

# Dealing with obesity and how to manage your mental wellness

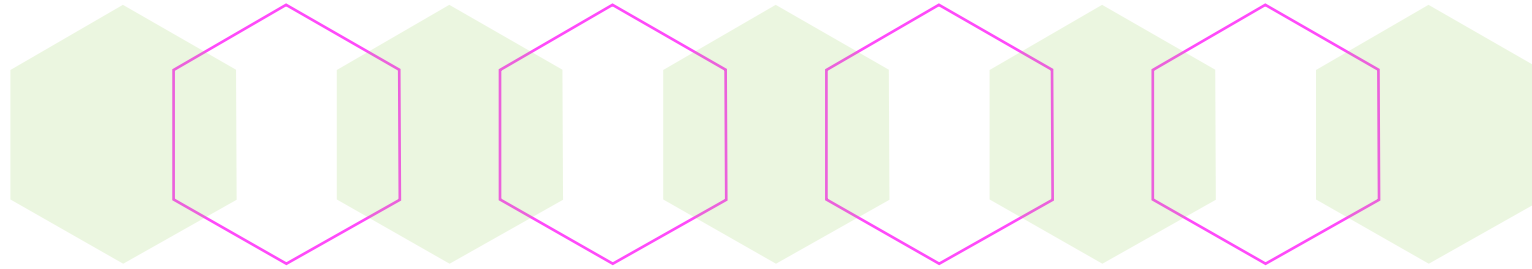
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Associate Professor



**COLEGIADOS...UNIDOS  
SOMOS MÁS FUERTES**

**CONVENCIÓN ANUAL  
CFPR 2024**

# Disclosure to Learners



Ileana Rodríguez Nazario, faculty for this CE activity, has no relevant financial relationship(s) with ineligible companies to disclose.



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# Objectives

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At the conclusion of the activity, pharmacists, should be able to:

1

Explain the epidemiology and socioeconomic impact of obesity.

2

Describe the relation between obesity and mental health.

3

Discuss primary and secondary prevention strategies to reduce mental issues in patients with obesity.

4

Discuss the impact on weight that some psychiatric medications, particularly antipsychotics and some antidepressants, can have.

5

Value the role of the pharmacy team in supporting, educating, and motivating people with obesity.

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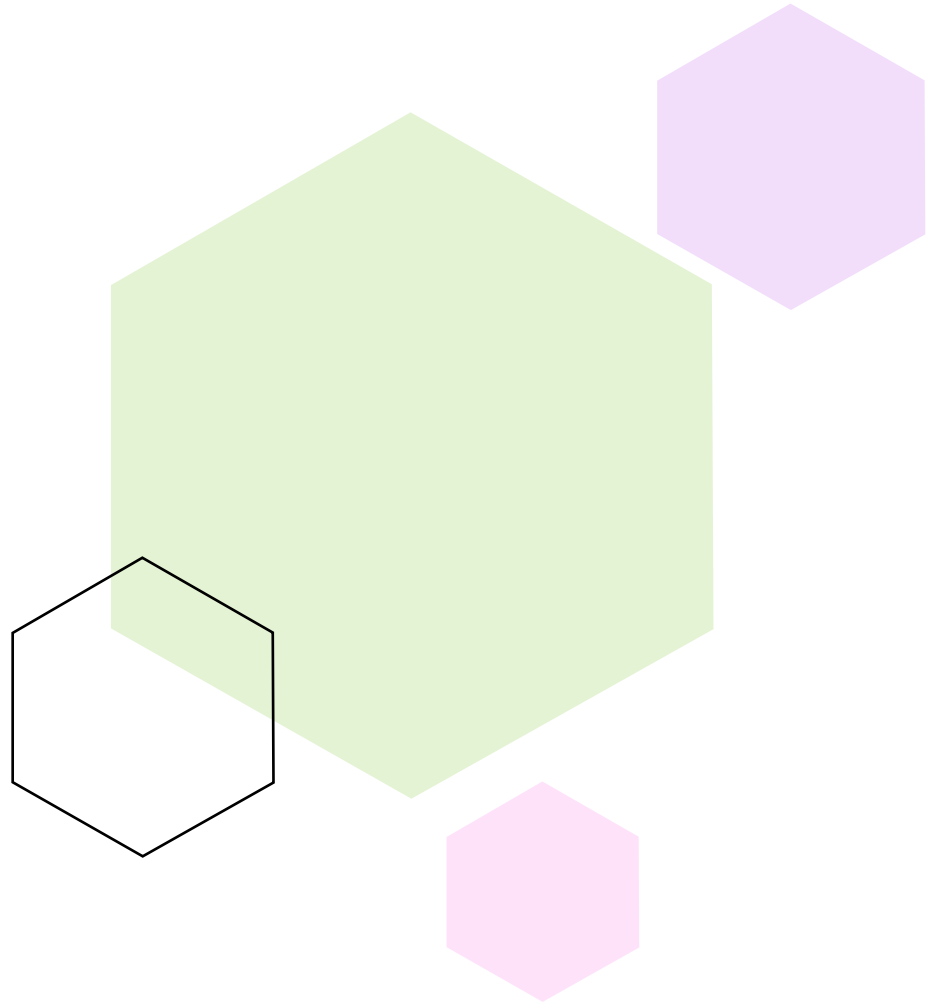
Discuss primary and secondary prevention strategies to reduce mental issues in patients with obesity.

