THE DISPARITIES OF OBESITY AND AFRICAN AMERICAN WOMEN

by

Kiyia M. Harris

A Capstone Project submitted to the Graduate School-Camden Rutgers-The State University

> in partial fulfillment of the requirements for the degree of Master of Arts in Liberal Studies

under the direction of Professor Shelia Cosminsky, PHD.

Approved by: ____

Capstone Adviser

Date

Camden, New Jersey January 2011

Abstract

An increase in the prevalence of obesity amongst American women over the last several years has raised major concern from public health professionals, as well as medical and economic professionals. With that in mind, this paper will examine the different factors and their interrelationships that have been suggested as being correlated with obesity among African American women, the environment, culture and socioeconomic status. It is widely recognized that obesity increases with the lack of income and education, and more commonly impacts the lives of African American and other minority women differently than their Caucasian counterparts. This paper will also discuss why these socio-economic factors are so prevalent amongst this particular cohort.

Obesity continues to be a public health concern in the United States and throughout the world. Over seventy two million Americans are considered to be obese. It is clear that most people are aware of or have some knowledge of the health risks and discomforts of obesity. "Between 1980 and 2004, the prevalence of obesity doubled in the United States. There were no significant obesity differences that existed between women and men. Adults between forty to fifty nine years were likely to be more obese compared with older and younger individuals. There were no significant obesity differences that existed between the younger women and the oldest women (over sixty years). However, there were large disparities in obesity prevalence by race-ethnic groups among women. Non-Hispanic black and Mexican-American women were more likely to be obese than white women. Race/ethnic disparities in obesity were not observed in men" (National Center for Health Statistics, 2007).

ii

Table of Contents

Introduction	
2.0 Conclusion	
3.0 Recommendations	
4.0 Works Cited	
5.0 Bibliography	

1.0 Introduction

Although unhealthy diets and sedentary lifestyles contribute largely to the influx of obesity in America, African American women experience far more other contributors to obesity than other women. Therefore, the objective of this study is to critically explore and analyze the obesity disparities among American women, by particularly focusing on African American women. To further this study, I will also include my proposed reasons for these disparities, their adverse effects and alternative measures to be taken to counteract the disparities. This paper, which is largely based on my knowledge and observations, several personal interviews and literature reviews, examines different factors and their interrelationships that are correlated with obesity among African American women, including environmental changes, cultural beliefs and socioeconomic status.

"Obesity, according to the Obesity Society, is the most prevalent, fatal, chronic and relapsing disorder of the 21st century. Obesity is the leading cause of the United States' mortality, morbidity, disability healthcare utilization and health care costs" (The Obesity Society).

"Obesity, which is usually defined as a chronic condition defined by an excess amount of body fat. The normal amount of body fat (expressed as percentage of body fat) is between 25%-30% in women and 18%-23% in men. Women with over 30% body fat and men with over 25% body fat are considered obese" (Balentine & Mathur, Hits 2005). The excessive accumulation of adipose tissue, which consists of fat stored in the form of triglycerides, can determine the fat percentage of one's body weight and their potential for severe medical problems. Beyond the issue of morbidity and premature death, obesity often leads to social stigmas, low self-esteem and even depression.

Obesity throughout America is increasing at a tremendous rate, gaining lots of attention and making it an epidemic amongst Americans. "According to the World Health Organization (WHO), there are over one billion overweight adults worldwide, with more than thirty percent of those being obese" (WHO, 2006). Obesity, a significant health threat that is viewed as a chronic condition and is reversible, tends to affect African Americans more likely than Caucasian Americans. "The tendency of becoming obese appears to gradually occur with a higher prevalence in African American women" (Tilghman, 2003). As the prevalence of obesity increases with the lack of income and education (socio-economic status) for minorities, other obesity risk factors, such as culture, the environment, genetics and psychological issues are not irrelevant to the "obesity phenomenon" that disproportionately affects minority groups, African American women in particular. According to Nelson, et al (2008), "Although unhealthy diets and sedentary lifestyles, in addition to other factors, contribute largely to the influx of obesity in Americans, the correlation between socio-economic status and obesity is a prevalent factor amongst African American women" (Nelson, et al 2008).

According to Ogden (2009), "the obesity prevalence among America's Black women is very high compared to other subgroups. Between 2005 and 2006, 52.9 % non Hispanic black women who were above twenty years were obese as compared to the 37.2 % non Hispanic black men and a 32.9 % non Hispanic white women. The data is compared with 5.9 % of black men and 6.7 % of white women. Understanding the disparity causes will facilitate the targeting and the design of appropriate interventions"(Ogden, 2009). According to Robinson et al, (2009), "the disparity between both the black women and men is highest in those families with lowest parental educational level"(Robinson et al, 2009).

While generally conceptualized as a disease that affects people who are lazy and gluttonous, obesity can be the result of one or more factors in a person's life. There are many variables that may influence the occurrence of obesity. While poor nutrition, such as excess caloric intake, and the lack of exercise are the most common and known causes of obesity, other caveats exist such as lack of sleep, drug and alcohol usage, genetics, medical and psychiatric conditions, social detriments and infectious agents. In addition, the rising rate of obesity among Americans demonstrates the significance of understanding cultural and socio-economic characteristics that are largely correlated with obesity in Americans. However, while the statistics of obesity among Americans are apparent, the underlying cause for such a high disproportionate rate of obesity among African American women is still unresolved.

Obesity increases the risk of such diseases as heart disease, high blood pressure, cancers of the colon, breast, and prostate. Obesity is linked with an increased risk of other chronic diseases and illnesses, and has many health consequences, such as hypertension, type 2 diabetes, sleep apnea, morbidity, stroke and various cancers, that may decrease one's overall quality of life and/or ultimately lead to an early death. Obesity also has various educational, psychological, psychosocial and economical effects. "As the largest minority group in America, the Black American population exhibits some of the highest, if not the highest percentages of many chronic diseases. In 1997, the five leading causes of death among Black Americans were heart disease, cancer, cerebra-vascular diseases, accidents and diabetes"(American Cancer Society, 2000).

Consequently, obesity has been linked to such conditions of mental health as depression or feelings of low self esteem and shame. According to health experts, "losing ten to fifteen percent of the body weight can dramatically decrease the prevalence of developing such conditions. In addition, most of the people who are obese are subject to discrimination as well as targets of insults, as well verbal abuse"(Hits, 2005).

African American Women, particularly with lower incomes, are less likely to engage in higher levels of health promoting behaviors. According to Tilghman, (2003), "Women of ethnic and racial minorities are disproportionately affected by obesity. Among the African Americans, the proportion of obese women is 80% higher than the obese men proportion. In comparison with the non Hispanic white women, sixty nine per cent 69% of the African American women are either obese or overweight" (Tilghman, 2003). According to NHANES (National Health and Nutrition Examination Survey) "data II indicate that the obesity prevalence among the African American women is two times that of the European American women" (Flegal et al, 2002).

