In the United States, obesity is so prevalent could it be described as a

Pandemic?

Prof Nikolaos Tzenios Ph.D., FRSPH, FRSM, FAAMFM, FWAMS, FMRS, AcIASS, mRSB, DABAAHP*1*, Dr. Mary E. Tazanios, MD Obgyn 2*,Mohamad Chahine,Ph.D 3**
1 Public Health and Medical Research, Charisma University, Grace Bay, Turks and Caicos Islands.
Doctor of Health Sciences Candidate, MCPHS University, Boston, Massachusetts, USA.
2 Clinical Research, TRG GEN+, Beirut, Lebanon
3 Biological and Chemical Technology, International Medical Institute, Kursk State Medical University, Kursk,Russian Federation.
Corresponding author: Prof Nikolaos Tzenios Ph.D., FRSPH, FRSM, FAAMFM, FWAMS, FMRS, AcIASS, mRSB, DABAAHP, London UK, +447583902071,*
Nicolas@trccolleges.com

Background and Scope of the Problem

In the United States, obesity is prevalent, and it could be described as a pandemic. Obesity is excessive fat accumulation, leading to a BMI $\geq$ 30 (Fruh, 2017). Surveys conducted by the CDC show that the obesity prevalence in the US is on the rise, as several obese people rose from 30.5% to 41.9% between 1999 and 2020 (Bryan et al., 2021). During the same time, several people suffering from severe obesity rose from 4.7% to 9.2% (Bryan et al., 2021). Additionally, childhood obesity is on the rise. Statistics indicate that between 2017-2020 over 19.7% of children and adolescents aged 2-19 years had obesity. During the same period, obesity prevalence in children aged 2-5 years, 6-11 years, and 12-19 years olds was 12.7%, 20.7%, and 22.2%, respectively (Bryan et al., 2021). With so many people suffering from obesity, the WHO declared it a public health crisis (WHO, 2020). The COVID-19 pandemic further exacerbated the prevalence of obesity in the US. According to the surveys, there was a 4.4% increase in obesity between 2019 to March 2020 due to lifestyle changes that were put on people during the COVID-19 pandemic (Akter et al., 2022). Many comorbidities are associated with obesity. Without adequate health interventions, millions of people could suffer severe health disorders like respiratory problems, type II diabetes, psychological issues, gastrointestinal disorders, and cardiovascular diseases. It is also essential to develop health interventions to mitigate obesity due to its strain on the healthcare system. Research shows that people suffering from obesity spend $2,505 more than people with average weight on healthcare (Cawley et al., 2021). Obesity has financial ramifications in every healthcare category: inpatient, outpatient, and prescription drugs (Cawley et al., 2021). One essential action toward the efforts to mitigate the soaring obesity rates is understanding the demographic inequities across populations and how they can be resolved.

Demographic Inequities Related to Obesity

In the US, obesity rates differ according to socio-demographic groups. Studies have shown that obesity is most prevalent among low-educated groups, Hispanics, non-Whites, and lower-income groups (Sung & Etemadifar, 2019). A study by Kim and von dem Knesebeck (2018) showed that lower-income people are more vulnerable to obesity since they have limited access to social determinants of health, such as healthy food and healthcare. People with lower income might not be able to participate in health-related behaviors, such as physical activity, which places them at greater risk of obesity. Financial stress contributes to psychosocial factors, such as social isolation, stress, and insecurity, that put people at a greater risk of being obese (Kim & von dem Knesebeck, 2018). Obesity rates are higher among lower-income people due to irregular meals, unemployment, and lower education. It is crucial to note that the trend of higher obesity rates among the poor is only observable in developed countries since obesity is higher among rich people (Hoebel et al., 2019). In developed countries, such as the US and the UK, obesity rates are higher among low-income people since they rely heavily on highly processed foods with empty calories and negligible nutritional value (Ogden et al., 2017). A recent survey by CDC indicates that the income-related prevalence of obesity is influenced by gender and race (Ogden et al., 2017). In women, the prevalence of obesity declined with the increase in income, but there is no such difference among men (Ogden et al., 2017). Women with the highest income had the lowest prevalence of obesity (27%) compared to middle earners (42.9%) and low earners (45.2%) (Ogden et al., 2017). Among men, the prevalence of obesity was almost similar in the lowest and highest earners, with a prevalence rate of 31.5% and 32.6%, respectively (Ogden et al., 2017). However, this trend was not true for non-Hispanic Black men, where the highest earners posted an obesity prevalence rate of 42.7% compared to 33.8% in the lowest income

group (Ogden et al., 2017). The relationship between obesity and income varies depending on sex and race.

