

Obesity and Lifestyle Medicine: Impact on Mental Health and Diabetes

Presenter: Tiffani Bell Washington, MD, MPH, FAPA, DABOM, DABLM

**Moderator: Annelle B. Primm, MD, MPH
Council of Elders, Black Psychiatrists of America**

November 28, 2023



Today's Webinar

- Diabetes affects Black communities at disproportionately high rates.
- Certain mental illnesses commonly co-occur with diabetes and some psychotropic medications can contribute to diabetes risk.
- November is Diabetes Month, an opportune time to discuss the connections between diabetes, mental health, weight management, and lifestyle medicine.
- We thank the SAMHSA CE-MHTTC for its partnership on the Black Psychiatrists of America (BPA) Health Equity Webinar series.
- Content has both Central East region and national relevance.
- Our featured speaker is Tiffani Bell Washington, MD, MPH, FAPA, DABOM, DABLM



Obesity and Lifestyle Medicine: Impact on Mental Health and Diabetes

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OBJECTIVES



Explain the interconnectedness of obesity, diabetes, and mental health in the African American community, emphasizing key risk factors and complexities

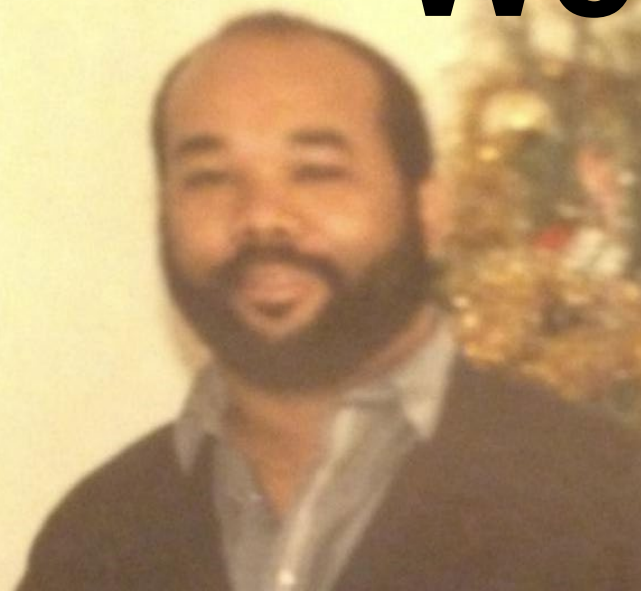


Explore and counter social and self-stigma surrounding mental health and obesity, proposing strategies to foster an open, understanding environment for care



Discuss the significant impact of obesity and diabetes on mental health, focusing on stress, anxiety, and depression, while emphasizing the need for lifestyle medicine interventions and empathetic support systems

We all have a WHY...



This is mine



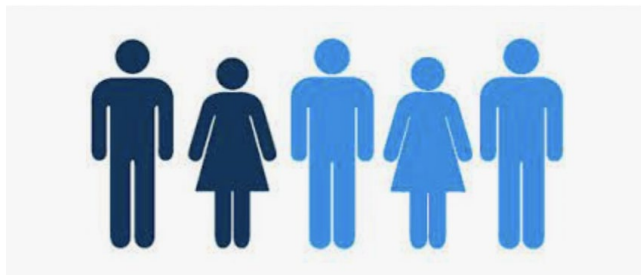
“

**Be like a flower.
Survive the rain but
use it to grow. –
Anonymous.**

”

Public Health Crisis

- Obesity is a public health crisis in the United States
- Obesity is associated with **>200 possible health complications**
- 2 in 5 people have obesity in America (defined as BMI > 30)
- 1 in 5 report the pandemic had a significant impact on their mental health



Among U.S. ADULTS:



1 in 5 experienced a mental illness

1 in 5

report that the pandemic had a significant negative impact on their mental health



of those with mental illness



of those with serious mental illness

Obesity Prevalence

The US adult obesity prevalence was **41.9% in 2017 – March 2020.**

From 1999 –2000 through 2017 –March 2020, **US obesity prevalence increased from 30.5% to 41.9%.** During the same time, the **prevalence of severe obesity increased from 4.7% to 9.2%.**

Non-Hispanic Black adults (49.9%) had the highest age-adjusted prevalence of obesity, followed by Hispanic adults (45.6%), non-Hispanic White adults (41.4%) and non-Hispanic Asian adults (16.1%, not accounting for lower BMI threshold).

The obesity prevalence was **19.3% among youths (2-19 years), 39.8% among adults aged 20 to 39 years, 44.3% among adults aged 40 to 59 years, and 41.5% among adults aged 60 and older.**

The prevalence of metabolic syndrome in US adults is >30%. **Only <20% of US adults have “optimal” metabolic markers.**

Higher Risk

- African American women have the **highest** rates of obesity
- Approximately **4 out of 5** African American women have **overweight or obesity**
- Heart disease is disproportionately **higher** in African Americans compared to non-Hispanic whites
- “**In 2018**: African American adults were **60 percent more** likely than non-Hispanic white adults to be diagnosed with diabetes by a physician

Higher Risk (cont.d)

- **In 2019:** Non-Hispanic Blacks were **twice as likely** as non-Hispanic whites to die from diabetes
 - **2.5 times likely** to be hospitalized with diabetes and associated long-term complications than non-Hispanic whites
 - **3.2 times more likely** to be diagnosed with end stage renal disease as compared to non-Hispanic whites.
 - Minority Health HHS

[OMH website, Diabetes and African Americans](#)

[2020 Mental Health by the Numbers](#). Note: Obesity is defined as BMI > 30. PwO: People with obesity World Health Organization. 2018. Obesity and overweight. <http://www.who.int/mediacentre/factsheets/fs311/en/>; 2 Yuen M., Earle R., Kadambi N., et al. A systematic review and evaluation of current evidence reveals 236 Obesity-Associated Disorders (OBAD). Massachusetts General Hospital & George Washington University. [Poster presentation]; 3 Dobbs R, Sawers C, Thompson F, et al. Overcoming Obesity: An Initial Economic Analysis. McKinsey Global Institute.

Why us?

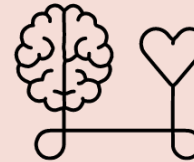
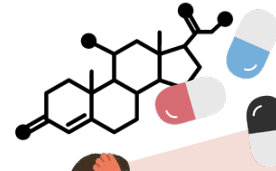
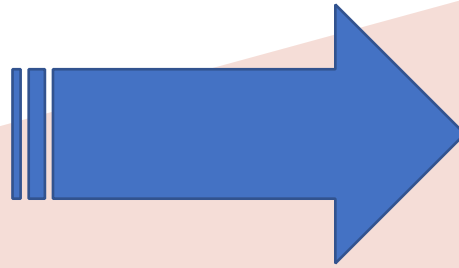
- It is theorized that the **higher risk** in AA women is likely driven by **social determinants of health**, such as *low income, poor access to health care, increased targeted marketing of unhealthy foods, food deserts and swamps*, and the impact of *racism*
- The high rate of type II diabetes, obesity and overweight, and a sedentary lifestyle significantly contributes to **poor cardiovascular outcomes** in African Americans and other people of color



OBESITY IS A DISEASE

A Few Key Points On Obesity

Not just diet & exercise



Healthy Foods, Movement, Stress Relief, Sleep, and Connection

2013

Obesity Is Now A Disease, American Medical Association Decides

Obesity has been officially recognized as a disease by the American Medical Association, an action that could put more emphasis on the health condition by doctors and insurance companies in order to minimize its effects.

