Health Disparities and Obesity

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Abstract

This paper discusses a number of research papers that explains the demographics of obesity in United States, the changing effect of racial and socioeconomics disparities on obesity, the effect of obesity on an individual’s mental physical and social health, and the interventions to reduce obesity disparities. The socioeconomic factors that are focused in the paper is education and income among racial classes. The paper propose the intervention of change in physical activity, dietary components and behavioral change using HBM model. The new intervention will be introduced and work with community workers. The limitation in the paper is that the proposed intervention is not exactly used before in the history of obesity. In a paper from, a related intervention was used for Medicaid patients to improve their health conditions in Mississippi.

*Keywords:* obesity*, health disparities, socioeconomic factors, racial disparities, HBM model*

Health Disparities and Obesity

Obesity was ranked as the second highest factor of actual deaths in United States in 2000. The increasing rate of obesity made it a public concern. Obesity is unevenly distributed among the different classes of people in United States. People hardly realize how their choices over the life course affect their obesity. It was made clear when we analyze the Body Mass Index (BMI) of different group of people over a range of time and its impact on their lives. There was a high health disparity in unequal economies with racial and socioeconomic factors. For example, Black women who had been to high school or above and had low to medium income tends to have larger BMI whereas the white men with graduation degrees or high income tends to have lower BMI rates. In this paper, we also analyze that there is a relationship between early life socioeconomic factors and adult BMI. The early life socioeconomic factors have much greater impact on a person’s BMI than their racial differences. For example, a black women and a white will have most probably the same BMI if they have the same early life socioeconomic factors. The disadvantage socioeconomic factors when combined with early life disadvantages over a lifetime period have a much higher impact on a person’s BMI. Social determinants such as stress, social support also have an impact on BMI. People who have more stressful jobs tends to have higher BMI than others.

Obesity is a public health issue with social cost and consequences. Factors such as race, gender, socioeconomic, age and social inequality shows that biological, behavioral and social dimensions cause obesity. These macrosocial factors when combined with individual experience results in an uneven social cause of obesity.

Rising Obesity

 The research paper “Actual Causes of Death in the United States, 2000” shows obesity as the second highest factor of death. 400,000 deaths took place at a rate of 16.6% in 2000. Poor diet and physical inactivity was ranked as the highest growth rate among all the other factors. The growth rate of poor diet and physical activity increased by 2.6% from 1990 to 2000 whereas the growth rate of smoking i.e. the highest ranked cause of death, decreased by 0.9.

More evidence was found in two national health surveys conducted by the National Health and Nutrition Examination Survey (NHANES) and the Behavioral Risk Factor Surveillance System (BRFSS). The data collected by NHANES shows an increase in both the obesity and overweight people throughout the spectrum. The rate of overweight people remained constant during 19960 to 1990. (Flegal et al. 1998). After 1980 it started to increase and during 1988-1994 overweight rate rise by 8.4% to the total of 54.4% and continued to rise to 64.5% in 1999-2000 (Flegal et al. 1998, Flegal et al. 2002). The proportion of overweight people continue to grow, in 2003-2004 approximately 2/3 of the adults aged 20 and above were classified as overweight. (Ogden et al. 2006). Approximately the same pattern was observed for obesity. From 1976-1980 the obesity rate was 14.5% which rose to 22.5% in 1988-1994 and continued to rise to 35.4% in 1999-2000. Flegal et al. 1998, Flegal et al. 2002). Furthermore, the rate of obesity continues to grow to 32.2% in 2003-2004 (Ogden et al. 2006).

The data of obesity is self-explanatory. It shows that obesity is a public health issue and thus ranked obesity as an “important public health issue’ under Leading Health Indicators in Healthy People 2010. National Institute of Health is promoting preventive researches and encouraging initiatives to control obesity. (Kumanyika 2003)

The proportion of obesity has almost doubled among the population. (Flegal et al. 1998, Ogden et al. 2006) The highest risk was associated with individuals, who have low socioeconomic status, especially African American women, more likely have higher obesity rate. (Chang and Lauderdale 2005, Okuson et al. 2004, Zhang and Wang 2004) However, it is difficult to analyze that the obesity rate increased more among the higher risk group or it was evenly distributed among the whole population.