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Identify some psychiatric medications, particularly antipsychotics and some antidepressants, can have on weight.

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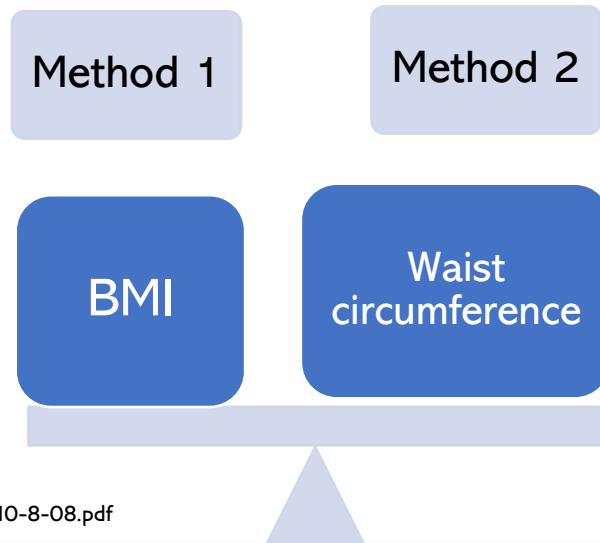
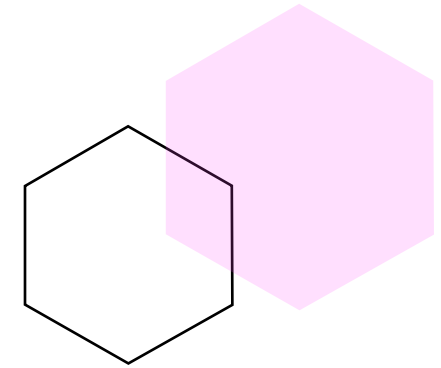
Value the role of the pharmacy team in supporting, educating, and motivating people with obesity.



# Introduction

## Introduction

- Obesity results from an imbalance between calorie intake and expenditure, leading to excess body fat storage.
- The National, Heart, Lung, and Blood Institute's (NHLBI) recommended two easy and practical methods to identify, evaluate and treat overweight and obesity:



Reference: Parks, J., Radke, A. Obesity Reduction & Prevention Strategies for individuals with Serious Mental Illness.  
Accessed from chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.nasmhpd.org/sites/default/files/2022-08/Obesity%252010-8-08.pdf

## Definitions

### Overweight

- Excessive fat deposits
- BMI  $\geq 25.0 - 29.9$  kg/m<sup>2</sup>

### Obesity

- Excessive fat deposits + can impair health
- Mild: BMI  $\geq 30.0 - 34.9$  kg/m<sup>2</sup>
- Moderate: BMI  $\geq 35.0 - 39.9$  kg/m<sup>2</sup>
- Extreme: BMI  $\geq 40.0$  kg/m<sup>2</sup>

Reference: WHO <https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>




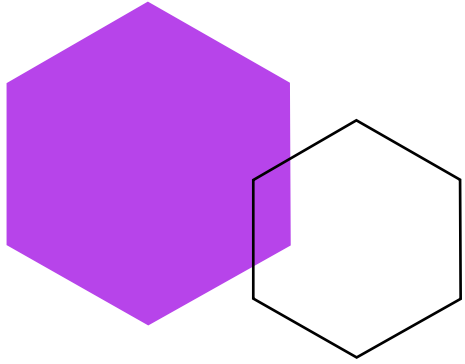
## Health conditions associated to obesity in children and adults

- Heart disease (HTN & HLP)
- T2DM
- Asthma
- Sleep apnea
- Osteoarthritis
- Gallbladder disease


## Other problems associated to obesity during childhood

- Anxiety
- Depression
- Low self-esteem
- Bullying
- Stigma
- Obesity in adulthood

Reference: CDC (2022). Consequences of obesity. Accessed from <https://www.cdc.gov/obesity/basics/consequences.html> on June 2024.



