GENERAL HEALTH

Exploring Obesity: Key Drivers Behind Excess Weight Gain

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Received: 02 April 2026 **Published:** 21 April 2026 **Volume 13, Issue 2** (Apr–Jun 2026)
Article no.: e183 **Open access** · free to read

INTRODUCTION:

Obesity is generally described as excessive body fat accumulation. The benchmark for obesity in adults is a body mass index of 30 and above. This condition contributes to significant health risks. BMI is a tool that assesses average body weight against average body height. Medical professionals make use of this to categorize obesity (Cleveland Clinic, 2024). Obesity may arise across all age groups. Earlier investigations found that its occurrence has increased among adults and youngsters, regardless of place, race, or social class. In less wealthy countries, obesity is usually higher in adults in their middle years from prosperous city settings (mainly women). In developed nations, it impacts both genders and all ages, but it is significantly higher in underprivileged populations (Chooi et al., 2019). Primary health risks of obesity on overall health are hypertension (elevated blood pressure), diabetes, significant cardiovascular problems, non-alcoholic fatty liver disease (NAFLD), sleep apnea, and myocardial infarction (heart attack) (De Lorenzo et al., 2019).

CAUSES:

Food choices: Overeating, ingesting more energy than required, eating heavily processed foods, sugary foods and beverages, foods rich in saturated fats, and a diet lacking in fruits and vegetables leads to obesity. The average fit man requires approximately 2,500 calories a day to sustain a healthy body weight, and the average fit woman requires approximately 2,000 calories a day (NHS, 2023).

Insufficient sleep: Sleep deprivation alters hormone levels within the body that encourage excessive eating and fat accumulation. Appetite-regulating hormones, leptin and ghrelin, influence eating behaviour. In the absence of adequate sleep, the secretion of these hormones changes, leading to a heightened appetite. Insufficient sleep is linked to reduced growth hormone levels and higher cortisol levels; both connected to an increased risk of obesity (Sleep Foundation, 2025).

Physical activity: Leading a sedentary lifestyle and not exercising sufficiently contributes to obesity because the calories consumed are not burned. This unburned energy leads to fat accumulation. Excessive screen exposure, television viewing, gaming, or using smartphones and computers limits opportunities for movement and decreases time for physical activity.

Genetics: Certain genes are linked to obesity and excessive weight. In certain individuals, genetic factors can influence how the body converts food into energy and deposits fat. Genes can impact behaviour and lifestyle. Certain uncommon genetic disorders, like Prader-Willi syndrome, can lead to obesity. Some inherited traits, like an increased appetite, can complicate weight loss. Parental genetic factors, such as heightened hunger, may hinder losing weight. Specific hereditary characteristics may challenge weight reduction, although they do not prevent weight loss entirely.

Disabilities and Medical reasons: Developmental or cognitive challenges in adults and youngsters are associated with a higher likelihood of developing obesity. Restricted mobility and insufficient access to tailored support and training can also play a role in obesity. In certain instances, preexisting health issues can lead to increased body weight; however, if effectively recognized and treated, they may not significantly impede weight

loss. Specific medications, such as steroids and mental health medications, can lead to obesity (NHS, 2023).

Pregnancy: An increase in body weight frequently occurs during pregnancy. Many women struggle to shed the weight following childbirth. Maternal weight gain may play a role in the onset of obesity in women. The joint effect of alterations in hormones, changes in metabolism, and changes in daily habits throughout gestation and postpartum may lead to sustained weight gain, highlighting the significance of managing weight after childbirth for maternal well-being (Mayo Clinic, 2023).

Gut microbiome: The gut microbiome can impact feeding patterns through different mechanisms. Much of this data is derived from studies using germ-free mice, mice reared in sterile environments without microbiota. Sterile mice exhibit higher numbers of sugar and fat taste receptors compared to conventional mice. Gut bacteria can produce ghrelin, neuropeptide Y, and similar peptides that mimic these appetite-controlling hormones. In comparison, sterile mice show reduced concentrations of leptin and other satiety-related hormones. Beyond affecting feeding habits, intestinal microbiota can directly regulate body weight (Tomiyama, 2019).

Stress: Prolonged and temporary stress can impact the nervous system and stimulate the production of hormones like cortisol, which regulate metabolism and appetite. Alterations in these hormones may increase food intake and fat accumulation. Experiencing widespread societal bias, people with higher body weight are vulnerable to stress and its subsequent harmful effects (National Heart, Lung, and Blood Institute, 2022).

CONCLUSION:

Obesity is an intricate health issue influenced by a range of causes, including dietary practices, nutrition habits, activity routines, duration and quality of sleep, inherited traits, family history, DNA-related factors, underlying illnesses, pregnancy, physical or cognitive impairments, stress, and the gut microbiome. Its occurrence has risen universally across all stages of life and social and economic levels. It contributes to severe medical issues. Understanding obesity is crucial to establishing strategies for mitigation and treatment. Healthy eating, a nutritious diet, engaging in routine activity, and managing health or hereditary contributors decrease the likelihood of obesity and enhance overall health.

REFERENCES:

1) Cleveland Clinic. (2024, September 10). *Obesity*. Cleveland Clinic. https://my.clevelandclinic.org/health/diseases/11209-weight-control-and-obesity

2) Chooi, Y. C., Ding, C., & Magkos, F. (2019). The epidemiology of obesity. *Metabolism*, *92*, 6-10.

3) De Lorenzo, A., Gratteri, S., Gualtieri, P., Cammarano, A., Bertucci, P., & Di Renzo, L. (2019). Why primary obesity is a disease?. *Journal of translational medicine*, *17*(1), 169.

4) Sleep Foundation. (2025, July 16). *obesity and sleep*. Sleep Foundation. https://www.sleepfoundation.org/physical-health/obesity-and-sleep

5) NHS. (2023, February 15). *Obesity ? Causes*. National Health Service. https://www.nhs.uk/conditions/obesity/causes/

6) Tomiyama, A. J. (2019). Stress and obesity. *Annual review of psychology*, *70*(1), 703-718.

7) National Heart, Lung, and Blood Institute. (2022, March 24). *Overweight and obesity ? Causes and risk factors*. National Institutes of Health. https://www.nhlbi.nih.gov/health/overweight-and-obesity/causes

Competing interests

The authors declare that they have no competing interests.

How to cite this article (Vancouver)
CB R. Exploring Obesity: Key Drivers Behind Excess Weight Gain. CHEARS Chronical. 2026;13(2):e183. Available from: https://chears.in/journal/volume-13/issue-2/exploring-obesity-key-drivers-behind-excess-weight-gain-183
Published in CHEARS Chronical.
https://chears.in/journal/volume-13/issue-2/exploring-obesity-key-drivers-behind-excess-weight-gain-183