.9	64.7	67.5	70.3
	52	20.8	23.4	26	28.6	31.2	33.8	36.4	39	41.6	44.2	46.8	49.4	52	54.6	57.2	59.8	62.4	65
	54	19.3	21.7	24.1	26.5	28.9	31.3	33.8	36.2	38.6	41	43.4	45.8	48.2	50.6	53	55.4	57.9	60.3
	56	17.9	20.2	22.4	24.7	26.9	29.1	31.4	33.6	35.9	38.1	40.4	42.6	44.8	47.1	49.3	51.6	53.8	56
	58	16.7	18.8	20.9	23	25.1	27.2	29.3	31.3	33.4	35.5	37.6	39.7	41.8	43.9	46	48.1	50.2	52.2
	60	15.6	17.6	19.5	21.5	23.4	25.4	27.3	29.3	31.2	33.2	35.2	37.1	39.1	41	43	44.9	46.9	48.8
	62	14.6	16.5	18.3	20.1	21.9	23.8	25.6	27.4	29.3	31.1	32.9	34.7	36.6	38.4	40.2	42.1	43.9	45.7
	64	13.7	15.4	17.2	18.9	20.6	22.3	24	25.7	27.5	29.2	30.9	32.6	34.3	36	37.8	39.5	41.2	42.9
	66	12.9	14.5	16.1	17.8	19.4	21	22.6	24.2	25.8	27.4	29	30.7	32.3	33.9	35.5	37.1	38.7	40.3
	68	12.2	13.7	15.2	16.7	18.2	19.8	21.3	22.8	24.3	25.8	27.4	28.9	30.4	31.9	33.4	35	36.5	38
	70	11.5	12.9	14.3	15.8	17.2	18.7	20.1	21.5	23	24.4	25.8	27.3	28.7	30.1	31.6	33	34.4	35.9
	72	10.8	12.2	13.6	14.9	16.3	17.6	19	20.3	21.7	23.1	24.4	25.8	27.1	28.5	29.8	31.2	32.5	33.9
	74	10.3	11.6	12.8	14.1	15.4	16.7	18	19.3	20.5	21.8	23.1	24.4	25.7	27	28.2	29.5	30.8	32.1
	76	9.74	11	12.2	13.4	14.6	15.8	17	18.3	19.5	20.7	21.9	23.1	24.3	25.6	26.8	28	29.2	30.4
	78	9.24	10.4	11.6	12.7	13.9	15	16.2	17.3	18.5	19.6	20.8	22	23.1	24.3	25.4	26.6	27.7	28.9
	80	8.79	9.89	11	12.1	13.2	14.3	15.4	16.5	17.6	18.7	19.8	20.9	22	23.1	24.2	25.3	26.4	27.5
	82	8.36	9.41	10.5	11.5	12.5	13.6	14.6	15.7	16.7	17.8	18.8	19.9	20.9	22	23	24	25.1	26.1
84	7.97	8.97	9.96	11	12	13	13.9	14.9	15.9	16.9	17.9	18.9	19.9	20.9	21.9	22.9	23.9	24.9	
86	7.6	8.55	9.51	10.5	11.4	12.4	13.3	14.3	15.2	16.2	17.1	18.1	19	20	20.9	21.9	22.8	23.8	

<http://www.bmicharts.net>

Optimal : 18.5 - 25    Overweight: 25.1 - 30    Obese: 30.1-40    Severely Obese: > 40.1  
 Underweight: 17.5 - 18.4    Severely Underweight < 17.5

Fig 1: BMI Chart based off of height and weight<sup>7</sup>.

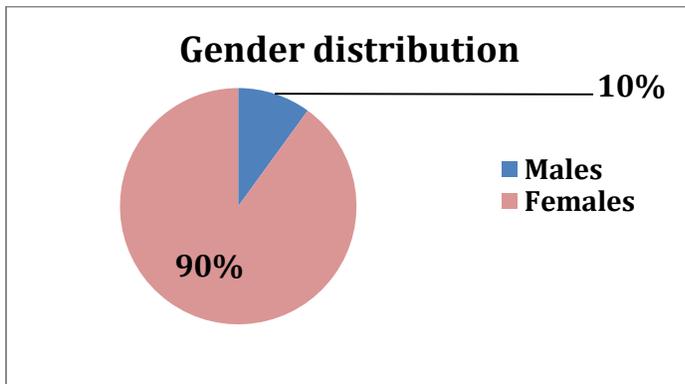


Fig 2: Gender distribution of survey population.