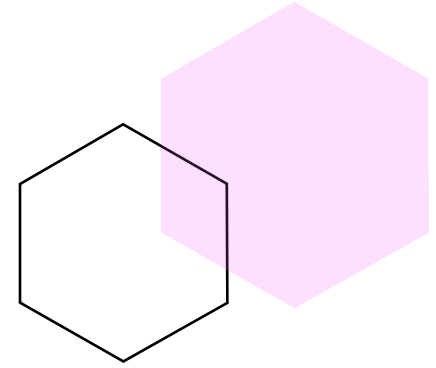
# Prevalence and Epidemiology

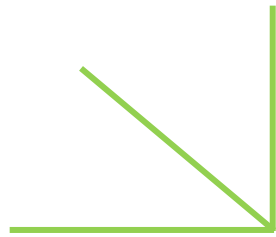


**1 in 8 people  
globally were  
living with  
obesity**

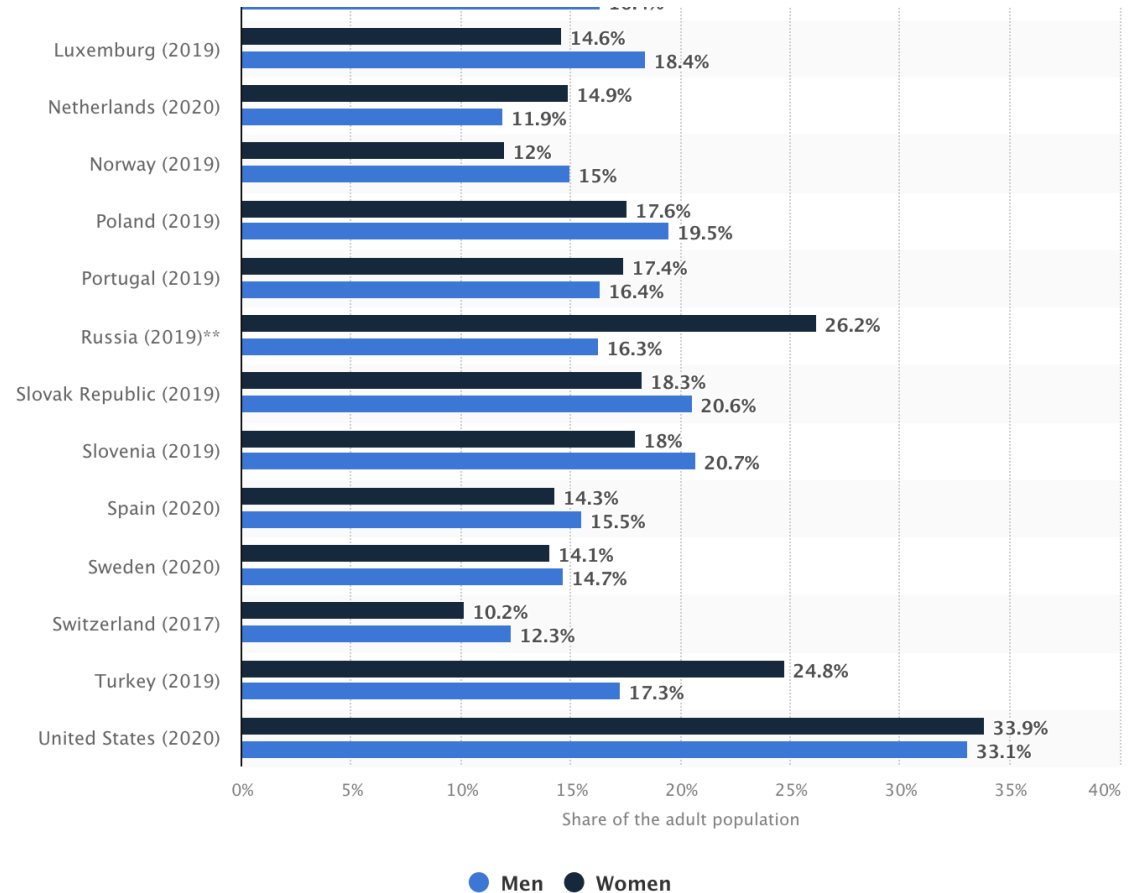
**Adult obesity  
rates have more  
than doubled**

**Adolescent  
obesity rates  
have quadrupled**

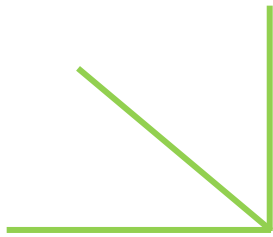




## Prevalence in selected countries by gender



Reference: Statista.2024. Prevalence of obesity among adults in selected countries as of 2021, or latest year available, by gender. Accessed from <https://www.statista.com/statistics/236823/prevalence-of-obesity-among-adults-by-country/> on July 2024



