

The Obesity Gradient in America

Obesity has become an increasingly common health condition, affecting millions across the globe. Obesity and overweight are medically defined as “abnormal or excessive fat accumulation that may impair health” (World Health Organization [WHO], para. 2, 2021a). In the United States (US), one of the most developed countries in the world, 42.4% of adults are obese (Centers for Disease Control [CDC], 2021a). Obesity is impacted by a number of factors such as gender and age, although diet and exercise are the most accountable; however, individuals may not always be capable of maintaining a healthy diet or exercising regularly. A more holistic approach to obesity can better acknowledge the determinants that affect health outcomes in the United States. In 2019, the country also had 11% of the population living in poverty in 2020 (Shrider et al., 2021) and 28.1% of adults over 25 had only completed a high school education.

There are multiple levels of poverty in the United States above absolute poverty. Upper-class, middle-class and lower-class Americans face different challenges. For the purpose of this paper, “poverty” refers mainly to relative poverty, and the stratification of quality of life as income decreases. The unhoused, unemployed, minimum wage workers as well as those whose reality is simply earning enough only to survive but not to thrive are the population referred to by “poverty” in this case study. The WHO’s definition of obesity does not encompass the variation with which people are disabled by their weight, or cultural implications and stigmas surrounding weight, body image and obesity. For standardization, literature refers to obesity in its medical sense and will be used to encompass all levels of severity. Poverty (in relation to middle- and upper-class Americans), and a lack of education can have grave impacts on one’s ability to maintain a healthy weight, because access to healthy habits are not evenly distributed across socioeconomic status. In this essay, I will use the impacts of poverty and being uneducated to demonstrate how an inequitable society gives rise to an obesity gradient in Americans.

Financial Security and Obesity

Being on low-income, and more broadly the structural effects of being low-income in America, are a hugely important factor in determining levels of obesity. The relationship between financial status and obesity is often inverse. One direct impact of being low-income is that healthy food is simply unaffordable. Most spending on food in low-income households goes to poor quality foods because they are cheaper (Otero et al., 2015), in some cases half the price of more expensive alternatives (Kern et al., 2017). Poor quality food, such as fast food, is often higher calorie (Otero et al., 2015). If foods that contribute to a “healthy” diet are too expensive, then low-income Americans must decide long-term nutrition and short-term survival. The WHO created a framework for promoting healthy eating like restricting or taxing unhealthy foods (WHO, 2021b), but consumers are most influenced by price (Kern et al., 2017). This means that if fast food or high calorie foods are more expensive but still cheaper than healthy foods overall, then the poor have only been harmed and not helped. Thus, interventions may prove more effective if focused on making healthy foods more accessible, instead of unhealthy foods less accessible.

Despite individual choice, poverty as a systemic issue makes it extremely difficult for many Americans to eat healthily. Even the type of neighborhood one lives in can affect obesity outcomes, as “community affluence has a positive effect on residents’ lifestyles” (Kim, Wang

and Arcan, 2018). Affluent neighborhoods may be safer to go running, or may have more parks and recreation centers nearby (McKenzie et al., 2013), and exercise is another important facet to minimizing obesity. For example, in King County, Washington, property values had a negative correlation with obesity among women—likely because lower home values indicate less desirable neighborhoods with less options for people to maximize their health (Rehm et al., 2012). Food deserts and food insecurity are becoming a more recognizable issue as inequality was exacerbated by the COVID-19 pandemic, which disproportionately impacted the poor and ethnic minorities (Bachelet, 2020). Food “deserts” refer to areas where grocery stores with healthy foods are fewer and farther between (Shannon, 2013). One reason for this phenomenon is that investment in low-income areas is a risk (The Annie E. Casey Foundation, 2021), and likely one that most businesses and governments would not want to take. Food deserts present a challenge for low-income people due to a number of factors, one being enhanced transportation costs or a lack of public transport (The Annie E. Casey Foundation, 2021). This means that poor people must spend more time and money than their wealthier counterparts to maintain a healthy diet. In America, low-income areas are increasing at a faster rate than accessible healthy food options (Karpyn et al., 2019). Therefore, while charitable organizations and federal programs such as food stamps are working to make food more accessible, there are a number of people still being left behind. So, while most individuals are not unable to make their own choices about what they eat and how they exercise, the nature of poverty permeates in every aspect of life and makes it more likely that low-income Americans will be obese.

Additionally, living on a low income can negatively influence obesity rates in American children, making low-income children 1.6 times more likely to suffer from obesity (Kranjac and Kranjac, 2021). Children that then grow up obese may be more likely to remain obese into adulthood as habits are created. A journal article by Robert Rogers et al. demonstrates how income disparities manifested in children from different socioeconomic backgrounds in Massachusetts:

...childhood obesity rates in two neighboring communities varied by nearly a factor of two, and that the lower-income community (with higher ethnic/racial diversity) could be characterized comparatively for its remarkable lack of full-service grocery stores, exercise facilities, and recreational programs and parks. As expected, children in the lower-income community reported substantially less physical activity, poorer nutritional food consumption, more consumption of fried food and sugary beverages, and much more time watching television or playing video games (Rogers et al, para. 9, 2015).