A reason the AMA decided in favor of obesity as a disease is that it will decrease the **stigma of obesity that comes from the widespread thought that it is just the outcome of excessive eating and not enough exercise.** Doctors say some people do not have complete control of their weight.



What is obesity ?

BMI >



BMI >



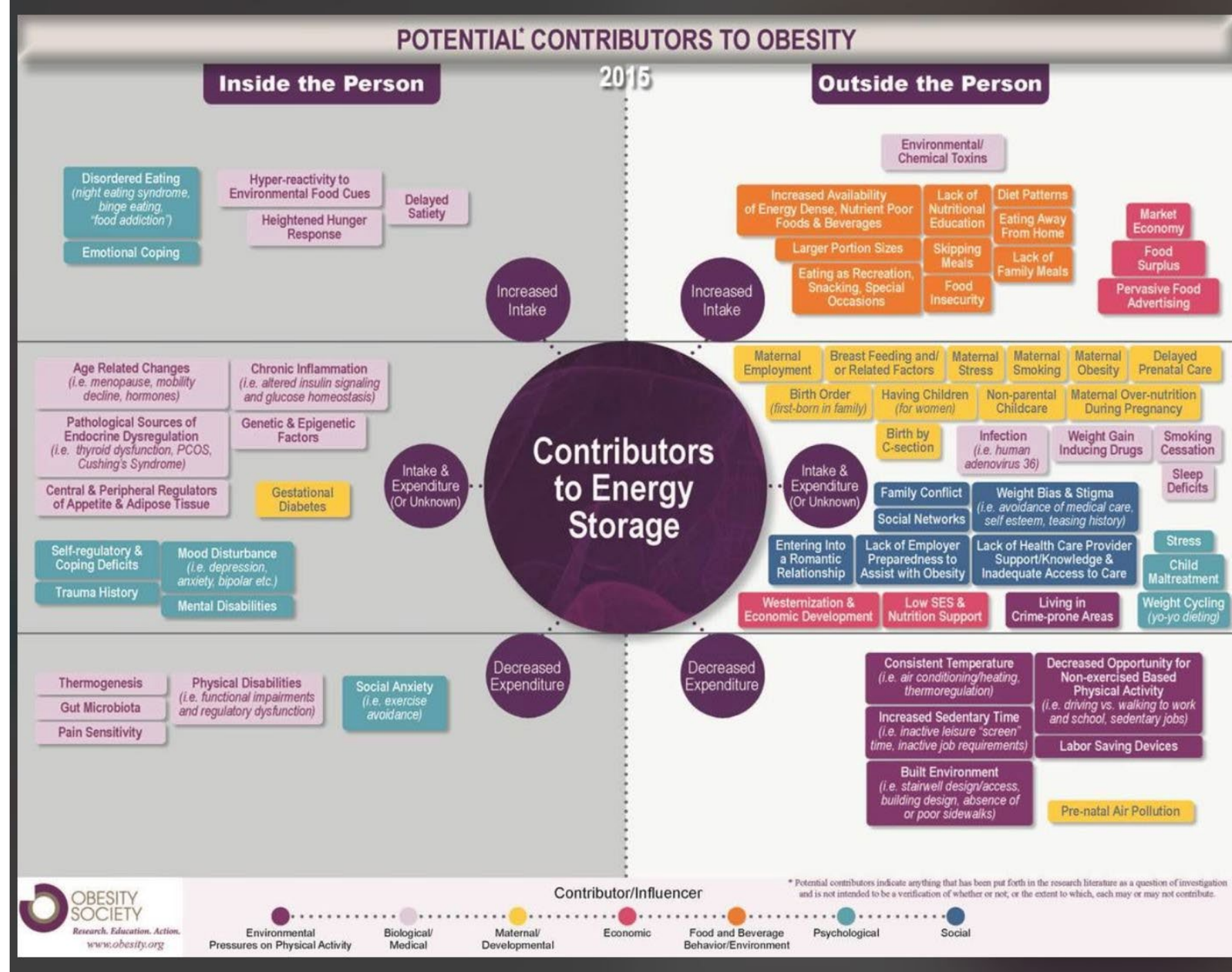
“
Obesity is defined as a chronic, progressive, relapsing, and treatable multi-factorial, neurobehavioral disease, wherein an increase in body fat promotes adipose tissue dysfunction and abnormal fat mass physical forces, resulting in adverse metabolic, biomechanical, and psychosocial health consequences.
”



More than
*Calories In vs
Calories Out:*

Obesity is
caused by
many factors.

Bias and
stigma blocks
finding the
real causes of
obesity.



Modified BMI Threshold Based on Race, Ethnicity, & Sex

TABLE. Cutoffs for BMI Based on ROC Curve Analysis

Obesity Co-morbidity	BMI (kg/m ²)					
	Men			Women		
	Black	Hispanic	White	Black	Hispanic	White
Hypertension	28	29	28	31	28	27
Dyslipidemia	27	26	27	29	27	25
Diabetes	29	29	30	33	30	29
≥2 risk factors	28	29	29	31	30	28
Average	28	28	29	31	29	27

BMI = body mass index; ROC = receiver operating characteristic.

Stanford, et al (2019). "Race, Ethnicity, Sex, and Obesity: Is It Time to Personalize the Scale?" Mayo Clin Proc. 94(2):362-369 from [Mayo Clinic Proceedings document LETTERS TO THE EDITOR](#) on 10/30/2021

Impact on
quality of
life



Weight



**Quality
of life**

- People with obesity may have a **lower quality of life** due to depression, anxiety, isolation, chronic pain, loss of work or mobility issues.

Real Life Impact of Weight Bias



**RED
TABLE
TALK**

“I’ve experienced being judged by others because of my weight. I know the negative effect it can have on you, but I never let that stop me — and neither should you.”