## Prevalence in some states, territories or DC by race/ethnicity

American Indian or Alaska native

• 33%

Asian

• 0%

Black

• 38%

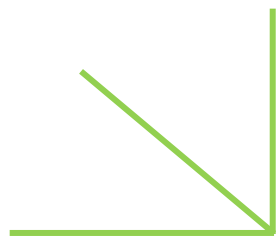
Hispanic

• 32%

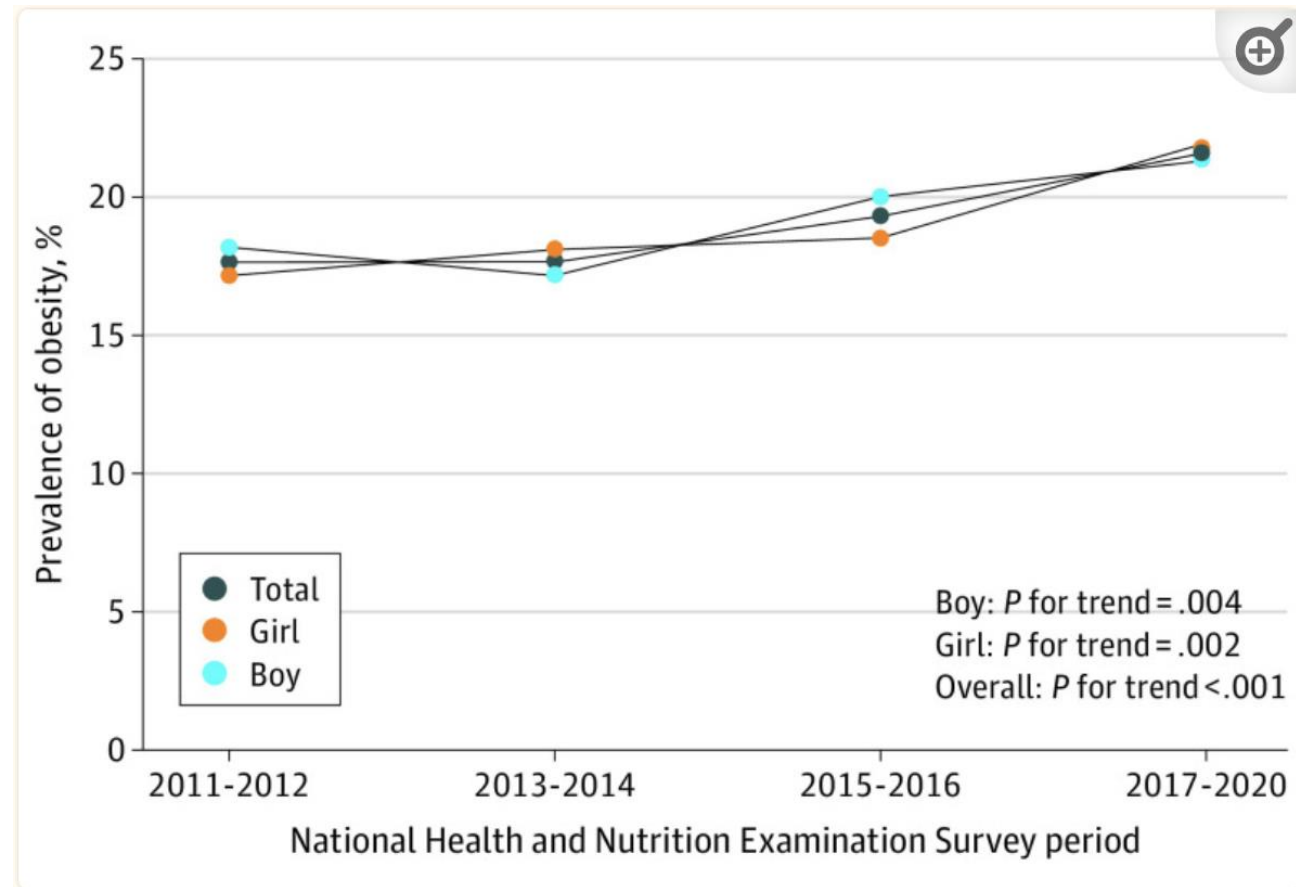
White

• 14%

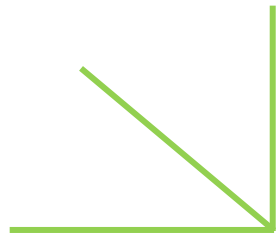
Reference: CDC. 2023. Adult Obesity Prevalence Remains High; Support for Prevention and Treatment Needed. Accessed from <https://www.cdc.gov/media/releases/2023/p0922-adult-obesity.html> on July 2024.



## Prevalence in US youth aged 2 to 19 years by sex



Reference: :Hu K, Staiano AE. Trends in Obesity Prevalence Among Children and Adolescents Aged 2 to 19 Years in the US From 2011 to 2020. JAMA Pediatr. 2022 Oct 1;176(10):1037-1039. doi: 10.1001/jamapediatrics.2022.2052. Erratum in: JAMA Pediatr. 2023 Dec 1;177(12):1362. doi: 10.1001/jamapediatrics.2023.4558. PMID: 35877133; PMCID: PMC9315946.



Global prevalence

## Overweight

- By 2035: over 4 billion people
- Compared to 2020, the rate increased from 38% to 50%.

## Obesity

- By 2035: over 2 billion people
- Compared to 2020, the rate increased from 14% to 24%.

Reference: World Obesity Atlas 2023

**Table 1.1: Global overweight and obesity 2020–2035**

Numbers of people (aged over 5 years) and percentage of the population with overweight or obesity\*

	2020	2025	2030	2035
Number with overweight or obesity (BMI $\geq 25\text{kg/m}^2$ ) (millions)	2,603	3,041	3,507	4,005
Number with obesity (BMI $\geq 30\text{kg/m}^2$ ) (millions)	988	1,249	1,556	1,914
Proportion of the population with overweight or obesity (BMI $\geq 25\text{kg/m}^2$ )	38%	42%	46%	51%
Proportion of the population with obesity (BMI $\geq 30\text{kg/m}^2$ )	14%	17%	20%	24%

*\* For children and adolescents, overweight and obesity are defined using the WHO classification of +1SD and +2SD above median growth reference.*

Reference: World Obesity Atlas 2023



**Table 1.2: Global obesity trends for children, adolescents and adults by gender 2020–2035**

**Children and adolescents (aged 5–19 years)\***

	<b>Boys 2020</b>	<b>Boys 2025</b>	<b>Boys 2030</b>	<b>Boys 2035</b>
Number with obesity (millions)	103	140	175	208
Proportion of all boys	10%	14%	17%	20%
	<b>Girls 2020</b>	<b>Girls 2025</b>	<b>Girls 2030</b>	<b>Girls 2035</b>
Number with obesity (millions)	72	101	135	175
Proportion of all girls	8%	10%	14%	18%

*\* For children and adolescents, obesity is defined using the WHO classification of +2SD above median growth reference.*