Changing Racial and Socioeconomic Disparities in obesity

The impact of both racial and socioeconomic disparities has significant impact on total obesity among the population. The recent data suggests that the obesity rate among African American increased 15% more than that of white. There were approximately 45% of the African Americans aged 20 and above who were obese where as 35% of the whites were obese. The rate of racial disparity is highest now than that of in 1970s. In 1970s the difference between black white obesity was approximately 10%. (Flegal et al. 1998) Thus, the data suggests that black experienced more obesity than that of white.

The closer picture of the racial disparity shows that the rate of obesity differs between genders. Overall the blacks have higher obesity rate than that of whites, representing the disparity among the groups. However, according to the national data the rate of obesity is same between the black and white males for the last three decades. (Flegal et al. 1998; Ogden et al. 2006). Furthermore, Black females encountered a high rate of obesity than that of white females. During 2003-2004, around 24% more black women were obese than white women. Approximately 54% of the black women were obese in relation to 30% of white women. The difference of 24% represents the disparity among the group, as it increased during the time. In 1970s the difference between the groups was around 15%. (Flegal et al. 1998) Hence, the change in racial disparities has clearly impacted women not men.

The change in obesity rate is not only because of racial variation but also because of change in socioeconomic variation among the population. Similar results were observed with socioeconomic variation when closely analyzed. The overall impact of socioeconomic factors (level of education and income) with obesity rate is positive. The obesity rate has rose on all the socioeconomic factors but the proportion of effect differs among different class of population. (Chang and Lauderdale 2005; Zhang and Wang 2004) Therefore, the link between socioeconomic factor and obesity has evolved during the time.

According to Mokdad et al. (1999), there is an inverse relationship between education and obesity among the population. If a person is a college graduate than he would be less obese than the person who has graduated from high school. The relationship between obesity and education has evolved over the period of time especially between gender and race of the population. More educated white people are more conscious about their diet and have lesser BMI than Blacks. However, black people with higher education have higher average BMI. According to Zhang and Wang (2004) there was strong relationship between education and obesity among white women. Both the factors were negatively related. Although weaker relationship was observed in black women, black men and white men. The study shows the education disparities were constantly similar among black men since 1970s to 2000. The trend of education disparities differ for black women, white men and women in 1970s, 1980s, and 1990s and were more significantly different in 1999-2000. So it is unclear to suggest that racial and gender differences stayed constant with the level of education over a period.

Moreover, an increase in obesity was noticed at all the levels of income but the impact of the rate differ from group to group. Chang and Lauderdale (2005) study shows that income and obesity is negatively related with whites. Higher rate of obesity is faced at lower level of income among whites. However, for blacks the obesity is positively related to income. Highest obesity rate is found at higher income. This was not the case in 1970s, higher income blacks tend to have lower obesity rate but this trend has been reversed in 1990s. The relationship of income for white and black women was inversely related, but this relationship was weakened in 2000 for black women and strengthened for white men. The relationship for black men changed over time. During 1970s high-income black men had lower obesity rate but during 2000, high-income black men had high obesity rate. Thus, the study shows that high income results into better health and low obesity rate for white men and women although black women and men have poor health and higher obesity rate, especially in black men.

Lastly, the result of the studies shows that racial obesity disparity has increased over the time, with affecting more on women compared to men. Furthermore, white men and women have benefited more from higher socioeconomic position. Black men and women with same higher socioeconomic benefit had less advantage in term of obesity.

Obesity and physical and mental health

A certain number of studies have shown a strong relationship between obesity and poor health. According to Bierman et al. and Visscher and Siedell (2001) obesity increases the chances of diabetes, cardiovascular diseases, respiratory disorders and certain cancers. The resulted diseases explain why obese people have longer stays in hospitals. (Schafer and Ferraro 2007) Peeters et al. (2003) shows that obese people have lower life expectancy and higher mortality. Obesity not only increases the likelihood of several severe diseases but it also affects the daily life of an individual. People who are obese tends to have more movement problems because of joint pains (Peeters et al. 2003) and are more likely to develop lower body disability (Ferraro and Kelly-Moore 2003). Older people who are obese have more chance to be physically limited to perform daily activities (Himes 2000).

 Obesity not only affect the physical health of an individual, it does have a considerable impact on the mental health of an individual. According to the researches by Ross (1994) and (Carr and Friedman 2005) obese people feel more sad and have worthless feeling, feel less happy and have fewer satisfied feelings, have low self-esteem and lower self-acceptance and are more depressed. Obesity leads indirectly to psychological distress, as obesity leads to a situation where an individual has to face physical strain, weight-related discrimination, and interpersonal conflict and try their best to attain socially acceptable weight. According to the research by Ross (1994), the depression due to obesity is the result of psychological distress caused by the diet and being in poor physical health. Similar results were shown by Carr and Friedman (2005, 2007) which demonstrates weight and psychological distress are positively related which results into a person’s overweight and obese by putting them under discriminatory treatment, physical strain and stressful interpersonal interactions.