Most of these struggles that children face are due to a family’s inability to provide a healthy lifestyle due to the consequences of being poor. Thus, the structural realities that parents face will be passed on to their children, where a proper sense of nutrition and physical activity may not come until later in life.

Education and Obesity

Education, or a lack thereof, is a strong indicator for understanding obesity. Wealth can be indicative of potential to pursue higher education, as in the United States college costs on average \$35,720 per year (Hanson, 2021). In adults, college education provides more social advancement opportunities like a well-paying job and security in housing because there is a level of return on investment in college degrees (Horowitz, 2018). Because a higher level of education

allows people to obtain higher paying jobs, college graduates were earning almost \$15,000 more than high school graduates in 2019, with the former having a lower poverty rate as well (Edelson, 2016). Therefore, a social good like higher education can counteract the aforementioned struggles that people on low-income face. Having a steady and sufficient income allows one the financial ability to purchase healthy foods consistently, and stable housing can mean a safer, more efficient environment for exercise. Low-income workers are also subject to incredible levels of stress (Rimnacova and Hricová, 2019), likely due to a lack of schedule flexibility and autonomy as well as low wages. This stress can contribute to obesity in some people as unfavorable dietary habits become a coping mechanism (Scott, Melhorn and Sakai, 2012). That is not to say that high-income workers do not experience stress or engage in obesity-related stress factors, but relying on a substantially lower income to survive combined with average work stress can pose a threat to low-income individuals.

Health literacy refers to the level of understanding that one has about basic health, and how to maintain it (Reed, 2021). It encompasses the way one learns about health through experience gained as well as the knowledge provided by social public goods such as school and healthcare. Health literacy is influenced by culture and family values, and thus can be subjective. It can be impacted by a number of socioeconomic factors. For example, low-income individuals may experience a lower level of health literacy due to insurance status, because those that are uninsured or using government-funded insurance programs may not be receiving the same level of health education (Office of Disease Control and Health Prevention, 2020). This implies that the quality and purchasing power of health insurance varies between low- and high-income Americans, harming the less wealthy. In adolescents, low health literacy is a risk factor for obesity as well (Shih et al., 2016). Many American public schools require a health education course (CDC, 2021b), and this may be an effective way to combat the lack of health literacy that low-income children face. While the curriculum varies, it will provide a basic understanding of what is and is not good for the body, how it functions, and how to balance health with other social cues. Education, as well as income, can determine how well people understand their health. Higher educational attainment can improve health literacy, in turn leading to a decreased risk for obesity “by enhancing knowledge of nutrition, by increasing access to information and tools for weight control, and by averting residence within obesogenic environments” (Barrington et al., para. 7 2012). Health literacy is more accessible to those able to afford it—thus, the socioeconomic factors that determine one’s health literacy are structural.

Conclusion

Social inequities are key determinants of health. Obesity, although seemingly a simple combination of diet and exercise, is multidimensional and in the United States, there are systemic failures to be held accountable. Low wages and living paycheck to paycheck directly impacts how much of one’s income can be spent on food, and healthy food is more expensive than poor quality food. In this way, the ease with which an unhealthy diet can be maintained as opposed to a more nutritious one is not a risk factor the poor can be entirely responsible for. Low-income

individuals and families also face disparities in access to housing with equitable access to grocery stores and recreational activities, as well as to quality services like health insurance. Higher education is an expensive investment for many, but it is a key factor in building health literacy and attaining a well-paying, steady job to reduce stress levels and risk of unemployment. Children face these challenges in early development stages, which can make it nearly impossible to learn positive eating and exercise habits. In all of these categories, the likelihood of being obese decreases as one improves their socioeconomic status, creating a health gradient. Lowering the prevalence of obesity will be directly linked to interventions that challenge the structures America has built around class, and minimizing disparities in wealth and education for all Americans.

Reference list

Bachelet, M. (2021). *OHCHR | Addressing the disproportionate impact of COVID-19 on minority ethnic communities*. [online] Office of the High Commissioner for Human Rights.

Available at:

<https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=26541&LangID=E>.

Barrington, D.S., Baquero, M.C., Borrell, L.N. and Crawford, N.D. (2012). Racial/Ethnic Disparities in Obesity Among US-born and Foreign-born Adults by Sex and Education. *Obesity*, 18(2), pp.422–424.

Centers for Disease Control and Prevention (CDC). (2021a). *Adult obesity facts*. [online] Centers for Disease Control and Prevention. Available at: <https://www.cdc.gov/obesity/data/adult.html>.