According to Tamika Shannon, an African American Nurse at Ancora Psychiatric Hospital, "Beauty is in the eye of the beholder. I am quite comfortable with my size (size 18), she adds. I am beautiful, curvaceous and healthy and that's all that matters to me. Tamika further relays, that although I would like to drop a few pounds, I am quite content the way I am and besides my man loves me. Lastly she relays that body image and media standards are superficial. There is no perfect shape or size. Someone is always going to want to be another size or have something they don't have. I say, be thankful for your blessings!"

According to Freedman et al (2005), "increase of BMI with age was larger among

the black girls than in white girls. Childhood BMI levels are associated with BMI adulthood BMI levels. However, despite the high obesity prevalence among the black women, there has not been examination of the possibility of racial differences in the childhood BMI tracking or in the BMI patterns of change throughout life. For instance, although adult obesity racial differences could result from higher obesity prevalence among the black children, it is possible also that black children with normal weight experience larger increases in BMI in adulthood than their white counterparts do. The childhood BMI tracking differs through early adulthood between blacks and whites, with 65 % white girls to 84 % black girls of children who are overweight becoming obese adults. There have been consistent study findings that show that children who are overweight are more likely to be obese in adulthood than those children who are thin. The predictive values of obesity in childhood to obesity in adulthood have ranged generally from 40 to 60 %, and the earlier observed higher estimates of 65-84 % may be a reflection of either recent adult obesity secular increases or the BMI cut off point differences which have been used to classify obesity and overweight. Weight perception differences between black and white women have been also a suggested explanation as to why black women suffer from an obesity disproportionate level compared with white women"(Freedman et al, 2005).

According to Blackburn, (2003), "there are ethnic differences in relation between the body fat percentage, BMI, and the metabolic syndrome" (Blackburn, 2003). Although African American women are believed to have slower metabolism and larger framed bodies than their white counterparts, this is not an excuse for obesity. According to Haskins & Ransford (1999), "women face discrimination overall but when they are overweight they go through a uniquely high discrimination degree. Attractiveness and thinness in women are placed highly and emphasized by our society. Historically, a great deal of effort and money has been put by American women in pursuit of personal beauty. Apparently, women's bodies determine their sexual value. However, occupational success, intelligence and personality define men's sexual attractiveness. In terms of job discrimination, obese women may be more limited to job opportunities than obese men'' (Haskins & Ransford, 1999).

"Although obesity prevalence has greatly increased in all sex-race groups over the last few decades, there have been particular striking secular trends among the black women. In addition, various longitudinal studies have shown that there are higher rates of weight gain in black women than in white women. Also during the first BMI examinations in the 1970s, white and black girls had had similar levels of BMI but the annual increase in BMI were 30-40 % larger among the black girls throughout both childhood and adulthood"(Freedman et al, 2005).

"Although an approximate of two thirds of individuals who are obese have been informed of their being overweight, its treatment is extremely difficult and obesity prevalence is not declining. Nonetheless, research has shown that, even without attaining ideal weight, a moderate amount of loss of weight can be beneficial in terms of risk factors reduction such as hypertension. However, maintenance of weight loss remains difficult"(NCHS, 2007).

Economic and social status affects health education, nutrition and weight in various ways. Quite clearly, the lack of exercise and an improper diet are implicated triggers of obesity; and are direct results of low socio-economic status, cultural behaviors and beliefs, as well as environmental changes. Therefore, I hypothesize that variables, such as environmental changes, socioeconomic status and cultural beliefs reciprocate and perpetuate the obesity outcome more so than the others in African American women. Many solidly believe that socioeconomic status is a strong indication of one's health status. With increasing affluence, social attitudes, fads and fashions, individuals tend to exert more control and constraint on what they eat, their weight and appearance. Socio-economic status has been seen as one of the most influential and common factors of obesity amongst African American women. "Socio-economic status (SES) is defined as an individual's or group's position within a hierarchical social structure. SES status depends on a combination of variables, including occupation status, educational attainment, income, affluence and place of residence," according to The New Dictionary of Cultural Literacy (Hirsch, Kett & Trefil, 2002).

According to Blanchard (2009), "the decline in the health status of women in the African-American origin has been attributed to cultural beliefs, income that is below poverty level, limited access to quality preventive health care, and racism and sexism. He also relays that 34 % of African- Americans live in poverty. Generally, the minority obese women are (10) ten times more likely to be poor with a household income of nearly \$7,000 which is less than the white women's household income. Obese African American women are perceived to be in a lower socioeconomic status due to their weight. Many African American women who are low income earners live in urban areas and due to racism and poverty they undergo high levels of stress thus making them vulnerable to obesity. Prolonged exposure to racism and poverty may result in increased feelings of depression, social withdrawal, reduction in physical activity

participation and the use of food in order to achieve an emotional comfort level"(Blanchard, 2009). Some researchers conclude that the prevalence of obesity is directly correlated with social class. Obesity is most common amongst those living in lower income households, with less education.

Blanchard (2009) continues to argue that, "the African American women with low income may alter their nutrition and diet due to food costs and the available financial resources. This results in the consumption of high calorie levels from the fatty meat which is less expensive, fewer vegetables and fruits, fewer dairy products and less dietary fiber resulting in an increase of obesity. The selection and type of food by African-American women living in urban communities is determined by the availability and access to grocery stores. Communities of low income may be limited in choices of healthier food. Due to the increased price of fresh produce, African Americans can only afford to buy convenience foods which are higher in fat, sugar and salt, have fewer minerals and vitamins and are lower in fiber" (Blanchard, 2009).

According to Salsberry & Reagan (2009), "there is an increased risk for obesity in midlife with an economic status that is disadvantaged measured during childhood and at midlife in women who are Mexican American. There is a similarity in economic effects of obesity at midlife in Mexican American and white women, although for African American women there was a difference. There were fewer economic influences on the African American women with regard to obesity at midlife, except for in the education category" (Salsberry & Reagan, 2009).

"Food consumption is also affected by the trend of the economy. With the increase in income disparities in African Americans, growth in low paying jobs, single parenthood, women with low income spend time away from home and consume foods with less fiber, higher fat content, and more calories. They also do not meet recommendations of daily diet for iron, calcium, fat and sodium. The convenient, fast, high calorie, low cost and fat meals are African American women's way of life" (Blanchard, 2009).

The tendency of becoming obese appears to gradually occur with a higher prevalence in African American women. Associations of significant inverse between obesity and income have been seen among white women who are non Hispanic, and positive significant associations have been documented in Mexican American men. The Mexican American girls and women have an increased obesity risk as compared with the non Hispanic white girls and women. Among those women aged 40-59 years, the Mexican Americans are more significantly to be obese as compared with the whites. Teenage girls who are Mexican American are more significantly likely to have high BMIs as compared to their white counterparts. Childhood BMI levels are associated with adulthood BMI levels.