Educational level is also a determinant of the prevalence of obesity in all populations. Data collected by CDC indicate that obesity rates decrease as educational levels increase. The highest rates of obesity (35.5%) were observed among adults who had not completed high school (Ogden et al., 2017). In high school graduates, the rate was 32.3%, 31% among those who attended college, and 22.2% for college graduates (Ogden et al., 2017). People with higher education levels have a reduced risk of becoming obese since they have a better ability to access and comprehend health information related to obesity, which gives them a better perception of the issues associated with lifestyle choices that contribute to being overweight.

Obesity prevalence also varies depending on race. According to data collected between 2015 and 2017, non-Hispanic Black adults had the highest obesity prevalence rate (38.4%), followed by Hispanic adults (32.6%) and non-Hispanic White adults (28.6%) (Petersen et al., 2019). These disparities are most likely caused by race-related social and economic inequities (Petersen et al., 2019). In the US, obesity is more prevalent in women than in men. A study by Brehm and D'Alessio (2019) shows that the prevalence of adult obesity among women was 41.1% compared to 37.9% in men in 2016. There has been a rapid increase in obesity only in women in the past decade, indicating that females are more vulnerable to the disease (Brehm & D'Alessio, 2019). The trend remains the same even in different races. Hispanic, non-Hispanic Asian, and non-Hispanic Black women have a notably higher prevalence of obesity than men of the same racial identities (Brehm & D'Alessio, 2019). Non-Hispanic Asians - both men and women - have significantly lower rates of obesity than other races in the US. In comparison, non-Hispanics and Hispanics have significantly higher rates than non-Hispanic Whites (Brehm & D'Alessio, 2019). Research needs to be conducted to identify the factors contributing to these disparities, but the existing evidence pins the disparities on genetic differences that affect fat distribution and body makeup. The differences in the cultural body image standards that vary from race to race also affect how different ethnicities deal with weight gain. Furthermore, in the US, different ethnicities have various socio-economic statuses, one of the most critical factors in the prevalence of obesity. Socio-economic status (SES) is achieved by representing measures of occupational status, educational attainment, and income in a composite manner (Brehm & D'Alessio, 2019). The higher prevalence of obesity among non-Hispanic Blacks and Hispanics can be attributed to poverty levels, as statistics show that 21.2% and 18.3% live below the poverty line (Brehm & D'Alessio, 2019). Low SES is a major contributor to childhood obesity. Projections show that unless the issue of obesity is mitigated, more than half of modern children will be obese when they are 35 years old (Petersen et al., 2019). Low SES populations are characterized by little to no time for leisure physical exercise and intake of nutrient-poor diets. People with higher SES have lower obesity prevalence rates because they can adopt healthy lifestyle behaviors essential to preventing or treating obesity.

The prevalence of obesity in the US also varies by geographical region. In adults, the highest rates of obesity are observed in the South and the Midwest (Brehm & D'Alessio, 2019). The prevalence of obesity in these areas can be explained by looking closely at food availability, transportation, working environment, and advancement in communication technology (Brehm & D'Alessio, 2019). The South and Midwest have a higher density of fast food restaurants, among the leading contributors to obesity. The kind of infrastructure in a neighborhood determines how walkable it is. People who live in highly walkable neighborhoods are less susceptible to obesity (Brehm & D'Alessio, 2019). Engaging in physical activity is a significant way of staying