Reference: World Obesity Atlas 2023

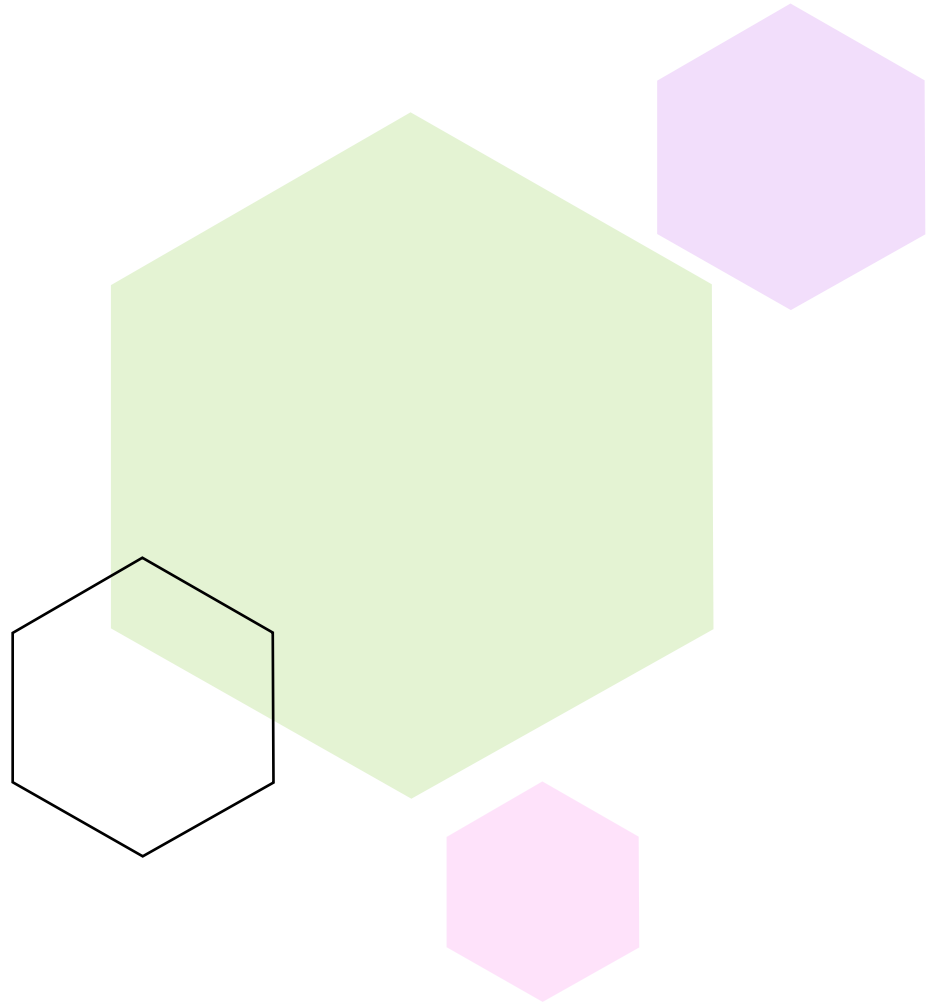
## Adults (aged 20 years and over)

	Men 2020	Men 2025	Men 2030	Men 2035
Number with obesity (millions)	347	439	553	690
Proportion of all men	14%	16%	19%	23%
	Women 2020	Women 2025	Women 2030	Women 2035
Number with obesity (millions)	466	568	693	842
Proportion of all women	18%	21%	24%	27%

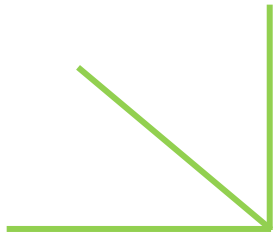
Reference: World Obesity Atlas 2023

## Question 1

1. What is the prevalence of Hispanic ethnicity in some US states or territories?
  - a. 22%
  - b. 38%
  - c. 50%
  - d. 32%
  - e. 14%



## Socioeconomic Impact



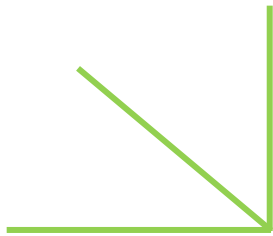
Socioeconomic status (SES) significantly influences obesity, with key factors including education, income, and occupation.

Low SES is a recognized risk factor for obesity, potentially exacerbated by psychosocial stress.

Persons living in impoverished areas and experiencing discrimination are at higher risk for central obesity.

Obese employees are often perceived as having lower potential for leadership, less self-discipline, poorer hygiene, and fewer opportunities for promotion.

Reference: Anekwe et al. Socioeconomics of Obesity. Curr Obes Rep. 2020 September; 9(3): 272–279. doi:10.1007/s13679-020-00398-7.



Healthcare professionals may stereotype obese patients as less likely to adhere to medications.

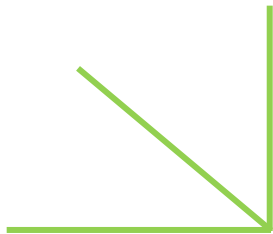
Patients with obesity tend to skip recommended cancer screenings and avoid medical care.

Cardiovascular conditions are more common among obese individuals, especially in Black and Hispanic Americans.

Metabolic syndrome, such as high triglycerides and low HDL cholesterol, is more prevalent in obese individuals.

Racial and ethnic minorities generally consume fewer fruits and vegetables and engage in less physical activity than whites.