Queen Latifah

Sources of Weight Bias

HEALTHCARE

DOCTORS
69%
Women
Experienced
Weight Bias

NURSES
31%
Prefer not
to work with
Patients with Obesity

WORKPLACE

LOWER PAY
Than
Thinner Colleagues

NEGATIVE PERFORMANCE
Evaluations

MEDIA

SOCIAL

ACADEMICS

FAMILY

Weight Bias and Mental Health

In addition to the links between obesity and mental illness, experiences of weight-based discrimination have also been found to be associated with poor mental health. Research shows that weight bias is related to mental health independently; the relationship is not mediated by obesity.⁸



Over half of participants who experienced weight-based discrimination met the criteria for at least one psychiatric condition



Weight-based discrimination was found to be associated with mood disorders, anxiety disorders, and addiction

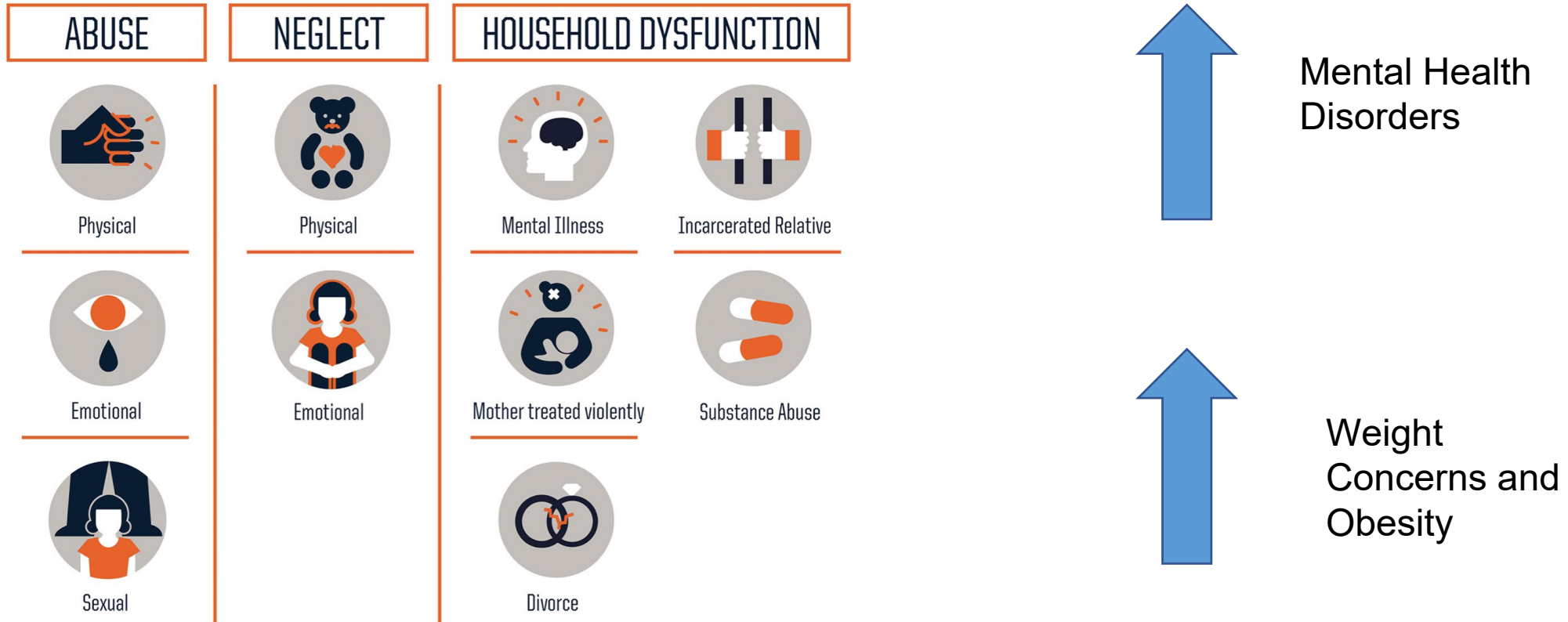


Those who experienced weight-based discrimination were over three times as likely to report high levels of stress



- **The World Obesity Federation defines weight stigma as “the discriminatory acts and ideologies targeted towards individuals because of their weight and size.”**
- **Weight stigma can have devastating social, psychological, and physical effects**
- **Decreasing stigma, self and external, is difficult**