healthy, and reducing transport-related activity in the US between 1965-2009 due to increased car ownership and infrastructure improvement has contributed to higher rates of obesity. The US also witnessed the evolution of the work environment between 1960 and 2010. Before 1960, vigorous physical activity was required in over 50% of jobs; these days, only 20% of jobs require vigorous physical activity (Brehm & D'Alessio, 2019). Data collected during that period shows that the decrease in jobs that require intense physical activity has led to increased weight gain in the population. The same technological advances that have reduced the physical demands of most jobs have also been adopted in other facets of life that have made marketing easier. Research shows that technological advancement has made it easier to advertise unhealthy foods, especially among non-Hispanic Blacks and Hispanics (Brehm & D'Alessio, 2019). Additionally, the amount of time spent using the new technology (screen time) has been found to contribute to obesity (Brehm & D'Alessio, 2019). Nonetheless, the same technology can be utilized to educate people on obesity prevention and treatment.

Biomedical versus Population Health Approach to Obesity

There are two main frameworks for conceptualizing illnesses: biomedical and population health. The biomedical approach considers only the biological and physical factors to determine the cause, diagnosis, treatment, and prognosis of diseases (Rocca & Anjum, 2020). The method considers environmental, social, spiritual, and psychological factors in disease conceptualization (Rocca & Anjum, 2020). Contrastingly, the population health approach considers interconnected factors that affect the health of populations in the course of their lives. The approach utilizes the resulting knowledge to curate and implement policies that improve those populations' health. The population health approach is wider than the biomedical approach since it requires healthcare systems to focus on the well-being of the broader population. In contrast, the biomedical approach targets individual patients.

In the biomedical framework, obesity occurs when there is an energy imbalance when the energy intake is more than the energy expenditure. In this approach, a person's behavior is essential since it drives the lifestyle choices that create an energy imbalance (Rocca & Anjum, 2020). The approach is what has predominantly been consulted to develop treatment, prevention, clinical practice, and government practice. The biomedical method views obesity as a simple problem that can be tackled by changing the energy balance. According to this view, the energy balance can be achieved primarily via health education. Clinical treatment options, such as pharmaceutical, cognitive, behavioral, and surgical therapies, are also essential in this model (Rocca & Anjum, 2020). Often, the approaches adopted by the biomedical model fail since they neglect the comorbidities associated with obesity caused by underlying issues, such as income inequality and social exclusion (Syed, 2019). Unlike the population health approach, the biomedical approach does not seek to balance individual and structural factors in obesity issues. Biomedical approaches are considered insufficient since they do not appreciate the effect of the broader social environment on people and their health (Syed, 2019). Additionally, unlike the population health approach that recognizes the importance of prevention in mitigating obesity, the biomedical approach overemphasizes treatment while neglecting prevention (Syed, 2019). Ultimately, biomedical approaches result in expensive, gendered, unnecessary, and biased interventions due to their sole focus on cures. Though diet and exercise interventions are used in the population health method, they are nothing like those advocated by the biomedical model. Methodological assumptions flaw Diet and exercise interventions advocated by the biomedical approach that obesity is purely an individual's fault (Syed, 2019). In the biomedical approach, the cause of obesity is viewed as multifactorial, a narrow view compared to that of the

population health approach (Syed, 2019). The population health approach acknowledges that the availability of nutrient-deficient food products, agribusiness, and food poverty has a role to play in the prevalence of obesity, but these are not the only reasons. The biomedical approach does not give the government a role in mitigating obesity since it relies on economic, political, and social realities to call for behavior modification while neglecting social services and government spending.

The rates of obesity prevalence have continued to increase despite the application of biomedical preventative strategies, leading to a paradigm shift in population health strategies. From a population health approach, reducing obesity involves lowering the BMI level and minimizing the incidence of obesity. The existing population health approach to dealing with obesity operates on three levels. First, it targets food, physical activity, and a wider socio-economic environment. Second, the approach seeks to directly affect eating and physical behaviors, and third, it supports health services and clinical interventions. The population health model targets changing the food environment so that it can become easier for people to make healthier choices. The policies that regulate the advertisement of unhealthy food, nutrition labeling, and formulation of manufactured foods have been crucial in curtailing the prevalence of obesity (Tseng et al., 2018). One of the ways that are used to reduce indulgence in unhealthy food is to increase prices. The governments are ensuring that policies encouraging people to participate in physical activities are implemented (Tseng et al., 2018). Such policies include creating walkable neighborhoods, recreational facilities, and school designs that allow the students to acknowledge the value of physical exercise and participate in it. Since social inequities created by failing economic Environments contribute to obesity, policies that deal with education and financial and social aspects of everyday life have been developed. Some policies include social security, health insurance, and personal income tax regimes.