Studies have suggested that there is a disparity between neighborhoods with a higher median income and higher proportions of white residents opposed to those of poorer neighborhoods with higher proportions of African American and Hispanic residents. This disparity shows that white residents have greater access to supermarkets or large chain food stores, while the residents of the poorer neighborhoods have greater access to smaller stores like corner stores and delis. Vast amounts of evidence indicate that socio-economic status is a keen indicator of health and obesity. Better health and the lack of obesity is associated with higher incomes, advanced education, prestigious

careers, as well as living in neighborhoods where residents have similar or greater socioeconomic characteristics.

In my interview with Nicole Jones, a 36 year old, African American mother of five children, who is unemployed and lives in the Stanley Holmes Village, which is one of the several public housing projects in Atlantic City, NJ, Nicole relayed that she never believed that how she looked or her weight was an issue because she knows everyone in her neighborhood and mostly everyone in her housing project have some amount of weight on them. Nicole is 5'4 and weighs roughly 230 pounds (BMI 39.5). Nicole is a high school graduate, but has never been employed because of childcare issues. Nicole also relayed that both, her mother and sister live next door to her, are also obese. As my interview with Nicole continued, she relayed that in her neighborhood most of the women are obese, however no one ever discusses weight or weight related issues. "Being big around here is natural," Nicole stated. Nicole also relayed that when someone is sick around here, it is not because they are fat, it's because these doctors around here don't like to take welfare insurance and we don't get to see the good doctors.

Culture, "is the customary beliefs, social forms and material traits of a racial, religious or social group in conjunction with the characteristic features of everyday existence shared by people in a place or time. Culture encompasses a set of shared conventions, attitudes, values, goals and practices that characterize a particular group of people, institution or organization" (Webster's New World Dictionary, 2000).

Cultural beliefs are important and in some cultures obesity is a sign of beauty, wealth and power. The incidence of obesity varies considerably amongst various populations, races, cultures and age groups. In today's society, our cultural views are attributed to our youth-based orientation and our obsession with youthfulness, vitality and leanness. Americans idealize young and attractive bodies, as reflected in our advertisements and our brutal prejudices and discrimination toward the obese.

"Our cultural traditions may even be more important than our genetic makeup. One of the things which make our country so great is all the different cultures we enjoy, but some of our cultural norms may be contributing to the overweight trend. Weight is not viewed the same way by all ethnic groups. Even individuals within the same culture do not view weight in the same manner"(Earles and Moore, 2008).

Body image is crucial to our cultural beliefs and concepts and is another key component of the surge of obesity within the African American community. One's perception and evaluation of their body appears to be highly influenced and measured by cultural and societal standards. These standards are usually set through the fashion and entertainment industries and are imaged throughout the country through the media. However in poorer communities, body image is overlooked and based on what one sees daily and believes to be the norm. For some individuals, a negative body image concept is only a phase because it can be amenable to change with weight loss, plastic or bariatric surgery. However, in my observations and experiences in African American communities, I've found that it is impossible to make an accurate generalization on the concept of body image. There is a huge discrepancy amongst this cohort when considering an individual's body image and it appears to be more reflective of one's education level and social status. My observations reflect that depending on which neighborhood in the community one lives in and the residents of that neighborhood, the ideals of body image are similar. For example, Atlantic City, New Jersey, a city

comprised of several public housing complexes and sections where private home owners live. In the neighborhoods where there is a high relevance of poverty and public housing projects, the residents tend to eat more fast food, exercise less and body image doesn't seem to be an issue for them. I believe this lack of concern with body image and ultimately their health exists for several reasons. However the most putative reason appears to be the fact that obesity tends to be the norm in these neighborhoods and they are exposed to the same conditions and display the same behaviors. I also believe that the attitude toward obesity is that it is easier to accept it than to address it. In contrast, the neighborhoods in Atlantic City that are densely populated with private homeowners and middle class residents, body image tends to be valued and more important, as is their health to the residents. These residents are more physically fit and active and are of higher educational levels and social class.

In addition to body image, black women as compared to white women seem to have an ideal body size that is large and hence do not perceive themselves to be overweight. There has been an observation of similar differences among children and a larger size of the female body is preferred among the black men and boys. These differences in culture may also be a reason as to why the inverse association between the parental status of socioeconomic and obesity in childhood is extremely weak among the blacks (Freedman et al, 2005).

Although obesity prevalence has greatly increased in African American women, the weight perception differences and body image concepts between African American and white women have also been suggested explanations as to why African American women suffer from an obesity disproportionate level compared with white women. The African American culture is more tolerable of obesity than other cultures in America; therefore there are higher rates of weight gain in African American women than in white women. African American women are taught to be self-accepting of their bodies and sizes, no matter what size or shape they are. This often conflicts with the dissatisfaction of being obese and the obese woman's appearance and weight. "Yet, in the African American community, the so-called normal body image is skewed toward the unhealthy. Studies show a strong tendency to deem larger body sizes as acceptable, particularly for women"(Reid, 2010). However, in the broader American culture, being thin is associated with other qualities, such as having a healthy body, being attractive and having a degree of control. In contrast, fat bodies are depicted as the symbol of weakness, laziness, lack of self-control and poor health.

Although some body image dissatisfaction and dieting are prevalent amongst African American women, African American women tend to experience less social pressure about their weight, tend to be more satisfied with their bodies and have fewer negative attitudes about being overweight, opposed to Caucasian women. In fact, many African American women view being obese as a part of their culture. African American women tend to be more comfortable with their array of sizes and shapes. They do not submit to the media stereotypes of body images as much as Caucasian women tend to. African American women are more accepting of their larger shapes and embrace their individual beauty and differences. African American women embrace the concept that size and shape are part of what make us unique and also fuse us, as well. As a result, far more African American women don't exercise when compared to Caucasian women. The lack of exercise by African American women has helped shape a culture in which these women have accepted unhealthy weight and deemed it the norm to be obese. According to Dr. Thaddeus Bell, MD., a family practitioner in South Carolina, "African American women of all ages report less exercise than their white counterparts. Many of them feel that it is not feminine or they're afraid to sweat because it will ruin their hairstyle. Other reported hindrances include not having childcare, not having enough time to be physically active and not feeling safe being active in the neighborhoods"(Bell). African American women have become their own worst enemies. In addition, African American men don't pressure African American women as much to fit a certain mold or to look a certain way. African American men are more accepting of African American women as they are. Caucasian men tend to be judged more by the women they are accompanied by. As a result, Caucasian men put more pressure on their women to look a certain way.