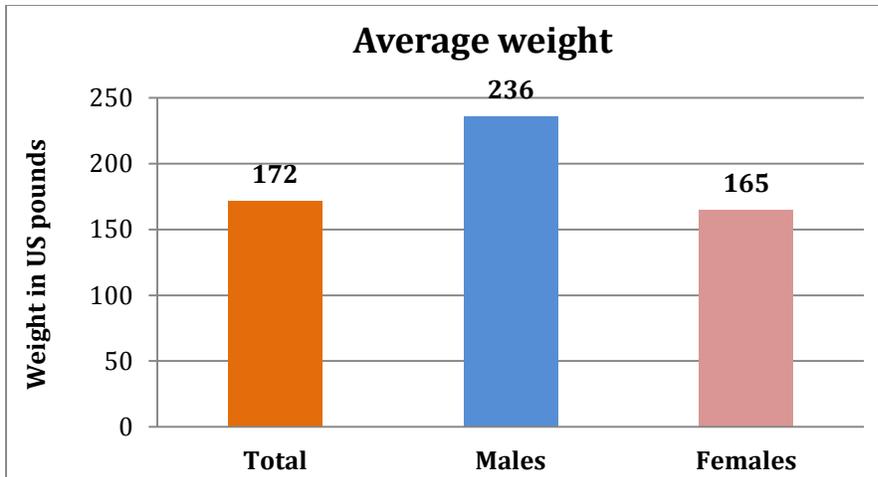


Fig 3: Average weight by sex

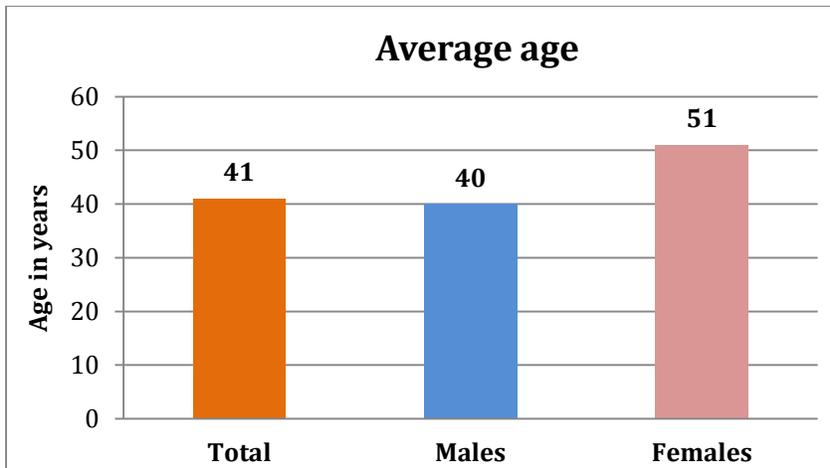


Fig 4: Average age by sex

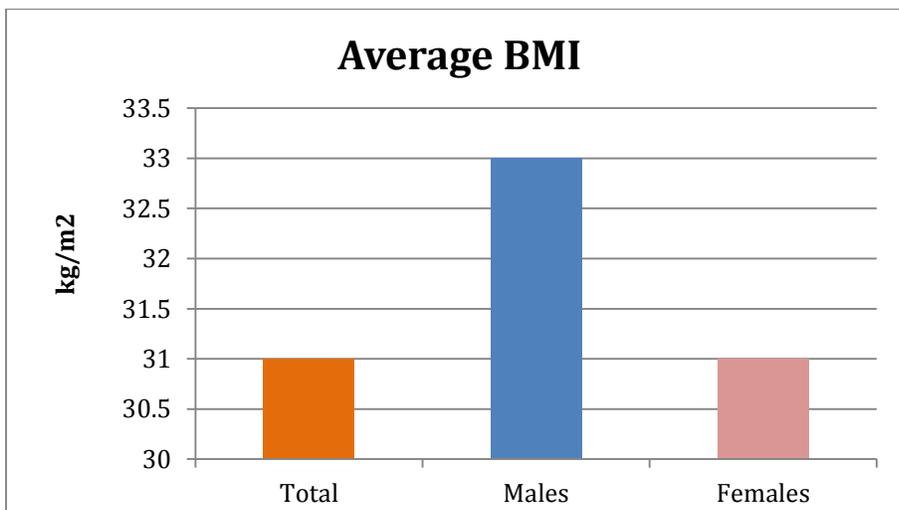


Fig 5: Average BMI by sex

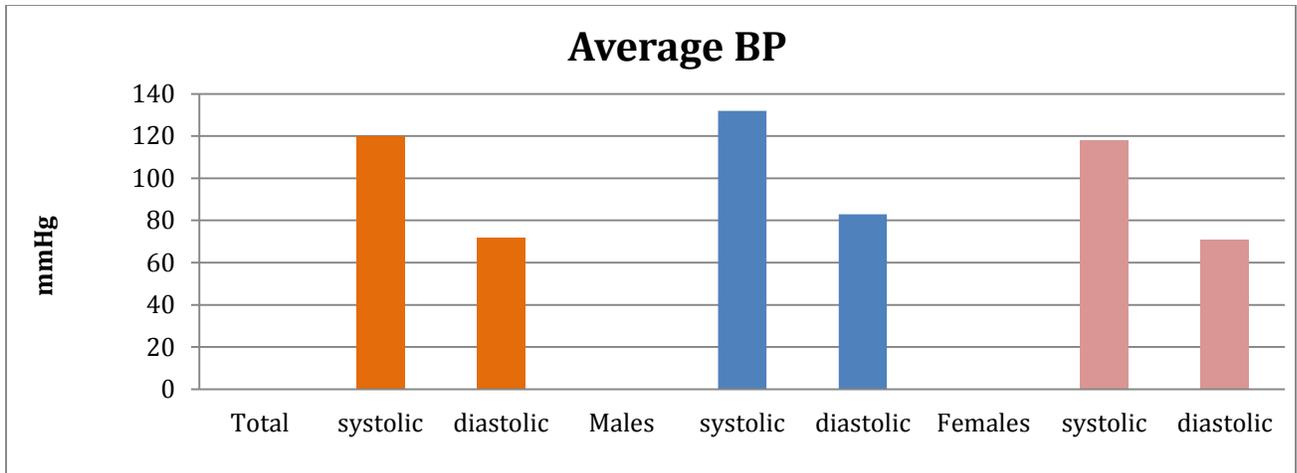