Reference: Anekwe et al. Socioeconomics of Obesity. Curr Obes Rep. 2020 September; 9(3): 272–279. doi:10.1007/s13679-020-00398-7.



Psychosocial stress, more prevalent among racial/ethnic minorities, can also lead to increased food intake and insulin resistance.

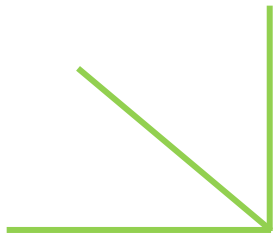
Insufficient sleep can contribute to higher body mass.

Women often consume more calorie-dense foods, while men may gain weight more from alcohol consumption.

For women in lower SES groups, the risk of their children developing obesity is higher.

Obesity significantly increases the risk of type 2 diabetes (by a factor of 7) and was linked to 6% of cancer cases diagnosed in 2007.

Reference: Anekwe et al. Socioeconomics of Obesity. Curr Obes Rep. 2020 September; 9(3): 272–279. doi:10.1007/s13679-020-00398-7.



Obese individuals are twice as likely to have hypertension and nearly 3.5 times more likely to develop diabetes and hyperlipidemia.

In 2016, the direct medical costs associated with overweight, and obesity amounted to \$480.7 billion.

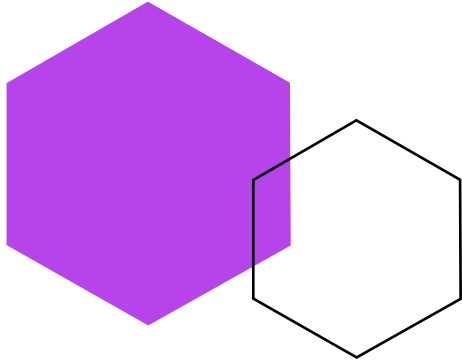
Employees with obesity tend to take more sick days and have higher rates of absenteeism, leading to significant economic costs.

One study estimates that absenteeism-related losses range from \$3.38 billion to \$6.38 billion annually.

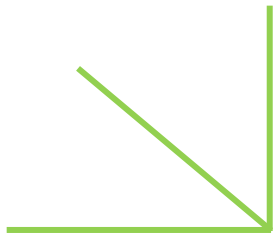
Projections indicate that by 2030, the obesity global economic impact estimated at around \$2 trillion.

Reference: Anekwe et al. Socioeconomics of Obesity. Curr Obes Rep. 2020 September; 9(3): 272–279. doi:10.1007/s13679-020-00398-7.



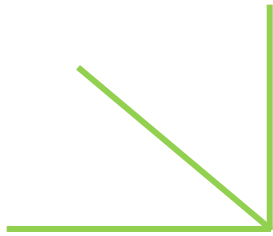


Impact of obesity on  
mental and emotional  
status of individuals



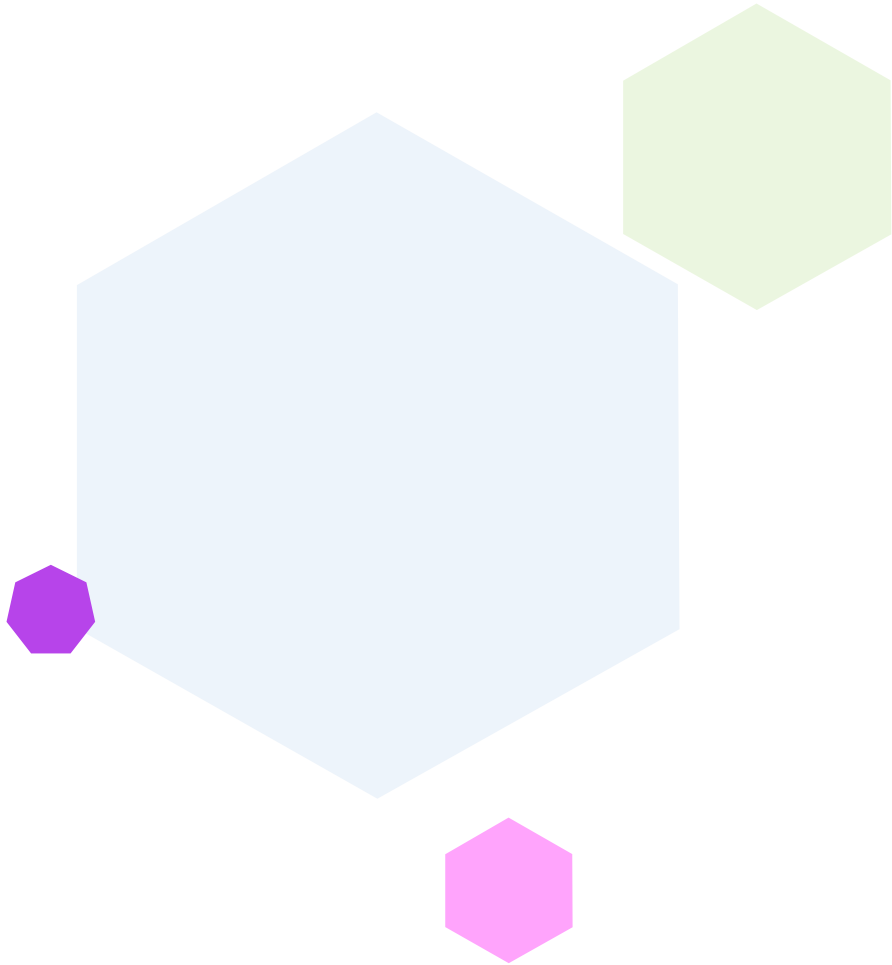
- 20% and 60% of people with obesity, have a psychiatric illness.
- 70% of bariatric surgery patients have a psychiatric illness.
- People with severe obesity are almost five times more likely to have had a major depression episode.
- Disordered eating is prevalent in patients with obesity, where binge-eating disorder being the most common.
- Women with obesity are significantly more likely to experience suicidal thoughts and attempts.