According to Shelly McDevitt, a Caucasian Atlantic City Police Officer who is a size 10, "feels that society places a high value on physical beauty and that if you want to be successful in life, looking great is part of the equation. McDevitt also relays that at times, she experiences body image dissatisfaction and is discontent with her body shape and size. McDevitt recalls that as a young child, her mother emphasized the importance of being beautiful. McDevitt said she never forgot this and processed it to mean that herself worth was based on her looks. As she got older and saw that most models and women in the commercial media were pretty, thin, white women; she bought into this concept and has struggled with bulimia for several years. In addition, she stated that she has had several plastic surgeries to have the perfect body."

"Historically, African women, who were fleshly, were viewed as having more

wealth than the average African women. They were viewed as being well endowed financially, affluent, healthy and fertile. If the women had the weight, then they had the money and the food to eat. This concept was very important, culturally, because it was the African woman who planted and supplied the food for the consumption of the family. The heavy African woman was valued and held in high esteem" (Johnson & Broadnax, 2003). Even today, some African cultures and countries amongst others, still view girth as a symbol of affluence, fertility, beauty and power. In these countries, fat women are highly praised and desired.

African American women tend to have different beliefs about food and its impact. Food is always traditionally included in and a large part of celebratory, social and cultural events. Food is even used as an emotional comforter. These traditions and beliefs about food impact the choices African Americans make when making their food selections. "The "soul food" tradition adds to the problem in some African American households. Most of the recipes are passed down from generation to generation, usually from families who originated from the southern states. There is a strong social component to this style of cooking, centered around family gatherings or opportunities for the family's matriarch to show her love for the family. However, traditional soul food is often cooked with fat, sugar and unhealthy amounts of salt that contributes to weight gain and high blood pressure. Ironically, soul food is often considered "good food," as compared to fast-food, so the perception of healthy food choices are also skewed" (Reid, 2010). The food selections usually include the traditional foods, such as fried chicken, fried fish, gravy, macaroni and cheese, candied yams and a variety of other high in fat and calorie foods. On the other hand, there are healthier food selections and substitutes that can replace

some of the traditional soul food items. For example kale and other greens, such as chard, spinach, mustard greens, broccoli and even arugula are very healthy and can be part of "soul food" meal. Candied yams can be replaced with mashed sweet potatoes and baked chicken or fish could replace fried chicken and fish. Other healthier choices can include using fat-free or light ingredients for dishes like macaroni and cheese, gravy and other high in fat and calorie dishes.

Food tends to be a common feel good remedy for some African American women who may be experiencing depression and insecurities about their appearances as a result of social pressures that suggest straight hair, lighter colored eyes and skin and smaller waists, as the desired beauty.

As per my personal interview with Jameca T. Kidd, an African American (5 foot tall, full hip, size 14) 5th grade teacher at Martin Luther King, Jr. Complex, she says, "Being full-figured is not a sign of ugliness or shame. For me it is a sign of power, beauty and strength. I take pride in being a full-figured American woman of African descent. My ancestors, some of whom were slaves, were full-figured and voluptuous women as well. They ate all the traditional soul food items and enjoyed the food they ate, and still were strong and healthy for the most part. There is a certain respect I receive when I enter a room, a sort of command presence. I know society says thin is in and people are obsessed with thinness and sexual appeal, but I am not. I am proud of the skin I am in. It's no wonder that most people struggle with body-image dissatisfaction and so many young girls and women suffer from eating disorders. Just because I have a little weight on me, doesn't mean that I am unhealthy. I exercise and I eat right and by no means do I want to be skinny. I am proud of my racial and cultural histories and I wouldn't

change my body for the world."

According to Johnson and Broadnax (2003), "in an unpublished interview regarding obesity and African-American women conducted with African-American men (ages ranging from 45-65) in July 2002, the men all agreed that "real" Black men love their women between sizes 14-20. Being large or voluptuous is viewed as a tremendous asset. Having a full figure and being of substantive size in all the right places was an asset which all of the men interviewed expressed immense pleasure. The men heartily agreed that they would be proud to have such a woman on their arm. For the African-American woman, this concept held by men becomes a serious dilemma. Being large according to the media is not valued but being a large African American woman is viewed as an asset by those whose opinion matters the most to us"(Johnson and Broadnax, 2003).

Tim Jones, an African American male Physical Education Instructor at the Atlantic City High School, relayed to me in a personal interview that "African American women come in all shapes and sizes and they all have an individual and unique beauty with them. He claims that although he feels physical beauty is a plus; he is more attracted to a woman's personality and confidence. If she is a size 12, curvaceous and confident woman, there is a strong possibility that she is going to grab my attention. I don't particularly like skinny women. I like for a woman to have a little meat on her bones, something I can hold on to. I love all women, all shapes and sizes. He also relayed that he feels African American women are more comfortable with their appearances than their white counterparts. Jones states that, white girls grow up more self conscious about their size, opposed to black girls. He feels that white girls and women are more obsessed with their body image because of their desires to be seen as attractive and socially accepted." Environment also plays a major role in both adult and childhood obesity. "The environment, which encompasses all conditions, circumstances and influences surrounding and effecting the development of an organism or group of organisms" (Webster's New World Dictionary, 2000).

The lack of quality Supermarkets, known as "food deserts," and the influx of fast food restaurants in the lower economic, African American communities are contributing factors to the environmental component of the obesity epidemic amongst African Americans. "The term "food deserts" describes neighborhoods and communities that have limited access to affordable and nutritious foods. In the United States, food deserts tend to be located in urban and rural low-income neighborhoods, where residents are less likely to have access to supermarkets or grocery stores that provide healthy food choices" (Mulligan, Tsai and Whitacre, 2009). There are so many fast food restaurants in poor and low-income communities, especially African American communities, because the people in these communities can afford to purchase these low grades food items. This is why there is a significant amount of fast food restaurant chains, Chinese Food stores and corner store delis in the poverty-stricken and lower-economic communities. These establishments serve the most unhealthy, chemical-induced and high in fat and calorie meals. In addition, Supermarkets within these communities have poor quality and selection of food items.

In an interview with Larry Jewels, a 35 year old African American male, who lives in the Back Maryland (Public Housing) section of Atlantic City, he relayed that he is forced to eat fast food more often than not because there is no supermarket in Atlantic City. However, there are various fast food restaurant chains and convenience stores accessible to him and the many other residents in this area. Larry relays that he cannot cook good food at home because he can only make a once-a-month trip to the supermarket, which is in Ventnor, the next city over. Larry also relayed that he can't wait to get a job so that he can change his living conditions and have money to buy a car, so he can go to the supermarket whenever he needs to buy food because he is tired of eating fast food.