Centers for Disease Control and Prevention (CDC). (2021b). *Health Education in Schools | CDC*. [online] Available at: <https://www.cdc.gov/healthyyouth/health-education/index.htm>.

Edelson, D. (2016). *How does a college degree improve graduates' employment and earnings potential?* [online] Aplu.org. Available at:

<https://www.aplu.org/projects-and-initiatives/college-costs-tuition-and-financial-aid/publicvalues/employment-earnings.html>.

Shrider, E., Kollar, M., Chen, F. and Semega, J. (2021). *Income and Poverty in the United States: 2020*. [online] The United States Census Bureau. Available at:

<https://www.census.gov/library/publications/2021/demo/p60-273.html>.

Hanson, M. (2021). *Average Cost of College [2020]: Yearly Tuition + Expenses*. [online] EducationData. Available at: <https://educationdata.org/average-cost-of-college>.

Horowitz, J. (2018). Relative Education and the Advantage of a College Degree. *American Sociological Review*, 83(4), pp.771–801.

Karpyn, A., Riser, D., Tracy, T., Wang, R. and Shen, Y. (2019). The changing landscape of food deserts. *UNSCN*, [online] 44, pp.46–53. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7299236/>.

Kern, D., Auchincloss, A., Stehr, M., Diez Roux, A., Moore, L., Kanter, G. and Robinson, L. (2017). Neighborhood Prices of Healthier and Unhealthier Foods and Associations with Diet Quality: Evidence from the Multi-Ethnic Study of Atherosclerosis. *International Journal of Environmental Research and Public Health*, [online] 14(11), p.1394. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5708033/>.

Kim, D., Wang, F. and Arcan, C. (2018). Geographic Association Between Income Inequality and Obesity Among Adults in New York State. *Preventing Chronic Disease*, [online] 15. Available at: https://www.cdc.gov/pcd/issues/2018/18_0217.htm.

Kranjac, A.W. and Kranjac, D. (2021). Child obesity moderates the association between poverty and academic achievement. *Psychology in the Schools*, 58(7).

Mckenzie, T., Moody, J., Carlson, J., Lopez, N. and Elder, J. (2013). Neighborhood Income Matters: Disparities in Community Recreation Facilities, Amenities, and Programs. *Journal of park and recreation administration*, 31(4), pp.12–22.

Office of Disease Prevention and Health Promotion. (2020). *Health Literacy | Healthy People 2020*. [online] Healthypeople.gov. Available at: <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/health-literacy>.

Otero, G., Pechlaner, G., Liberman, G. and Gürcan, E. (2015). The neoliberal diet and inequality in the United States. *Social Science & Medicine*, 142, pp.47–55.

Reed, P. (2021). *Health and Well-Being Begin with Health Literacy - News & Events | health.gov*. [online] health.gov. Available at: <https://health.gov/news/202110/health-and-well-being-begin-health-literacy> [Accessed 9 Dec. 2021].

Rehm, C.D., Moudon, A.V., Hurvitz, P.M. and Drewnowski, A. (2012). Residential property values are associated with obesity among women in King County, WA, USA. *Social Science & Medicine*, 75(3), pp.491–495.

Rimnacova, Z. and Hricová, A. (2019). Stress and the working poor. *Human Affairs*, 29(1), pp.87–94.

Rogers, R., Eagle, T.F., Sheetz, A., Woodward, A., Leibowitz, R., Song, M., Sylvester, R., Corriveau, N., Kline-Rogers, E., Jiang, Q., Jackson, E.A. and Eagle, K.A. (2015). The Relationship between Childhood Obesity, Low Socioeconomic Status, and Race/Ethnicity: Lessons from Massachusetts. *Childhood Obesity*, [online] 11(6), pp.691–695. Available at: <https://ohsu.pure.elsevier.com/en/publications/the-relationship-between-childhood-obesity-low-socioeconomic-stat>.

Scott, K.A., Melhorn, S.J. and Sakai, R.R. (2012). Effects of Chronic Social Stress on Obesity. *Current Obesity Reports*, [online] 1(1), pp.16–25. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3428710/>.

Shannon, J. (2013). Food deserts: Governing obesity in the neoliberal city. *Progress in Human Geography*, 38(2), pp.248–266.

Shih, S.-F., Liu, C.-H., Liao, L.-L. and Osborne, R.H. (2016). Health literacy and the determinants of obesity: a population-based survey of sixth grade school children in Taiwan. *BMC Public Health*, 16(1).

The Annie E. Casey Foundation. (2021). *Exploring America's Food Deserts*. [online] Available at: <https://www.aecf.org/blog/exploring-americas-food-deserts>.

World Health Organization (WHO). (2021a). *Obesity and Overweight*. [online] World Health Organization. Available at: <https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>

World Health Organization (WHO). (2021b). *WHO urges governments to promote healthy food in public facilities*. [online] Available at:

<https://www.who.int/news/item/12-01-2021-who-urges-governments-to-promote-healthy-food-in-public-facilities>.