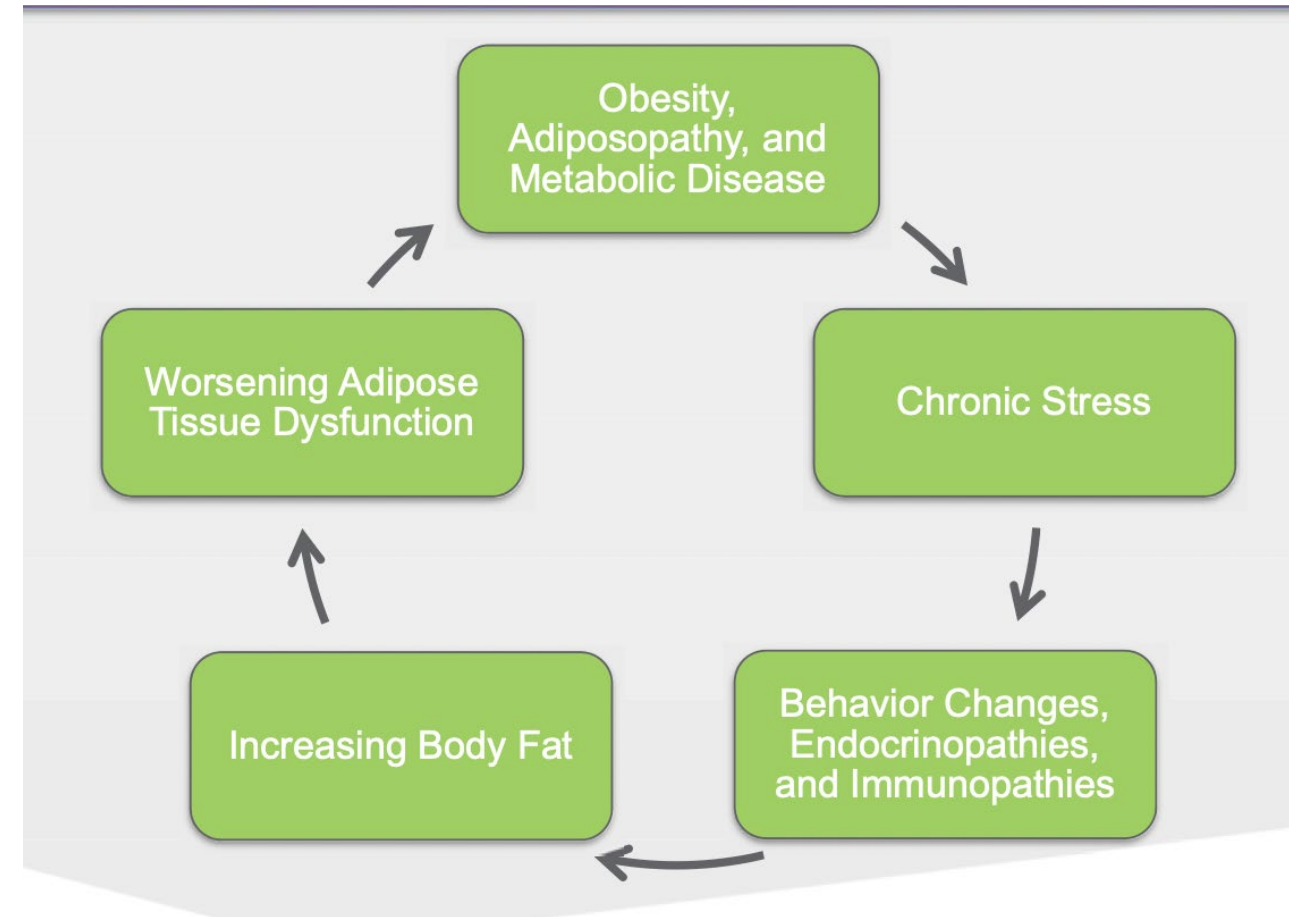
Adverse Childhood Experiences



Just ONE caring adult can help counter some of these adverse experiences*

Stress + Mental Health

1. Shorter-term “fight or flight” stress response increases stress hormones
2. Usually improves cognition, physiologic function, tolerance to pain,
3. and immune function - When short-term
4. If long-term, “submit and stay” stress may increase hypothalamic corticotrophic activity and worsen sleep patterns
5. Longer-term hypothalamic stress responses may increase food craving, increase blood pressure, worsen glucose metabolism, promote pain intolerance, and dysregulate immune responses
6. Chronic stress-induced adiposopathic responses may adversely affect the limbic system
7. Dysregulation of the limbic system with chronic stress may affect hunger, food choice, and emotional modulation of food intake
8. Dysregulation of the limbic system with chronic stress may affect reward-seeking behavior
9. Mental stress may affect the cerebrum, which may contribute to prioritization of personal, work, or other behaviors and activities, with less prioritization of healthful behaviors and activities (i.e., healthful nutrition and regular physical activity)
10. Mental stress may impair self-regulation and promote choosing unhealthy (immediately rewarding ultra-processed) foods over more healthful (delayed-gratification unprocessed) foods
11. Obesity and its adverse health complications may increase mental stress, which may contribute to unhealthy behavior, endocrinopathies and immunopathies, which in turn, may further worsen obesity and its complications, resulting in an adiposopathic stress cycle.



Increased stress **increased cortisol** **weight gain** (and some MH disorders)
Heart Disease

Obesity and Mental Health



Bidirectional

Obesity is associated with higher rates of mental health disorders



- Depression

- Gender differences: Women have higher rates of depression; Men no difference
- Medication use associated with higher obesity rates

- Anxiety

- Bipolar Disorder

- Gain body weight in response to weight positive medications

Depression and Heart Disease

- **Depression, Anxiety, Stress:** Trigger increased heart rate and blood pressure
- **Reduced Blood Flow:** Stress reduces blood flow to the heart
- **Higher Cortisol Levels:** Prolonged stress leads to elevated cortisol
- **Risk Factors for Heart Disease:** Elevated cholesterol, triglycerides, blood sugar, and pressure
- **Plaque Buildup:** Chronic stress contributes to artery plaque deposits
- **Sticky Platelets:** Depression leads to unusually sticky platelets
- **Accelerated Atherosclerosis:** Increases the risk of heart attack

Depression and Heart Disease (cont.d)

Depressive symptoms increase the chance of developing heart failure!

Depression:

- ... as big a risk factor for coronary ***heart disease as smoking, high cholesterol levels and high blood pressure.***
- ... **Affects the recovery** of people with coronary heart disease and increase their risk of further heart problems.
- ... **can raise the risk of an earlier death for anyone**, but the condition is **particularly deadly for women**

Psychiatric Medications That can Contribute to Obesity

- **Antipsychotics**: Aripiprazole (Abilify), chlorpromazine (Thorazine), clozapine (Clozaril), olanzapine (Zyprexa), pimozide (Orap), quetiapine (Seroquel), risperidone (Risperdal), ziprasidone (Geodon)
- **Antidepressants** most likely to cause weight gain include amitriptyline (Elavil), mirtazapine (Remeron), paroxetine (Paxil, Brisdelle, Pexeva), escitalopram (Lexapro), sertraline (Zoloft), duloxetine (Cymbalta), and citalopram (Celexa).

The background is a complex abstract composition. It features several large, organic, overlapping shapes in shades of orange, red, and brown. These shapes are filled with various patterns: some have a fine dotted texture, others have wavy white lines, and some have a grid of small white dashes. A prominent feature is a large, irregular shape on the left side, filled with a dense pattern of small white dashes. Another large shape on the right side is filled with a pattern of wavy white lines. The overall color palette is warm and earthy, with a gradient from light orange to dark brown. The word "Diabetes" is written in a clean, white, sans-serif font in the lower-left corner. A solid orange horizontal bar is positioned at the bottom of the image, partially overlapping the word "Diabetes".

Diabetes



What is Diabetes?

- According to the CDC, diabetes is a chronic (long-lasting) health condition that affects how your body turns food into energy.
- Your body breaks down most of the food you eat into sugar (glucose) and releases it into your bloodstream.
- When your blood sugar goes up, it signals your pancreas to release insulin.
- Insulin acts like a key to let the blood sugar into your body's cells for use as energy.

Obesity and Diabetes

- Obesity is a known risk factor for diabetes
- According to American Heart Association statistics, 55% of Black women and 38% of Black men have obesity
- Based on findings from the Department of Health and Human Services, Office of Minority Health, 13.4% of Black men and 12.7% of Black women have been diagnosed with diabetes
- Diabetes and other chronic illnesses affect mental health and ability to follow treatment plans

HOW DIABETES CAN AFFECT YOUR BODY

Having high blood sugar from diabetes over time can cause serious health complications.



HEART

Damaging blood vessels and causing high blood pressure, a heart attack, or heart failure

EYES

Damaging the small blood vessels at the back of the eyes, leading to vision loss

FEET

Reducing blood flow and damaging nerves, making a wound more likely to get infected and harder to heal, and increasing the risk of amputation

EARS

Affecting how nerve signals travel from the inner ear to the brain, causing hearing loss

NERVES

Causing numbness or pain that makes it hard to do daily activities

MOUTH

Increasing harmful bacteria and causing cavities and gum disease



BLOOD VESSELS

Damaging blood vessel walls and decreasing blood flow

STOMACH

Damaging the nerves in the stomach and slowing or stopping digestion

BRAIN

Damaging blood vessels in the brain and causing a stroke or memory loss

SEXUAL HEALTH

Damaging nerves and reducing blood supply, causing erectile dysfunction and vaginal dryness

SKIN

Causing skin infections or changes such as dark patches on the skin

THE GOOD NEWS?

Keeping your blood sugar levels in your target range can help prevent or delay all these conditions.

LEARN MORE: cdc.gov/diabetes/managing/problems.html



The background is a complex, abstract composition of organic, flowing shapes in various colors including red, orange, yellow, and brown. These shapes are overlaid with different patterns: a white dotted pattern, a grey dotted pattern, a dark grey dotted pattern, and a pattern of white wavy lines. Small, black, wavy lines are scattered throughout the composition. The overall aesthetic is modern and artistic.