While Atlantic City, New Jersey isn't the only city experiencing the "food desert" phenomenon, larger cities such as Philadelphia, Pennsylvania for example are also experiencing the pains of food deserts, which are also linked to Philadelphia's significantly increasing obesity rate. Philadelphia, Pennsylvania more commonly called "Philly" is known as the "City of brotherly love" and is the largest city in Pennsylvania. According to the U.S. Census Bureau, "Philadelphia County, where Philadelphia the sixth-most populous city in the United States is located, had an estimated population of 1,547,297 residents in 2009, of which 43.7 % were African American and 23.8% persons living below poverty"(Census, 2009).

Philadelphia is a city rich in culture and diverse in ethnicity. Philadelphia also has a history of education and commercialism, and is the home to many famous attractions. While primarily comprised of residential neighborhoods and business districts, Philadelphia has a hovering cloud of poverty that lingers over various neighborhoods and contributes largely to the city's low socio-economic status, crime, medical conditions and obesity rates. As the boom in foreclosures and job loss continues at a rapid pace and more and more African American families in Philadelphia fall deeper into economic hardship, socio-economic levels decrease and obesity levels increase. According to The Deputy Mayor for Health and Opportunity, Donald Schwarz, "Philadelphia has the highest obesity rate of America's 10 largest cities. Put bluntly, Philly's adults and kids are among the nation's fattest - a condition often born of poverty and lack of access to healthy food. And the extra pounds can have dire consequences. Almost a third of the city's adults are obese. That means that they have excess body fat, which increases the risk of serious health conditions such as heart disease, diabetes and certain cancers. A whopping 57 percent of children in the city are obese or overweight" (Lucey, 2010).

In Philadelphia, as in other urban lower-income neighborhoods, fresh fruits and vegetables are a rarity. Small corner stores sell processed and packaged foods that are easy to make, however they are high in fat and lack important nutritional values. While corner stores and the food items sold in the stores are not of the best choices, for some people they are the only choice. These limited choices in food selection are a result of no major chain grocery stores in these neighborhoods. Larger grocery stores offer a variety of healthy selections and enable residents to make wiser choices for consumption.

"A 2004 report in the "Food for Every Child" series by the Food Trust in Philadelphia notes the city has the second-lowest per-capita number of supermarkets nationwide. Based on a 1995 study of 21 metro areas by the Public Voice for Food and Health Policy, the report says Philadelphia has 70 too few supermarkets to serve the city's low-income communities. In a 2004 survey of more than 10,000 Philadelphia households, the Food Trust found that more than 30 percent of African Americans reported fair- or poor-quality grocery access, compared to 24 percent of Latinos, 15 percent of Asians, and 11 percent of whites. At that time, about 71,000 Philadelphians reported having a hard time finding fresh produce in their neighborhood, according to the Food Trust. It is not surprising that lower-income residents in the grocery-deprived areas were also significantly more likely to eat takeout or fast food more than three times a week" (Lydersen, 2008).

"Between 2000 and 2001, obesity increased from 19.8 percent of American adults to 20.9 percent of American adults" (CDC, 2002). In the United States, obesity as a disease affects approximately sixty million people, where women are the most affected. More than a third of women who are between the ages of 20-74 are obese. The majority of these women are African American or Mexican-American women.

Changes in the environment are another possible reason for the influx of obesity among African American women, based on my research. "The built environment, which consists of human-made factors, including the characteristics, placement and distributions of residences, neighborhoods, and metropolitan areas. Modern urban planning and public health had common beginnings in the 19 century urban reform movements that sought to mitigate the impacts of immigrants, urbanization and industrialization" (Lopez, 2007).

Declining number or lack of supermarkets in inner cities and lower socioeconomic communities is a great factor in the increasing rate of obesity amongst African American women. "Research suggests that the accessibility of affordable, high quality food is associated with better diets and nutrition" (Morland, Wing & Diez, 2002).

Poorer neighborhoods and communities usually have lower end markets, which are privately owned, have limited business hours, as well as very limited food selections. These corner stores or neighborhood markets have a limited variety of fresh vegetables and fruits, if any. And when fresh fruits and vegetables are available, they are more expensive and often are of a poorer quality. Most food items sold in these markets are canned, boxed, frozen and/or highly processed. Highly processed foods are nutrient-poor, with excessive salt, sugar, and harmful fats and are a key ingredient for obesity. Although these foods are less costly, they do not meet the required nutritional values.

For example, "African American in Chicago are the most disadvantaged when it comes to balanced food choices, although other racial groups do suffer as well. African Americans, on average, travel the farthest distance to any type of grocery store, and their low access communities cluster strikingly" (Gallagher, 2010).

"Access to and availability of grocery stores also determine the type and selection of food for African Americans living in urban communities. Healthier food choices may be limited in low-income communities. Because the larger grocery stores may be charged more for rent and insurance because of high crime rates, they are often located further away from African American communities. Therefore, small neighborhood stores may charge more for lower quality food items and have limited selection, low sales volume and higher consumer cost" (Blocker & Freudenberg, 2001). As a result, fast foods become a more reasonable and cost effective choice for these residents.

2.0 Conclusion

The recent obesity increase has various possible reasons, which all tend to be very valid. With this in mind, I propose that obesity is most likely a result of lower socioeconomic status, cultural behavioral and poor and unhealthy environmental changes, which are more prevalent among African American women and their communities. The per capita food energy availability has increased since 1970, the frequency of taking meals away from home, and the availability of food that has been processed. There have been findings by some analyses that African American girls as compared with white girls have a higher intake of mean energy and obtain most of their calories from fat. Emphasis on the physical activity role and the most striking frequency decline in physical activities has been among African American women. Several interrelated behaviors also contribute to obesity prevalence. For instance, television viewing has been associated with increased body weights possibly because of the advertisement influence on the consumption of foods with high fats and since television viewing leads to reduction of frequent active recreation forms.

Obesity is the increase in body fat. Obesity is a very costly disease. Obese people have to pay more for their clothing and they spend more money on larger quantities of food. In addition, medications for obese people are extremely expensive. And most obese people have additional health illnesses that need to be treated with medication as well, only adding to their medication costs. "Obesity is a major cause of morbidity and mortality amongst Americans. It is estimated that 300,000 adults die from causes related to obesity each year" (Mokdad, 2001). A person who is overweight has excess amount of weight which includes water, fat, muscle and bone whereas as an obese person is one with excess body fat. According to most professionals, an obese man is one with more than 25% of body fat whereas an obese woman is one with more than 30% of body fat. Physiologically, women have more of body fat than men. More than a third of women who are between the ages of 20-74 in America are obese. The majority of these women are African American or Mexican-American women.

Women of ethnic and racial minorities are disproportionately affected by obesity. Among the African Americans, the proportion of obese women is 80% higher than the obese men proportion. The obesity prevalence among the America's black women is very high compared to other subgroups. Teenage African American girls who are not Hispanic suffer from the highest BMI prevalence. The disparity relation between obesity and education between young black women and men may explain also other disparities like those shown between older black women and men, non Hispanic black women and white women, or those between non Hispanic white women and Mexican -American women. "Recent data show racial and ethnic obesity disparities for women but not for men. Non-Hispanic black and Mexican-American women were more likely to be obese than non-Hispanic white women" (National Center for Health Statistics, 2007).