Obesity is an important health issue because of its exponential growth and also because it is one of the leading causes of death. Obesity is a national level problem in US; it is also an individual level problem and can be difficult to deal.

Obesity and Social Impact

 Obesity not only creates physical and mental stress but also result into social stress through mistreatment and discrimination with obese people. Individuals are rejected by society when they do not fit under the socially accepted physical weight. Obesity becomes a liability for obese people (Liederman 1968) According to O’hara (1996) study the standard target of discrimination in US are obese people.

 Society believes that obesity is the result of personal behavior and mistreats obese individuals by assuming that he is solely responsible for the condition. According to Knowles (1997) study people assume that obesity is a health behavior, which is, developed by an individual personally like smoking, drinking etc. However, obesity is not a health behavior, it is a condition that a person suffers and is mostly influenced by the external environment. In an experiment conducted by DeJong (1980), he found that people who are unsure of their cause of obesity were less positively evaluated than those who knew their obesity is a medical condition.

 The consequences of obesity that an individual faces from the society range from poor relationships to negative behavior. Research from Carr and Friedman (2006) shows that obese people tends to have more problems in their personal relationships. Moreover, obese people faces discrimination from the society. A study by Larkin and Pines (1979) shows that obese people receives more negative assessments during the recruitment process because they do not fit into the socially acceptable body weight range. In addition, obese individuals have less promotion chances (Brink 1988), more wage fines (Loh 1993) and have higher chances of getting terminated (Rothblum et al. 1990). Insurance providers and health care institutions also treat obese people as a bigger liability and are charged with higher premiums and lower quality of care. (Wee et al. 2000). The disadvantages of being obese is mostly faced by women, especially Black, because it is a stereotype among the society that they are lazy and could not perform work sufficiently (Shiriki Kumanyika 2005).

Discrimination is fairly common with obese people. According to Carr and Freidman (2005), around half of the total obese people report to have been discriminated on weight than normal weight people. The social cost that obese people face due to mistreatment and discrimination is the negative psychological impact on their personality. Around 40% of the obese people explains that the level of mistreatment increases with the increase in weight (Falkner et al. 1999). This clearly shows that the society believes that it is all individual’s fault to be obese and think that their mistreatment might discourage them to continue the specific course of action.

Intervention for obesity

One of the major component of the research is to provide with effective strategies that would help to reduce the obesity disparity among the population. The determinants that would help to identify that either the strategies are effective or not includes an individual’s eating habit, his physical activity, and his motivation that he can change his behavior by following the guided strategies. However, the main question over here is how we could transform an individual’s behavior through their life which is affected by the environment that is out of their control. Researches shows that strategies not only be constituted at a government level or community level, it must be constituted on individual level as well.

The intervention that I would recommend will be a program that is multi-component because it would focus on both individual level and group level. It will also focus on the factors such as diet, physical activities and behavior change strategies.

Physical activity focus on a person’s active daily movement, such as walking, cycling etc. which would be specific to personal preference. According to Sallis and Glanz (2009) research, physical activity helps to increase the total energy expenditure, which help them to reduce fat and lose weight. This doesn’t mean that a person can eat as much as he wants and have the same weight because he is doing physical activity. Physical activity helps when the calories consumption is lower than the calories burnt. Physical activity also helps to reduce stress and depression among individuals and releases hormones that help individuals to feel happy and continue the exercise regime (U.S. Dept. of Health and Human Service, 2012). The recent trend of obesity clearly explains the reduction of physical activity. The data shows that driving increased by 21% from 1960 to 2000, decreasing the number of people walking and using public transport. (Brownson et al. 2005) The decrease in children physical activity was also observed from 1969 to 2001. In 1969 approximately 40% children either rode a bicycle or walk to the school, however by 2001 only 13 percent of the children continue to ride or walk. So, to reduce obesity individuals should do more of physical activity, for instance walking to the farmer’s market to buy groceries or to ride a bicycle to work or travelling through public transport. Motivational signs would be placed on billboards to capture people attention while they drive to work, shopping etc. Sign would also be posted in elevators to motivate people to use staircases. A large-scale campaign should be established which would be promoted on all media to give people awareness about obesity. Trained community workers should be hired that would go into most affected areas such as low income housings and talk to people. The community workers will provide personalized services to the people and adjust their physical activity in their normal schedule. Community workers will inform individuals about the average time that they need to work out to be healthy. The problem and serious consequences of obesity should be explained to individuals by the community workers and successful case should be shown to them to motivate them to continue the desired behavior. Government can also help to promote physical activity among individuals by exercising more taxes on cars. China and Europe promote individuals to live healthy by doing so. This would help decrease the obesity disparity among high income black men because cars would be expensive and they have to use alternative such as public transport or ride a bike to work.