Socioeconomic Factors

Contributors to Obesity



Access to Care: Health Equity

Access to Obesity Care: A Health Equity Issue

Comprehensive obesity care for children is limited by inadequate (often, no) healthcare insurance coverage for obesity treatment

Inadequate coverage for pediatric obesity leads to unsustainability of many pediatric obesity treatment clinics

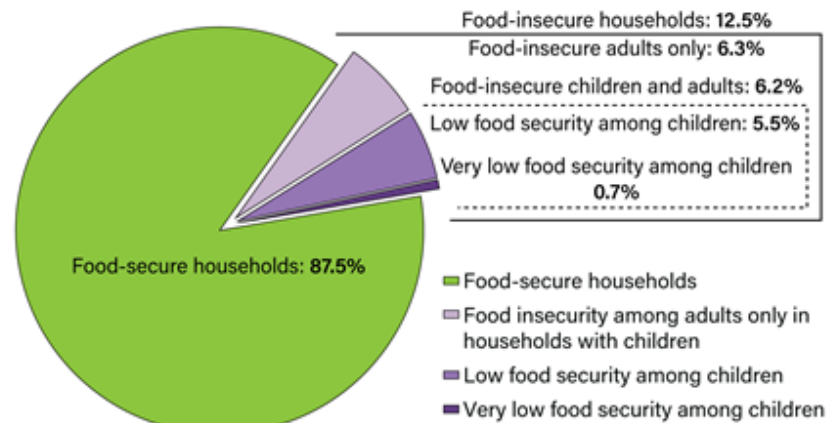
Children with obesity deserve the same access to quality care that is provided for other chronic diseases

Obesity treatment coverage is scarce for pediatric patients on governmental insurance plans

All members of society must advocate to ensure comprehensive, equitable coverage for the disease of obesity in children

Food Insecurity

U.S. households with children by food security status of adults and children, 2021



Note: In most instances, when children are food insecure, the adults in the household are also food insecure.

Source: USDA, Economic Research Service using data from U.S. Department of Commerce, Bureau of the Census, 2021 Current Population Survey Food Security Supplement.

Image Source: USDA

- Over 12% of all households in the United States are food insecure
- Families worry about running out of food and ration available food to prevent running out
- Food insecure individuals are more likely to struggle with anxiety and depression (all ages)
- Children are at higher risk for asthma, malnutrition and cognitive problems

Food Insecurity: Deserts and Swamps



- **Food Deserts**
 1. Low-income communities where stores to buy fruits, vegetables and other whole foods are either absent or difficult to access.
 2. When controlling for other factors (as diet and exercise or household education level) food deserts are linked to higher risk of obesity
- **Food Swamps**
 1. Fast food and junk food are plentiful. Easy to access high-calorie, low-nutrition foods.
 2. Predict obesity rates better than food deserts

[NPR website, OPINION: Obesity Is Linked To Food Insecurity. SNAP Cuts May Make Both Worse](#)

Cooksey-Stowers K, Schwartz MB, Brownell KD. Food Swamps Predict Obesity Rates Better Than Food Deserts in the United States. *Int J Environ Res Public Health*. 2017 Nov 14;14(11):1366. doi: 10.3390/ijerph14111366. PMID: 29135909; PMCID: PMC5708005.

Access to Care: Health Equity

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The Salt WHAT'S ON YOUR PLATE

OPINION THE SALT

OPINION: Obesity Is Linked To Food Insecurity. SNAP Cuts May Make Both Worse

December 16, 2019 · 8:15 AM ET

By Elsa Pearson



A shopper holds fresh produce at Northgate Gonzalez Market before a news conference there, where the Los Angeles County Department of Public Health announced new data on food insecurity in the county, in September 2017. Food insecurity affected 1 in 3 low-income households in the county, the data showed. Danny Moloshok/Los Angeles County Department of Public Health/AP

Elsa Pearson, MPH, is a senior policy analyst at Boston University School of Public Health. She's on Twitter @epearsonbusph.

The closest grocery store is a few miles away and your paycheck doesn't clear until Friday. You even skipped lunch. With no car, only a few dollars and kids at home, you decide dinner will have to, yet again, be the local fast-food restaurant within walking distance. It's cost-effective, but you're already bracing for the "healthy weight" conversation at the pediatrician's next month.

Over 11% of all households in the United States are food insecure. They worry about feeding their kids and getting their kids to have. It is clear food insecurity leads to poorer health. Regardless of age, food insecure individuals are more likely to struggle with anxiety and depression. Children are at higher risk for asthma, malnutrition and cognitive problems. Non-elderly adults are more likely to have

- Food-insecure adolescents eat more fast-food and dietary fat intake, than peers.
- Among low-income households with children, food-insecure kitchens have more obesity-promoting foods such as microwaveable and quick-cook frozen food.
- Families with food insecurity tend to have lower diet quality and higher prevalence of childhood overweight and obesity.

Berkman ND, Brownley KA, Peat CM, et al. Management and Outcomes of Binge-Eating Disorder [Internet]. Rockville (MD): Agency for Healthcare Research and Quality (US); 2015 Dec. (Comparative Effectiveness Reviews, No. 160.) Introduction. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK338301/>



NEWS RELEASE

Racial Discrimination Increases Risk for Childhood Obesity

Jul 11, 2023

Modified Jul 11, 2023

Posted in

[Health and](#)

[Medicine,](#)

[NYU Homepage](#)

[Feature](#)

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Study shows discrimination may drive health inequities from an early age

Children who experience racial discrimination are more likely to later have a higher body mass index (BMI) and larger waistline, according to a new study published in *JAMA Network Open*. The findings illustrate that racial discrimination may be a risk factor for young people developing obesity—above and beyond other socioeconomic factors such as family income