An increase of BMI with age is larger among the African American girls than in white girls. The childhood BMI tracking differs through early adulthood between blacks and whites, with 65 % white girls to 84 % black girls of children who are overweight becoming obese adults. During the first BMI examinations in the 1970s, white and black girls had had similar levels of BMI but the annual increase in BMI was 30-40 % larger among the black girls throughout both childhood and adulthood.

Women face discrimination overall but when they are overweight they go through a uniquely high discrimination degree. Apparently, women's bodies determine their sexual value. African American girls as compared with white girls have a higher intake of mean energy and obtain most of their calories from fat. African American women as compared to white women seem to have an ideal body size that is large and hence do not perceive themselves to be overweight. As a result of the acceptance in body size diversity, African American women seem to face less pressure to be thin than their white counterparts and tend to be less self-conscious about how much they weigh. As we can see, there are a collage of factors that are relevant to the influx of obesity in the American people. However, when studying the relevance of obesity amongst African American women, some contributing factors of obesity are more prevalent amongst this cohort. The Centers for Disease Control and Prevention relays, "Although eating too much junk food, fast food and not exercising contribute to the rise of obesity, there are other factors, such as energy imbalance, calorie consumption, calories used, environment and also genetics, linked to obesity" (Centers for Disease Control & Prevention, 2006).

There are several life threatening health risks associated with obesity and being overweight, particularly for African American women. Obese African American women experience higher rates of infertility, hypertension, cancer, heart disease and stroke, just to name a few. With these higher statistics of disease and mortality, much needs to be done to educate African American women on the issue of obesity, which in turn will decrease and / or eradicate these statistics. Individuals, families, churches, schools, communities and the government must all come together with the intention of slowing the progress of this tragic and wide spread epidemic.

3.0 Recommendations

In order to curb the obesity disparities, especially amongst the African American women in America, some recommendations include:

 Education: African American women should become more educated on the importance of their health, the negative effects of obesity and the benefits of good nutrition and exercise. "The affected women, especially obese black women should participate in a weight loss program that is culturally adapted to facilitate weight reduction" (Stolley et al, 2008). Individuals should schedule and attend regular doctor visits and keep up on annual physicals, testing and nutritional updates, in addition to setting healthy and realistic goals.

- 2. Cultural Awareness and Changes Understanding and changing belief systems, traditions and behaviors Know and understand the difference between healthy and unhealthy behaviors and habits. Learn and practice healthy habits. Culturalize diet, exercise and other weight management programs -Incorporate cultural aspects into diet and physical fitness programs; Incorporate Church culture / Incorporate healthy family meals & gatherings, "healthy & soul" food dinners each member bring a healthy dish.
- 3. Identify Barriers Learn about and understand social pressures and ambivalenceconcepts that make it hard for African American women to make decisions to change unhealthy behaviors. Coexisting and conflicting attitudes and feelings need to be addressed, by understanding and accepting that these feelings are normal, highlighting the pros and recognizing African American Women's goals.
- 4. Nutritional Changes: Understanding basic nutrition is critical. This involves avoidance of processed, fast, and fatty foods and consumption of a diet that is rich in fresh fruits, vegetables and lean meats to help maintain energy levels for the day without unnecessary calories addition or other compounds into the body.
- 5. Stimulants and alcohol should also be avoided. In addition, portion control should be incorporated. Individuals should change the amount of food consumed in one sitting. Water intake should be incorporated and / or increased as well.
- 6. Exercise: It is among the most effective means to reduce obesity naturally. This

is also effective even with genetic dispositions. It is recommended for at least one hundred and fifty minutes of intense exercise per week. These may include swimming, speed walking, riding and other sporting and / or extra-curricular activities that keep the body and the feet in motion. If there are no facilities in the community, organize group / neighborhood walks, activities, etc. Establish volunteers for fitness programs.

- 7. Supplements Psyllium Seeds, other Multi-Vitamins and Minerals: These are used to limit the amount of calorie intake and the food consumed. Psyllium seeds expand in the stomach when consumed to create a sensation of being full. Vitamins and minerals help the body to function at its best and ward off deficiencies.
- Community Education and Support Community Nutritionist, supervised weight loss programs with incentives, workshops, health fairs, videos and group discussions. Develop counseling programs, free health screenings and checkups. Establish support groups and non-profit organizations, which can be ran by volunteers.
- 9. Environmental / Community Redevelopment Safer neighborhoods, community policing, accessible bike and walking paths, sidewalks and crosswalks. Community and neighborhood stores can stock and carry healthier food selections and include fresh fruit and vegetables. Community gardens are another way that people can use empty lots and other neighborhood areas to plant vegetables and fruits, giving them access to cheaper and healthier foods. Community gardens also provide job and volunteer opportunities, neighborhood beautification and

improvement, provide a sense of community and can decrease living costs for residents. For example, community gardens have been on the rise is urban cities such as Philadelphia, Trenton and also Camden. According to Virginia A. Smith's article, Camden's Surge in Community Gardening, "Community gardens have more than doubled in Camden-to 80-plus-over the last two years, making this 10-square-mile city a leader in food production locally and possibly, beyond. The city's surprising green surge also provides residents with much-needed fresh food, which itself is a tool for fighting one of Camden's most intractable health problems- child obesity"(Smith, 2010).

10. Governmental Changes – Federal and local governments can put in place stricter regulations on Fast Food restaurants and their products, as well as advertisements and promotional strategies. Also zoning laws and economic incentives and disincentives such as food subsidies and / or taxation. Establish community watch groups who will be proactive in educating and combating obesity. Open new and restore community supermarkets. Open farmer markets that focus on fresh fruits and vegetables. Form community partnerships with local government, health department, school districts, religious organizations, business owners and community residents.

These life changing recommendations will only prove successful if they are utilized and incorporated into one's daily life. One should allow their self time to adapt to and work on these issues and don't expect results overnight. With the growing acknowledgment of the obesity epidemic and the disproportionate numbers of African American women identified as being obese, hopefully this prevalence will require more research and studies into the large influx. And hopefully, these steps will be a starting point for many African American women in leading a longer and healthier lifestyle.

4.0 Works Cited

American Cancer Society. Cancer Facts and Figures for African Americans, 2000.