The dietary component of the intervention will improve the intake of proteins, healthy fats and reduce the consumption of unhealthy fats and carbohydrates. According to Melanson et al. (2009), the study shows that the percentage of calories consumption from fats has been reduced but the obesity has increased drastically. It clearly state that obesity is not just resulted from fats, it is also a caused by carbohydrates. To reduce obesity among Black women, they must be educated about the proteins, fats, carbohydrates, fruits and vegetables consumption. Community workers need to personally study every individual and educate them about these components. They will also need to suggest them the amount of consumption they need to take in a day and fit them culturally to their diet preference. Community workers should motivate them to use more of protein based meals because the study conducted by Halton and Hu (2011) states that higher consumption of protein helps individual to feel fuller because it takes more time to digest protein than fat or carbohydrate. Proteins also help individuals to gain strength and rely on their lean muscles when they work out. According to another study by Furtado et al. (2008) proteins helps to reduce the chance of cardiovascular diseases and diabetes. Government should waive taxes from products that are healthy and make them affordable for low income people. Calories distribution should be clearly defined on the meals individuals purchase. Advertisement of healthy eating would be done at prime time on television to capture more population. More farmer market would be place in low income area. Increased food stamp would be allowed and more purchases would be allowed if an individual buy groceries from farmer market. Individuals should be motivated and self-assessed by using HBM model. Community workers inform individuals about the perceived severity and susceptibility of obesity and take individuals to field trips and meet them with people who were able to reduce obesity and sometimes show them the sufferings of the people who weren’t able to reduce it.

The most important factor is the behavioral change. The intervention wouldn’t work if it won’t be able to change the behavior of individuals. The individual behavior program will consist on focusing their interest and preferences. We would be implementing Social Cognitive Theory to transform Black women behavior by creating self-efficacy in them and providing them with social support. The program will consist of setting mutually agreed goals with the community worker and self- monitoring them, interacting with other women in the program who have same goals to ensure social support, self- reward and motivational talk will be established. A clear pattern would be formed to solve the problem with the help of community workers for instance if there is an external factor that demoralized the individual to continue the new behavior pattern than community worker will try to eliminate the external factor and prevent them from developing setback of sedentary behaviors. According to Aderson et al. (2007) research, Social Cognitive Theory plays an important role in creating self- regulatory behavior regarding the selection of food. Self-efficacy helps to overcome the negative impact from the society and develop and maintain the positive attitude of buying and eating healthy food. Community support also plays a vital role in changing behavior. The local community should introduce more active activities. For example, organizing local events for basketball or soccer and the winning team will award with cash prize. The role of community worker is really important. The community workers must be highly trained to deal and handle the problems of Black women. Community workers will put more emphasis on educating and creating awareness about the issues that Black women will face with obesity.

Limitation

**Citation**

Bierman E.L. and J.D. Brunzel.1992. “Obesity and Atherosclerosis.” Pp. 512-17 in *Obesity*, edited by P. Bjorntorp and B.N. Brodoff. Pennsylvania, PA: J. B. Lippincott Company.

Brink, T. L. 1988. “Obesity and Job Discrimination: Mediation Via Personality Stereotypes?” *Perceptual and motor skills* 66:494.

Brownson RC, Boehmer TK, Luke DA. Declining rates of physical activity in the United States: what are the contributors? Annu Rev Public Health. 2005; 26:421-43.

Chang, Virginia W., and Diane S. Lauderdale. 2005. “Income Disparities in Body Mass Index and Obesity in the United States, 1971-2002.” *Archives of Internal Medicine* 165:2122-28.