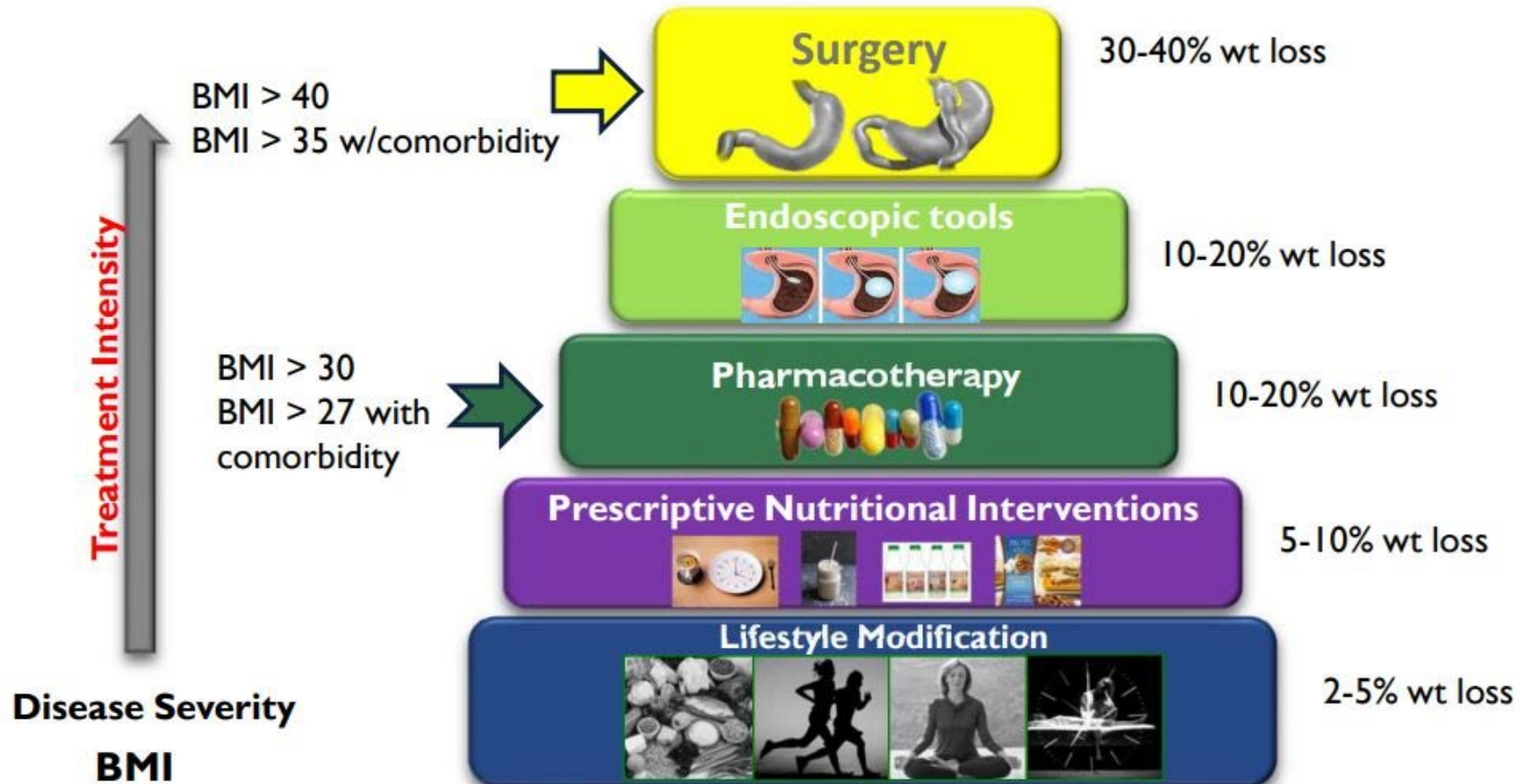
© Getty Images

Childhood obesity increases the risk of obesity in adults and older adults

Racial Disparities in Obesity Treatment

Obesity Treatment Pyramid

Image: Dr. Sylvia Bonsalle



FDA Approved Anti-Obesity Medications

- The FDA has approved five of these drugs for long term use
- **orlistat (Xenical, Alli)**
- **phentermine-topiramate (Qsymia)**
- **naltrexone-bupropion (Contrave)**
- **liraglutide (Saxenda)**
- **semaglutide (Wegovy)**
- **Tirzepatide (Mounjaro)**

Lifestyle Changes

“LET FOOD BE THY MEDICINE
AND MEDICINE BE THY FOOD.”

- Hippocrates

Eight Dimensions of Wellness



Source: Adapted from Swarbrick, M. (2006). A Wellness Approach. *Psychiatric Rehabilitation Journal*, 29(4), 311–314.



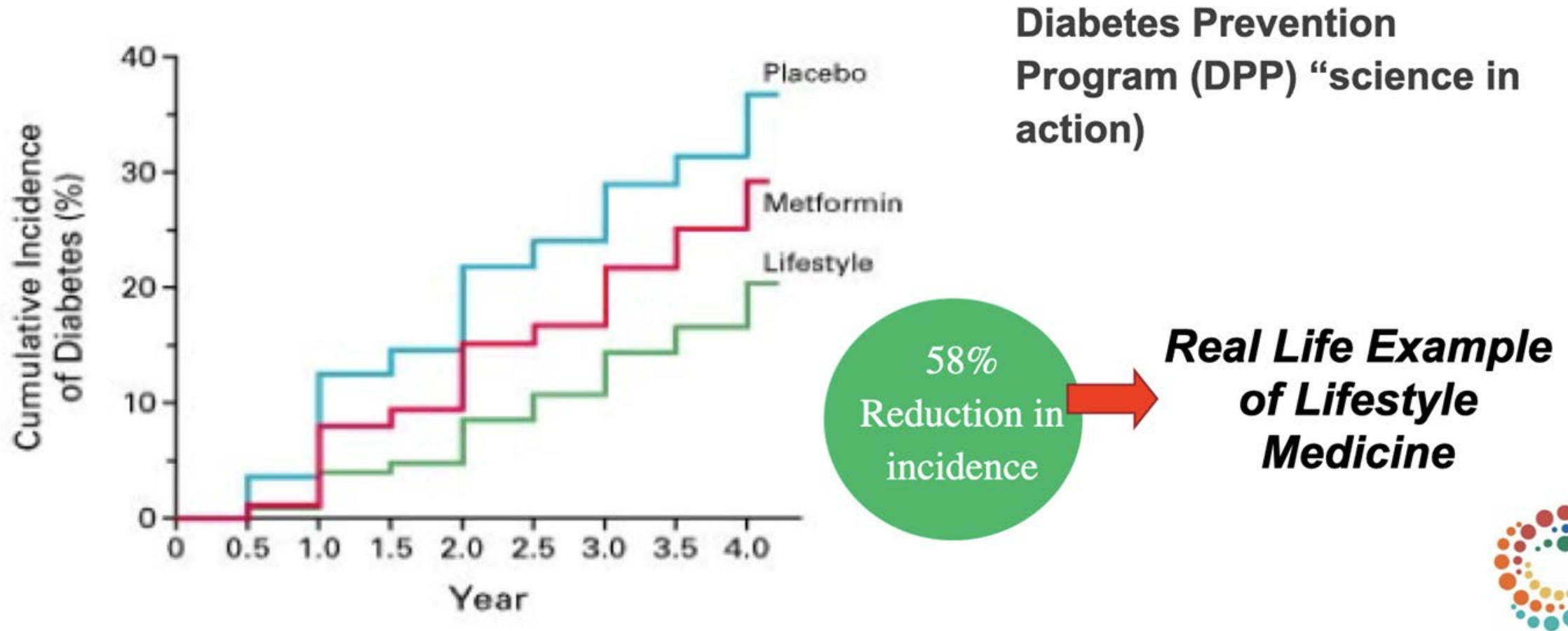
Simple, Powerful Therapy

NUTRITION: Choose predominantly whole, plant-based foods that are fiber-filled, nutrient dense, health-promoting and disease-fighting