- Balentine, J.R., & Mathur, R, MD. Obesity. Retrieved on May 13, 2010 from: http://www.medicinenet.com/obesity_weight_loss/article.htm.
- Bell, T., MD. Online interview for ICYOU.com. Retrieved on May 13, 2010 from:
- Benjamin, C. Personal Interview. 22 March 2010.
- Blackburn, G. L. (2003). National Health and Nutrition Examination Survey: where nutrition meets medicine for the benefit of health: *American Journal of clinical Nutrition*.78 (2), 197-198.
- Blanchard, S. A. (2009). Variables associated with Obesity among AFRICAN-American Women in Omaha: *American Journal of occupational therapy*. 63, 58-68.
- Blocker, D. E. & Freudenberg, N. (2001). Developing Comprehensive Approaches to Prevention & Control of Obesity Among Low-Income, Urban, African American Women. Journal of the American Medical Women's Association, 56, 59-64.
- Broadnax, P.A. & Johnson, R.W. (2003). A Persepective on Obesity: Association of Black Nursing Faculty Journal. 69 & 70, May/June 2003.
- Census Bureau. (2009). 2009 Census. Retrieved on September 1, 2010 from http://www.quickfacts.census.gov/qfd/states/42/4260000.html.
- Centers for Disease Control -CDC. (2002). Overweight and Obesity: Obesity Trends Among Adults – 1985-2001. National Center for Chronic Disease Prevention and Health Promotion. Retrieved on May 21, 2010 from http://www.cdc.gov.
- Centers for Disease Control -CDC. (2006). Overweight and Obesity: Contributing Factors – 22 March 2006. National Center for Chronic Disease Prevention and Health Promotion. Retrieved on May 28, 2010 from http://www.cdc.gov/nccdphp/dnpa/obesity/contributing_factors.htm.
- Earles, K. & Moore, S. Scale Back: Why Childhood Obesity is not Just About Weight (2008). Hilton Publishing.
- Flegal, Km et al (2002). Prevalence and trends in obesity among US adults, 1999-2000: JAMA. 288 (14, 1723-1727).
- Fletcher, G & Grundy, Scott & Hayman, L (1999) "Obesity: impact on cardiovascular disease"Armonk, NY": Futura Publishing Co, Inc.

- Freedman, D. S. (2005). Racial Differences in the tracking of childhood BMI to adulthood: Obesity Research. 13, 928-935.
- Gallagher, M. Examining the Imapact of Food Deserts on Public Health in Chicago. Retrieved on May 13, 2010 from: <u>http://asap.sustainability.uiuc.edu/members/sagra/LaSalleBank_FoodDesert_Exec</u> Summary.pdf/view
- Haskins, K. & Ransford, E. (1999). The relationship between weight and career payoffs Among women: Sociological Forum. 14(2), 295-318.
- Hirsch, E. D., Kett, J. F. & Trefil, J. (Eds.) (2002). The New Dictionary of Cultural Literacy. Boston: Houghton Mifflin Company.
- Hits, L. (2005). Obesity in America-The Growing Epidemic. Retrieved on May 13, 2010 from: <u>http://ezinearticles.com/?Obesity-in-America---The-GrowingEpidemic!&id=7567</u>
- Jewels, L. Personal Interview. 1 September 2010.
- Jones, N. Personal Interview. 29 August 2010.
- Jones, T. Personal Interview. 22 March 2010.
- Kidd, J. Personal Interview. 21 March 2010.
- Lopez, R. P. (2007). Neighborhood Risk Factors for Obesity. Obesity: Vol. 15, No. 8, August 2007.
- Lucey, C. Philadelphia Daily News, Philly Flab; April 7, 2010. Retrieved on September 1, 2010 from: http://www.philly.com/philly/news/20100407_PHILLY_FLAB.html.
- Lydersen, K. (2008). Making Food Deserts Bloom, June 23, 2008. Retrieved on September 16, 2010 from: http://www.shelterforce.org/article/984/making_food_deserts_bloom/.
- McDevitt, S. Personal Interview. 22 March 2010.
- Mokdad, A.H., Bowman, B.A., Ford, E.S., Vinicor, F., Marks, J.S., Koplan, J.P. (2001). The Continuing Epidemics of Obesity and Diabetes in the United States. The Journal of the American Medical Association, 286 (10), 1195-1200.
- Mulligan, J., Tsai, P. & Whitacre, P. The Public Health Effects of Food Deserts: Workshop Summary, 2009. The National Academies Press. Washington, DC.

- National Center for Health Statistics CDC Public Health Service. Health, United States, 1998, with Socioeconomic Status and Health Chartbook. Hyattsville, MD; 1998.
- National Center for Health Statistics NCHS (2007) NCHS Data Brief, No. 1, Obesity Among Adults in the United States. Retrieved on May 14, 2010 from: http://www.cdc.gov/nchs/data/databriefs/db01.pdf
- Nelson, M. C et al. (2008). Emerging adulthood and college-aged Youth: An Overlooked Age for Weight-related Behavior Change. 16 (10), 2205-2211.
- Ogden, C. L .(2009). Disparities in obesity prevalence in the United States: Black women at risk: American Journal of Clinical Nutrition. 89 (4), 1001-1002.
- Reid, T.G. (2010). How Obesity Has Become a Part of Black Culture. Retrieved on June 28, 2010 from: http://www.thegrio.com/specials/be-well-behealthy/how-obesity-has-become-a-part-of-black-culture.php
- Robinson, W. R et al (2009). The female-male disparity in obesity prevalence among Black American young adults: contributions of sociodemographic characteristics of the childhood family: American Journal of Clinical Nutrition.89 (4), 1204-1212.
- Salsberry, P. J & Reagan, P. B (2009). Comparing the Influence of Childhood and Adult Economic Status on Midlife Obesity in Mexican American, White and African American Women: Public Health Nursing. 26 (1), 14-22.
- Shannon, T. Personal Interview. 21 March 2010.
- Simon & Schuster, Inc. Webster's New World Dictionary of American English, 3rd Edition, 1988.
- Smith, V.A. (2010). Camden's Surge in Community Gardening. Retrieved on October 12, 2010 from: <u>http://www.Philly.com/inquirer/front_page/20101012_Camden_s_surge_in_</u> community_gardening.html?viewAll=y.
- Stolley, MR et al (2008). Obesity Reduction Black Interventional Trial (ORBIT): six-Month results. 17 (1), 100-106.
- Tilghman, J. (2003). Obesity and diabetes in African American Women: Association of Black Nursing Faculty Journal. 66-68, May/June 2003. Retrieved on May 13, 2010 from: http://findarticles.com/p/articles/mi_m0MJT/is_3_14/ai_103380683/.
- World Health Organization (WHO), (2006). Obesity and Overweight Geneva. Retrieved on March 12, 2010 from: http://www.who.int/mediacentre/factsheets/fs311/en/.