Fig 6: Average Blood pressure by sex

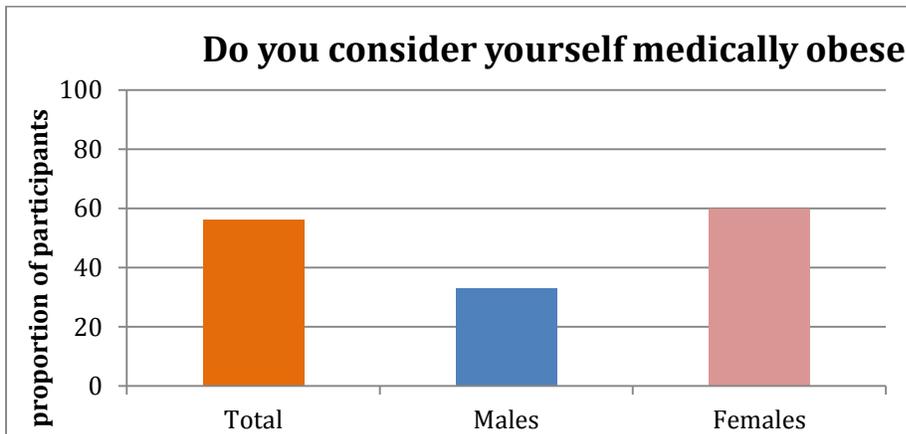


Fig 7: Consideration of obesity by medical standards

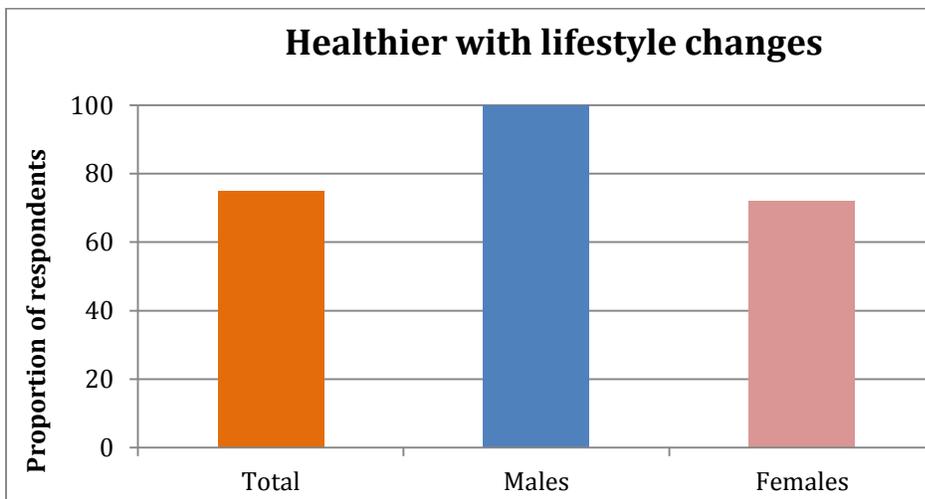


Fig 8: Beliefs on healthiness due to lifestyle changes by sex.