- **SLEEP:** Lack of, or poor-quality sleep can lead to a strained immune system. Identify and alter environmental habits that may hinder healthy sleep
- **EXERCISE:** Regular and consistent physical activity is an essential piece of an optimal health equation
- **SUBSTANCE USE:** The well-documented dangers of any addictive substance use can increase risk for many cancers and heart disease
- **STRESS MANAGEMENT:** Identify both positive and negative stress responses with coping mechanisms and reduction techniques for improved wellbeing
- **SOCIAL CONNECTION:** Being connected to others is essential to emotional resiliency and overall health



Lifestyle change has the power to prevent disease



Reversal of Coronary Disease Achieved with Plant-Based Diet

1996



1999



Coronary angiograms of the distal left anterior descending artery before (left bracket) and after (right bracket) 32 months of a plant-based diet without cholesterol-lowering medication, showing profound improvement. Used with permission from Dr. Caldwell B. Esselstyn, Jr. (Source: *Prevent and Reverse Heart Disease* by Dr. Esselstyn.)

Lifestyle change has the power to reverse disease





Letter to the Editor

Lifestyle medicine as a modality for prevention and management of chronic diseases

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Abstract

Lifestyle medicine is an approach that focuses on modifying unhealthy behaviors and promoting healthy ones to prevent and manage chronic diseases. This modality addresses multiple risk factors such as physical inactivity, unhealthy diet, tobacco use, and stress. Evidence shows that adopting a healthy lifestyle can significantly reduce the incidence and progression of chronic diseases such as cardiovascular diseases, diabetes, and cancer. The implementation of Lifestyle medicine requires a multidisciplinary approach involving healthcare providers, patients, and communities. Healthcare providers play a pivotal role in educating and motivating patients to adopt healthy behaviors, while communities can provide a supportive environment that fosters healthy lifestyles. The aim of this letter to editor is to summarize the evidence supporting the use of Lifestyle medicine in the prevention and management of chronic diseases.

Keywords: Chronic diseases; Diet; Healthy eating; Lifestyle medicine; Physical activity

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Dear Editor

Lifestyle Medicine (LM) is a preventive healthcare approach that addresses disorders caused by lifestyle factors and preventable causes of death. It focuses on educating and motivating individuals to improve their quality of life through healthier habits and behaviors, including a nutritious diet, regular exercise, restorative sleep, stress management, avoidance of risky substances, and positive social connections. LM aims to prevent chronic conditions like cardiovascular diseases, diabetes, metabolic syndrome, and obesity.¹ This field also seek to focus on addressing the root causes of many chronic diseases and thus has the potential to significantly reduce morbidity and mortality rates, as well as the financial burden associated with chronic disease management.^{2,3}

Studies have shown that lifestyle interventions can be effective in preventing and treating a wide range of chronic diseases, including obesity, diabetes, hypertension, cardiovascular disease, and some types of cancer.⁴ For example, lifestyle modifications such as healthy eating and regular exercise have been shown to lower blood pressure, improve lipid profiles, and reduce the risk of developing type 2 diabetes⁵ (Table 1). Similarly, stress reduction techniques such as meditation and yoga have been found to improve mental health outcomes and reduce the risk of developing depression and anxiety.⁶ In addition to the health benefits, lifestyle medicine can also be cost effective by reducing the need for expensive medical interventions, such as surgeries, medications, and hospitalizations.⁷ Furthermore, lifestyle interventions are often low-cost or even free, making them accessible to a wide range of people.⁸

Research has also shown that multi-component lifestyle medicine interventions can be effective in mitigating depressive symptoms.⁹ These interventions typically include a combination of several lifestyle changes, such as exercise,

Table 1: lifestyle medicine as modality for management of different chronic diseases.

S/N	Disease	Lifestyle Prevention/Management approach
1	Type 2 Diabetes	Healthy diet, stress management, regular physical activity, weight management, getting enough sleep, regular blood monitoring and quitting smoking
2	Cancer	Balanced and healthy diet, manage weight and reduce inflammation, regular physical activity, good sleep and limit alcohol consumption
3	Cardiovascular diseases	Stress management, quitting smoking or avoiding exposure to second-hand smoke, regular exercise, healthy diet, limiting alcohol intake, maintaining a healthy weight
4	Obesity	Healthy eating, regular exercise, behavior modification, quality sleep, stress management and maintenance of a healthy weight
5	High blood pressure	Smoking cessation, limit consumption of alcohol, weight management, quality sleep, healthy diet and stress management
6	High cholesterol	Limit alcohol, smoking, monitoring cholesterol, good sleep, stress management and healthy eating
7	Chronic obstructive pulmonary disease (COPD)	Smoking cessation, engaging in regular physical activity, healthy diet, Pulmonary rehabilitation, avoiding air pollution, vaccinations against influenza and pneumococcal disease and managing stress
8	Osteoporosis	Adequate calcium and vitamin D intake, regular exercise, avoiding smoking and excessive alcohol intake, maintaining a healthy weight
9	Alzheimer's disease	Regular exercise, healthy diet, social engagement and participating in community events, cognitive stimulation activities, stress management, deep breathing exercises, sleep management, support from family members or caregivers can help improve quality of life for individuals with Alzheimer's disease and reduce caregiver burden.
10	Depression and anxiety disorders	Regular exercise, increase self-esteem, healthy diet, getting enough sleep and maintaining a regular sleep schedule managing stress, social support from family, friends, or support groups can help reduce symptoms of depression and anxiety, avoiding alcohol and drugs
11	Liver disease	Maintaining a healthy weight, healthy diet, avoiding alcohol, avoiding smoking, regular physical activity, vaccination against hepatitis A and B
12	Kidney disease	Maintaining a healthy weight, healthy diet, drinking plenty of water, regular exercise, blood pressure management, blood sugar management, avoiding smoking

magnitude of the clinical effect is often small.⁹ This means that while the interventions can improve depressive symptoms, the improvement may not be significant enough to produce a complete resolution of the symptoms.

Study also established that a lifestyle intervention, including dietary counseling and physical activity, significantly reduced blood pressure and improved kidney function in individuals with chronic kidney disease.¹⁰ Another study indicates that Vitamin E therapy significantly improved liver function and reduced liver fat in individuals with non-alcoholic fatty liver disease.¹¹ These studies highlight the effectiveness of lifestyle medicine interventions for the prevention and management of kidney and liver diseases.