Reference: Sarwer and Polonsky. The Psychosocial Burden of Obesity. *Endocrinol Metab Clin North Am.* 2016 September; 45(3): 677–688. doi: 10.1016/j.ecl.2016.04.016.

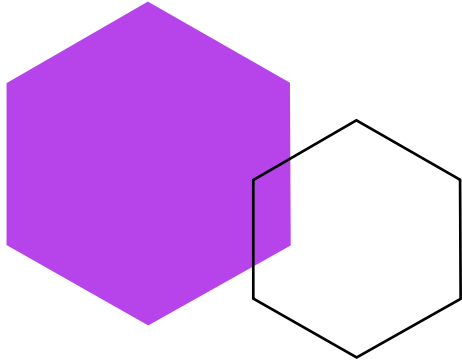


- Individuals with depression are 1.2 to 1.8 times more likely to be obese.
- Those with bipolar disorder have a 1.5 to 2.3 times higher chance of being obese.
- People with schizophrenia have a 3.5 times greater likelihood of obesity.

Reference: Parks, J., Radke, A. Obesity Reduction & Prevention Strategies for individuals with Serious Mental Illness.  
Accessed from [chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.nasmhpd.org/sites/default/files/2022-08/Obesity%252010-8-08.pdf](https://www.nasmhpd.org/sites/default/files/2022-08/Obesity%252010-8-08.pdf)

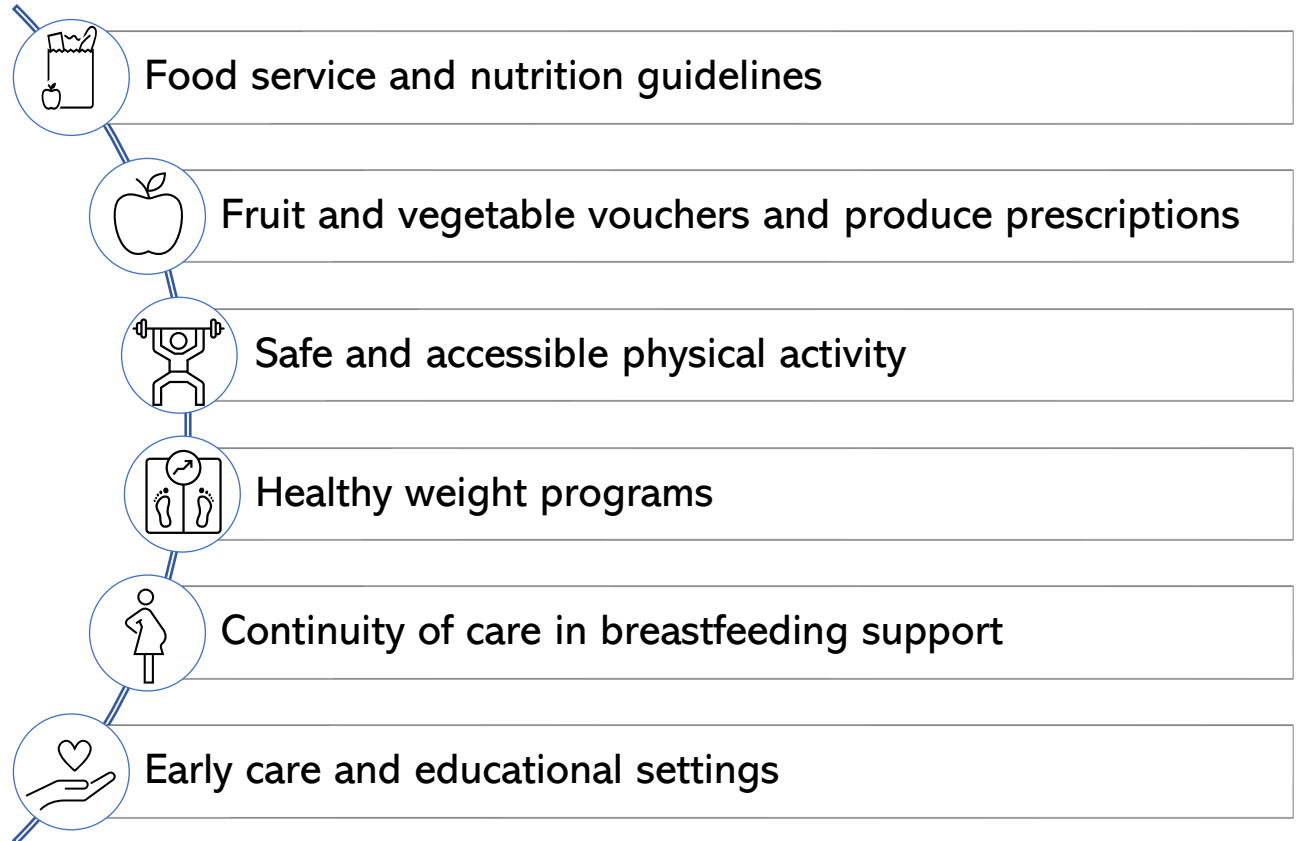


- Antipsychotics and some antidepressants, can contribute to weight gain and hinder weight loss efforts.
  - weight gain
  - glucose dysregulation
  - dyslipidemia
- Prevalence rates:
  - 25 – 60%: bipolar disorder
  - 30 – 70%: schizophrenia
  - 20– 50%: depression



Prevention strategies  
to reduce mental  
stress in patients with  
obesity.