DeJong, Willaim. 1980. “The Stigma of Obesity: The Consequences of Naive Assumptions Concerning the Causes of Physical Deviance.” *Journal of Health and Social Behavior* 21:75-87.

Falkner, N. H., S. A. French, R. W. Jeffery, D. Neumark-Sztainer, N. E. Sherwood, and N. Morton. 1999. “Mistreatment Due to Weight: Prevalence and Sources of Perceived Mistreatment in Women and Men.” *Obesity Research* 7:572-76.

Ferraro, Kenneth F., and Jessica A. Kelley-Moore. 2003. “Cumulative Disadvantage and Health: Long-Term Consequences of Obesity?” *American Sociological Review* 68:707-29.

Flegal, Katherine M., Margaret D. Carroll, Cynthia L. Ogden, and Clifford L. Johnson. 2002. “Prevalence and Trends in Obesity Among US Adults, 1999-2000.” *Journal of the American Medical Association* 288:1723-27.

Furtado JD, Campos H, Appel LJ, et al. Effect of protein, unsaturated fat, and carbohydrate intakes on plasma apolipoprotein B and VLDL and LDL containing apolipoprotein C-III: results from the OmniHeart Trial. Am J Clin Nutr. 2008; 87:1623-30.

Halton TL, Hu FB. The effects of high protein diets on thermogenesis, satiety and weight loss: a critical review. J Am Coll Nutr. 2004; 23:373-85.

Himes, Christine L. 2000. “Obesity, Disease, and Functional Limitation in Later Life.” *Demography* 37:73-82

Hu FB. Physical Activity, Sedentary Behaviors, and Obesity. In: Hu FB, ed. Obesity Epidemiology. New York: Oxford University Press; 2008:301-19.

Knowles, J. H. 1977. “The Responsibility of the Individual.” *Daedalus*:57-80.

Kumanyika, Shiriki K., and Eva Obarzanek. 2003. “Pathways to Obesity Prevention:Report of a National Institutes of Health Workshop 1.” *Obesity* 11:1263-74.

Larkin, Judith Candib, and Harvey A. Pines. 1979. “No Fat Persons Need Apply: Experimental Studies of the Overweight Stereotype and Hiring Preference.” *Work* *and Occupations* 6:312-27.

Loh, E. S. 1993. “The Economic Effects of Physical Appearance.” *Social Science* *Quarterly* 74:420.

McDonald NC. Active transportation to school: trends among U.S. schoolchildren, 1969-2001. Am J Prev Med. 2007; 32:509-16.

Mokdad, Ali H., Barbara A. Bowman, Earl S. Ford, Frank Vinicor, James S. Marks, and Jeffrey P. Koplan. 2001. “The Continuing Epidemics of Obesity and Diabetes in the United States.” *Journal of the American Medical Association* 286:1195-1200.

Ogden, Cynthia L., Margaret D. Carroll, Lester R. Curtin, Margaret A. McDowell, Carolyn J. Tabak, and Katherine M. Flegal. 2006. “Prevalence of Overweight and Obesity in the United States, 1999-2004.” *Journal of the American Medical Association* 295:1549-55.

O’Hara, M. D. 1995. “Please Weight to be Seated: Recognizing Obesity as a Disability to Prevent Discrimination in Public Accommodations.” *Whittier Law Review* 17:895-954.

Ross, Catherine E. 1994. “Overweight and Depression.” *Journal of Health and Social Behavior* 35:63-79.

Rothblum, E. D., P. A. Brand, C. T. Miller, and H. A. Oetjen. 1990. “The Relationship between Obesity, Employment Discrimination, and Employment-Related Victimization.” *Journal of Vocational Behavior* 37:251-66.

Schafer, Markus H., and Kenneth F. Ferraro. 2007. “Obesity and Hospitalization over the Adult Life Course: Does Duration of Exposure Increase Use?” *Journal of Health and Social Behavior* 48:434-49.

U.S. Dept. of Health and Human Services. 2008 Physical Activity Guidelines for Americans; 2008. Accessed January 30, 2012.

Wee, C. C., E. P. McCarthy, R. B. Davis, and R. S. Phillips. 2000. “Screening for Cervical and Breast Cancer: Is Obesity an Unrecognized Barrier to Preventive Care?” *Annals of Internal Medicine* 132:697-704.

Zhang, Q., and Y. Wang. 2004. “Trends in the Association between Obesity and Socioeconomic Status in U.S. Adults: 1971 to 2000.” *Obesity Research* 12:1622- 32.