As chronic diseases continue to surge, it has become more crucial for healthcare providers to integrate lifestyle medicine into their clinical practice. Incorporating evidence-based lifestyle interventions into patient care with the aim of enhancing their health and managing chronic illnesses is the core of integrating lifestyle medicine into clinical practice. This approach acknowledges that lifestyle components such as nutrition, physical activity, sleep, stress management, and social connections are significant factors in the onset and advancement of various health conditions. To effectively integrate lifestyle medicine into clinical practice, healthcare professionals must adopt a holistic approach that factors in the patient's distinct needs, preferences, and objectives.¹² Additionally, they must possess extensive knowledge of current research on lifestyle interventions and their influence on health outcomes.¹³ Lastly, the following strategies can be implemented to achieve optimal results in reducing the burden and cost associated with chronic diseases:

1. Training healthcare providers in Lifestyle Medicine
2. Conducting patient assessments and developing personalized lifestyle plans
3. Incorporating lifestyle interventions into treatment plans
4. Utilizing technology and resources to support lifestyle changes
5. Collaborating with allied health professionals for comprehensive care
6. Addressing barriers to lifestyle change
7. Empowering patients to take control of their health
8. Evaluating and tracking patient progress
9. Continuing education and staying up-to-date on research
10. Promoting lifestyle medicine as a primary approach to chronic disease management

In conclusion, lifestyle medicine is an achievable solution towards reducing the burden of chronic diseases and the associated financial costs. It represents a new modality for prevention and management of different chronic diseases through lifestyle changes, such as diet, exercise, sleep, stress management, social support, and avoidance of harmful substances.

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Conflict of interest

The author have no conflict of interest to declare.

Lifestyle Medicine treatment for obesity, diabetes, and depression



- **Diabetes** - Healthy eating, stress management, regular physical activity, weight management, getting enough sleep, regular blood sugar monitoring and quitting smoking
- **Obesity** - Healthy eating, regular exercise, behavior modification, quality sleep, stress management and maintenance of a healthy weight
- **Depression** - Regular exercise, increase self-esteem, healthy eating, getting enough sleep and maintaining a regular sleep schedule managing stress, social support from family, friends, or support groups can help reduce symptoms of depression and anxiety, avoiding alcohol and drugs

1
Family Action
Family Action Plan
SMART Goals
Improving Mood
Improving Depression

3
Keep Moving
Improve Mood:
Increase Activity

2
Eat Plants
Plant-based Plate
Hydration
Mindful Eating

4
Sleep Well
Ways to Sleep Well
Sleep Diary

5
Be Present
Foundation for a
Drug-Free World

6
Keep Calm
Personal Stress Plan

7
Love People
Improve Social
Connections

- Lifestyle Medicine tool kit for adolescents

Take Time for Self-Care



Keep to a Routine



SLEEP

A regular bed time and wake time that allows for 7 to 9 hours of sleep is optimal. Have a wind-down routine that includes limiting screen time and being in a dark, cool room.

EXERCISE

Incorporate physical activity into each day. Stand, rather than sit; take the stairs; stretch; garden; go for a walk. Remember that any movement is better than no movement.

NUTRITION

To balance mood and stabilize blood sugar, eat complex carbohydrates found in fruits, vegetables, whole grains, beans, nuts and seeds at regular intervals throughout the day.

Drink Water

Water consumption for hydration is vital! Daily goal for men: ~15.5 cups (3.7 liters). Daily goal for women: ~11.5 cups (2.7 liters).



Socialize

Reach out to friends, peers, older adults and family by phone, email, text, or social media platforms. Even brief virtual connections improve your mood and immune response.

Don't rely on alcohol as a stress reducer.

Respect Your Emotions



Establish "no judgment" rules for yourself and your family as you experience a full range of human emotions: fear, anger, gratitude and grief.

Listen to your Body

Know the signs of too much **STRESS**, and ask for help before you think you need it. **Watch out for:** muscle tension, headaches, upset stomach or difficulty sleeping. Be compassionate with yourself as well as with others.



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Quick Coping Strategies

- Deep breathing – square breathing
- Chair Yoga
- Walk in nature
- Dancing to music you enjoy
- Journaling
- Stress relief
- Refocus on priorities

6 WAYS TO TAKE CONTROL OF YOUR HEALTH LIFESTYLE MEDICINE

Lifestyle medicine is a medical specialty that uses therapeutic lifestyle interventions as a primary modality to treat chronic conditions including, but not limited to, cardiovascular diseases, type 2 diabetes, and obesity. Lifestyle medicine certified clinicians are trained to apply evidence-based, whole-person, prescriptive lifestyle change to treat and, when used intensively, often reverse such conditions. Applying the six pillars of lifestyle medicine—a whole food, plant-predominant eating pattern, physical activity, restorative sleep, stress management, avoidance of risky substances and positive social connections—also provides effective prevention for these conditions.

- 1 WHOLE FOOD, PLANT-BASED NUTRITION**
Extensive scientific evidence supports the use of a whole food, predominantly plant-based diet as an important strategy in prevention of chronic disease, treatment of chronic conditions and, in intensive therapeutic doses, reversal of chronic illness. Such a diet is rich in fiber, antioxidants, and nutrient dense. Choose a variety of minimally processed vegetables, fruits, whole grains, legumes, nuts and seeds.
- 2 PHYSICAL ACTIVITY**
Regular and consistent physical activity combats the negative effects of sedentary behavior. It is important that adults engage in both general physical activity as well as purposeful exercise weekly as part of overall health and resiliency.
- 3 STRESS MANAGEMENT**
Stress can lead to improved health and productivity - or it can lead to anxiety, depression, obesity, immune dysfunction and more. Helping patients recognize negative stress responses, identify coping mechanisms and reduction techniques leads to improved wellbeing.
- 4 AVOIDANCE OF RISKY SUBSTANCES**
Use of tobacco and excessive alcohol consumption have been shown to increase the risk of chronic diseases and death. Treatments often take time, different approaches and many attempts. Patience and support are an important part of breaking risky substance habits.
- 5 RESTORATIVE SLEEP**
Sleep delays/interruptions have been shown to cause sluggishness, low attention span, decreased sociability, depressed mood, decreased deep sleep, decreased caloric burn during the day, increased hunger and decreased feeling of fullness, insulin resistance and decreased performance. Strive for 7 or more hours per night for optimal health.
- 6 SOCIAL CONNECTION**
Positive social connections and relationships affect our physical, mental and emotional health. Leveraging the power of relationships and social networks can help reinforce healthy behaviors.



www.lifestylemedicine.org

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MOST IMPORTANTLY...

- We must TAKE CARE OF OURSELVES first
- The COVID pandemic, societal and racial tensions, economic burdens, and more have added increased stress to ALL of us
- Lifestyle medicine and obesity treatment help improve our quality of life

Resources

SAMHSA's National Helpline

SAMHSA's National Helpline is a free, confidential, 24/7, 365-day-a-year treatment referral and information service (in English and [Spanish](#)) for individuals and families facing mental and/or substance use disorders.

[Also visit the online treatment locator.](#)

Call: 1-800-662-HELP (4357)

Suicide hotline - National Suicide Prevention Lifeline Available 24 hours. Languages: English, Spanish. 800-273-8255

[OMA website](#)

[OACwebsite](#)

[NAMI website](#)

[American College of Lifestyle
Medicine](#)

Suicide hotline
988

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- [World Health Organization website, Mental health of older adults](#)

Questions



Appreciation