5.0 Bibliography

- Bacon, L. (2008). Health at Every Size: The Surprising Truth About Your Weight. Texas: BenBella Books, Inc.
- Balentine, J.R., & Mathur, R, MD. Obesity. Retrieved on May 13, 2010 from: http://www.medicinenet.com/obesity_weight_loss/article.htm.
- Berg, F. (1999). Women Afraid to Eat: Breaking Free in Today's Weight-Obsessed World. Hettinger, ND: Healthy Weight Network.
- Berg, F. (n.d.). Are weight categories set too low? Retrieved from Healthy Weight Network: http://www.healthyweightnetwork.com/cntrovsy.htm#3
- Berg, F. (n.d.). Flegal research confronts health risk claims. Retrieved from Healthy Weight Network: http://www.healthyweightnetwork.com/cntrovsy.htm#2
- Blackburn, G. L. (2003). National Health and Nutrition Examination Survey: where Nutrition meets medicine for the benefit of health: American Journal of clinical Nutrition.78 (2), 197-198.
- Blanchard, S. A. (2009). Variables associated with Obesity among AFRICAN-American women in Omaha: American Journal of occupational therapy. 63, 58-68.
- Boston Women's Health Book Collective (1973). Our Bodies, Ourselves: A Book By And For Women. Massachusetts: Simon & Schuster.
- Brach, T. (2004). Radical Acceptance: Embracing Your Life With the Heart of a Buddha. New York: Bantam Books.
- Broadnax, P.A. & Johnson, R.W. (2003). A Persepective on Obesity: Association of Black Nursing Faculty Journal. 69 & 70, May/June 2003.
- Census Bureau. (2009). 2009 Census. Retrieved on September 1, 2010 from http://www.quickfacts.census.gov/qfd/states/42/4260000.html.
- Centers for Disease Control -CDC. (2002). Overweight and Obesity: Obesity Trends Among Adults – 1985-2001. National Center for Chronic Disease Prevention and Health Promotion. Retrieved on May 21, 2010 from http://www.cdc.gov.
- Flegal, Km et al (2002). Prevalence and trends in obesity among US adults, 1999-2000: JAMA. 288 (14, 1723-1727).
- Fletcher, G & Grundy, Scott & Hayman, L (1999) "Obesity: impact on cardiovascular disease" Armonk, NY": Futura Publishing Co, Inc.

- Freedman, D. S. (2005). Racial Differences in the tracking of childhood BMI to adulthood: Obesity research. 13, 928-935.
- Haskins, K. & Ransford, E. (1999). The relationship between weight and career payoffs Among women: Sociological Forum. 14(2), 295-318.
- Hirsch, E. D., Kett, J. F. & Trefil, J. (Eds.) (2002). The New Dictionary of Cultural Literacy. Boston: Houghton Mifflin Company.
- Hirschmann, J. & Munter, C. (1997). When Women Stop Hating Their Bodies. New York: Ballantine Books.
- Hits, L. (2005). Obesity in America-The Growing Epidemic. Retrieved on May 13, 2010 from: <u>http://ezinearticles.com/?Obesity-in-America---The-Growing</u> <u>Epidemic!&id=7567</u>
- Jewels, L. Personal Interview. 1 September 2010.
- Jones, N. Personal Interview. 29 August 2010.
- Jones, T. Personal Interview. 22 March 2010.
- Kidd, J. Personal Interview. 21 March 2010.
- Lopez, R. P. (2007). Neighborhood Risk Factors for Obesity. Obesity: Vol. 15, No. 8, August 2007.
- Lucey, C. Philadelphia Daily News, Philly Flab; April 7, 2010. Retrieved on September 1, 2010 from: http://www.philly.com/philly/news/20100407_PHILLY_FLAB.html.
- Lydersen, K. (2008). Making Food Deserts Bloom, June 23, 2008. Retrieved on September 16, 2010 from: http://www.shelterforce.org/article/984/making_food_deserts_bloom/.
- McDevitt, S. Personal Interview. 22 March 2010.
- Mokdad, A.H., Bowman, B.A., Ford, E.S., Vinicor, F., Marks, J.S., Koplan, J.P. (2001). The Continuing Epidemics of Obesity and Diabetes in the United States. The Journal of the American Medical Association, 286 (10), 1195-1200.
- National Center for Health Statistics CDC Public Health Service. Health, United States, 1998, with Socioeconomic Status and Health Chartbook. Hyattsville, MD; 1998.

- National Center for Health Statistics NCHS (2007) NCHS Data Brief, No. 1, Obesity Among Adults in the United States. Retrieved on May 14, 2010 from: http://www.cdc.gov/nchs/data/databriefs/db01.pdf
- Nelson, M. C et al. (2008). Emerging adulthood and college-aged Youth: An Overlooked Age for Weight-related Behavior Change. 16 (10), 2205-2211.
- Ogden, C. L .(2009). Disparities in obesity prevalence in the United States: Black women at risk: American Journal of Clinical Nutrition. 89 (4), 1001-1002.
- Oliver, J.E. (2006). Fat politics: The real story about behind America's obesity epidemic. New York: Oxford University Press, Inc.
- Riordan, K. (2010). Community Gardening Flourishes in Camden. Retrieved on October 12, 2010 from: http://www.Philly.com/philly/news/new_jersey/100009424.html.
- Robinson, W. R et al (2009). The female-male disparity in obesity prevalence among Black American young adults: contributions of socio-demographic characteristics of the childhood family: American Journal of Clinical Nutrition.89 (4), 1204-1212.
- Salsberry, P. J & Reagan, P. B (2009). Comparing the Influence of Childhood and Adult Economic Status on Midlife Obesity in Mexican American, White and African American Women: Public Health Nursing. 26 (1), 14-22.

Shannon, T. Personal Interview. 21 March 2010.

Smith, V.A. (2010). Camden's Surge in Community Gardening. Retrieved on October 12, 2010

from:

http://www.Philly.com/inquirer/front_page/20101012_Camden_s_surge_in_community_gardening.html?viewAll=y.

- Stolley, MR et al (2008). Obesity reduction black interventional trial (ORBIT): six-month results. 17 (1), 100-106.
- Stunkard, A., Foch, T., Hrubec, Z. (1986). A Twin Study of Human Obesity. Journal of The American Medical Association, 256(1), pp. 51-54
- Tilghman, J. (2003). Obesity and diabetes in African American Women: Association of Black Nursing Faculty Journal. 66-68, May/June 2003. Retrieved on May 13, 2010 from: http://findarticles.com/p/articles/mi m0MJT/is 3 14/ai 103380683/

Wann, M. (2004). BMI (Body Mass Index) = IMB (Imaginary Mental Barrier): Celebrating size diversity via health at every size. Health at Every Size, 18(3), pp. 35-37. Retrieved from: http://www.gurze.net/HAESprotected/pdfs.htm

World Health Organization (WHO), (2006). Obesity and Overweight Geneva. Retrieved on March 12, 2010 from: http://www.who.int/mediacentre/factsheets/fs311/en/.