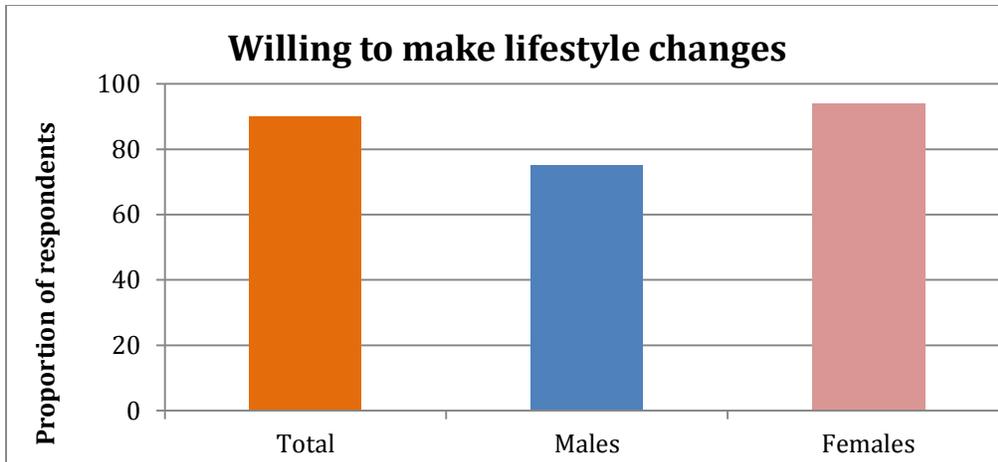


Fig 9: Willingness to make lifestyle changes based of sex

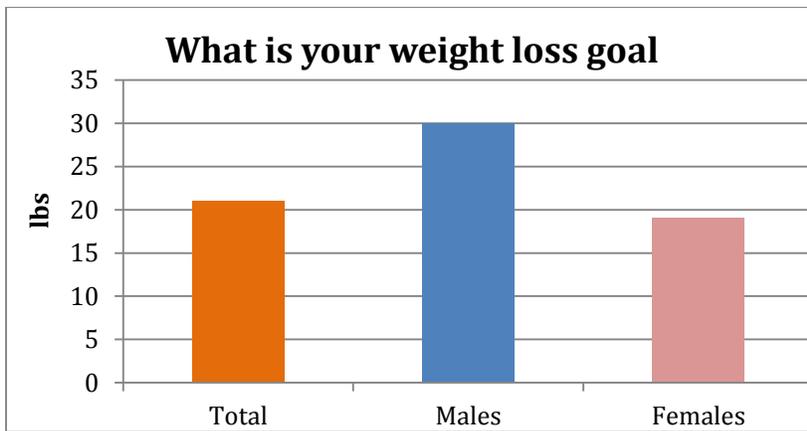


Fig 10: Weight loss goal based off of sex

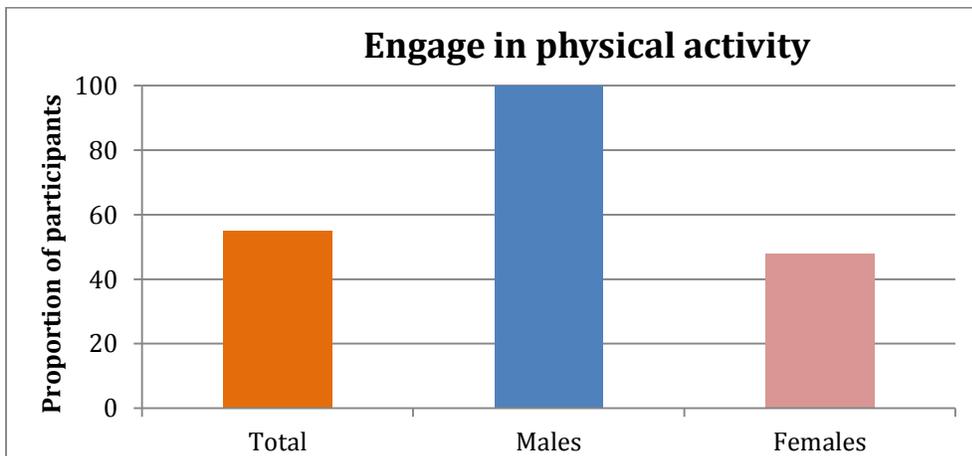


Fig 11: Willingness to engage in physical activity based off sex.