Part of the population health approach to combat obesity is to develop policies that directly affect peoples' behaviors. Population health policies that alter people's behaviors directly affect the settings, such as workplaces, schools, and home environments where people spend most of their lives. Research has shown that school-based interventions to combat obesity are some of the most effective (Tseng et al., 2018). Schoolchildren participating in nutrition education and nutrition policy have a lesser incidence of obesity (Tseng et al., 2018). The home environment is essential in the fight against obesity since, as stated earlier, excessive "screen time" is one of the main contributors to weight gain (Tzenios et al., 2022).. Parents have been encouraged to reduce their children's time on television (Tseng et al., 2018). It can be done by ensuring no TVs in the bedroom. The home environment can adopt other measures, such as creating a physical activity environment, consuming healthy foods, and having regular mealtimes. Parents can act as role models for healthy eating.

The population health approach to dealing with obesity also supports health services and clinical interventions. The healthcare system faces issues that threaten to derail the fight against obesity. Some of the most common challenges include inadequate funds, insufficient training on how to deal with overweight people, and inadequate time to address obesity during routine hospital visits (Kim, 2020). On the patients' side, effective management of obesity is often hindered by inadequate weight management systems, insufficient financial incentives, and stigmatization (Kim, 2020). Recent population health policies to improve this area have included increasing the number of nutritionists and dieticians in hospitals, increasing professional training to equip caregivers to deal with overweight people, and subsidizing weight loss medication.

Policy to Improve Outcome across Populations

The methods of reducing the prevalence of obesity that essentially target changing a person's behavior are ineffective. In the last decade, more than 50% of Americans resorted to dieting to help them lose or maintain the appropriate weight; however, that strategy was ineffective even though they spent over $33 billion (Hall & Kahan, 2018). The most suitable approach to mitigate the rapid increase of obesity must be a holistic public health method that addresses most of the environmental, social-cultural, and behavioral factors that encourage excessive calorie intake and discourage physical activity.

More progress would be made in the efforts to reduce the prevalence of obesity if the government would assume more responsibility instead of placing almost the whole burden on the individual. In light of this, perhaps a policy that would influence the diet in all public institutions would be beneficial (Tzenios et al., 2022). The policy involves implementing statutes to ensure that the food procured for public institutions is healthy. Two actions can help with this policy. First, the state should enforce compulsory nutrition standards across all public institutions. It can be done by introducing meal standards and reducing the supply of foods rich in fat, salt, and sugar by reducing the funding for such foods. Next, providing training and guidance to catering companies on the suitable catering methods in public institutions to minimize intake of fried and sweetened foods. The policy intervention would cultivate healthy eating habits in people entering adulthood and among children, thereby reducing the incidence rates of obesity across all populations. Regulating the kind of food consumed in public institutions cuts across all inequities, such as race, gender, and social-economic status, as many Americans go through public institutions at one point in their lives.

Conclusion

All in all, several people suffering from obesity in the US have been rising steadily since 1999. During this period, the most affected populations include non-Hispanic Blacks (49.9%), Hispanic adults (45.6%), and non-Hispanic White adults (41.4%). Childhood obesity has also been on the rise, with surveys showing that over 19% of children and adolescents in the US are obese. Obesity is a dangerous disease due to its comorbidities and the cost burden it lays on people and the healthcare system. Biomedical and population health techniques are the most popular approaches to dealing with obesity. The population health approach is more effective since it has more holistic strategies for improving the health of populations, unlike the biomedical approach, which only focuses on an individual's health and neglects other significant determinants of health, such as social and economic status. Considering the success and failures of the two approaches, the paper proposes a fiscal policy to regulate the standard of food supplied in public facilities.

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