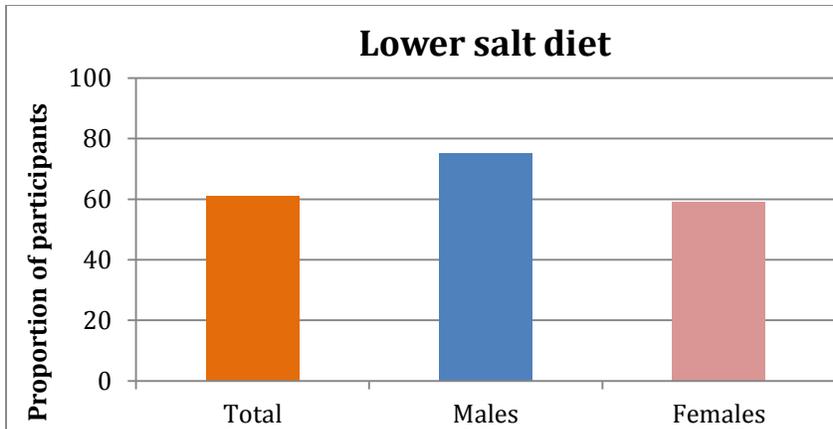


Fig 12: Willingness to eat a lower salt diet based off of sex.

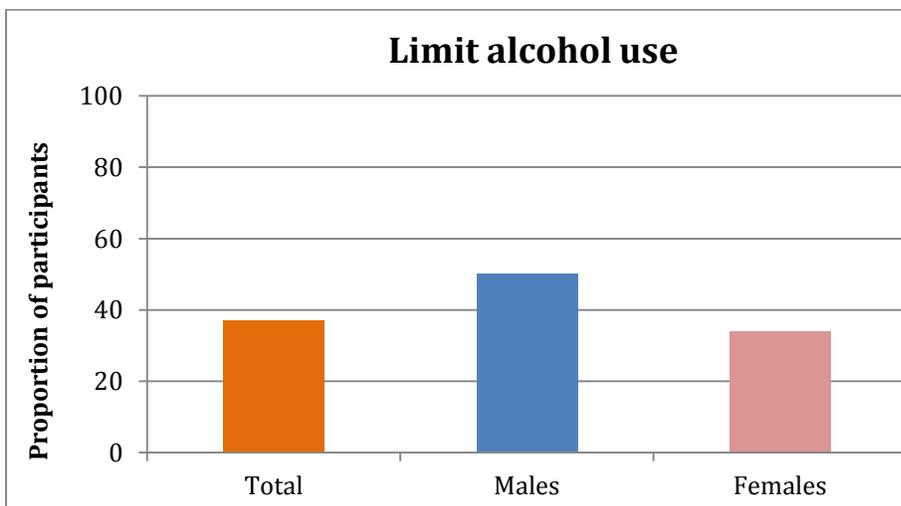


Fig 13: Willingness to limit alcohol abuse based off of sex.

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