# Strategies



Reference: CDC. Accessed from <https://www.cdc.gov/media/releases/2023/p0922-adult-obesity.html>

## Behavioral Treatment Strategies

Self-monitoring

Nutrition education

SMART goal setting

Slowing eating

Portion control

Lifestyle activity

Stimulus control

Reference: Parks, J., Radke, A. Obesity Reduction & Prevention Strategies for individuals with Serious Mental Illness.  
Accessed from chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.nasmhpd.org/sites/default/files/2022-08/Obesity%252010-8-08.pdf

Behavioral  
changes

**Lifestyle**

**Nutrition**

**Physical activity**



## Other things to considered against obesity

### Analyzing

- What do you eat?
- Why do you eat?

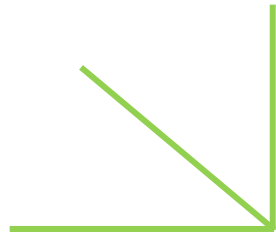
Divide portions of the same food

Manage stress or other negative feelings

Family and friend's support

Buddy system

Reference: American Psychological Association. 2013. Mind/body health: obesity. Accessed from: <https://www.apa.org/topics/obesity/mind-body-health>



## Pharmacist's strategies

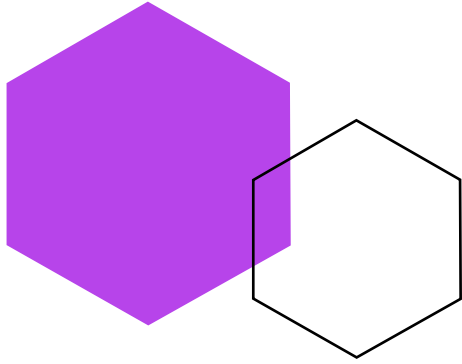
- Use of social media and mobile applications.
- Translation programs and pictograms for patients with language difficulties.
- Pictograms with
  - verbal instructions for patients with low literacy.
  - written instructions or labels to address language difficulties.

Reference: AlMukdad S, Zaghloul N, Awaisu A, Mahfoud ZR, Kheir N, El Hajj MS. Exploring the Role of Community Pharmacists in Obesity and Weight Management in Qatar: A Mixed-Methods Study. Risk Manag Healthc Policy. 2021 Jun 29;14:2771-2787. doi: 10.2147/RMHP.S309142. PMID: 34234592; PMCID: PMC8256378.

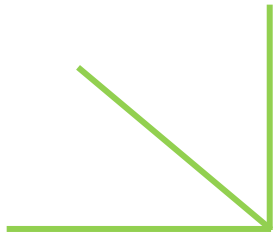
## Question 2

The following statements represent strategies that we can implement in an obesity weight management program:

- a. Establish a safe and accessible physical activity
- b. Ask for family and friend's support
- c. Implement behavioral changes
- d. Slow eating and control the portions of food
- e. All of the above

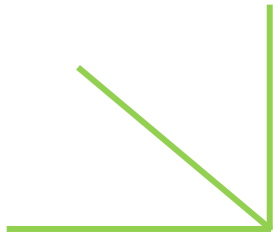


## Mental stability in patients considering surgery



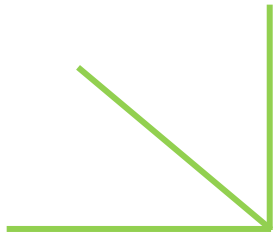
- 9% of bariatric surgery patients presented social anxiety disorder.
- 50% of bariatric surgery candidates have a history of mental health treatment.
- 16% and 32% of bariatric surgery candidates have a history of sexual abuse.

Reference: Sarwer and Polonsky. The Psychosocial Burden of Obesity. *Endocrinol Metab Clin North Am.* Author manuscript; available in PMC 2018 July 19.



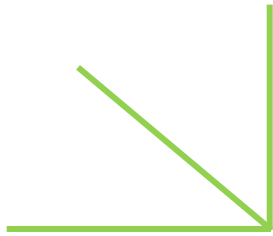
- 25% of bariatric surgery patients do not achieve postoperative weight loss or regain weight.
- About 10% of bariatric surgery candidates report a history of substance abuse or alcoholism.
- There are evidence of poor adherence to postoperative diets, with significant increases in caloric intake.

Reference: Sarwer and Polonsky. The Psychosocial Burden of Obesity. *Endocrinol Metab Clin North Am*. Author manuscript; available in PMC 2018 July 19.



- Behavioral and psychosocial interventions can reverse weight gain after bariatric surgery.
- Studies found higher suicide rate after surgery.
- Binge eating is associated with premature weight regain after bariatric surgery.

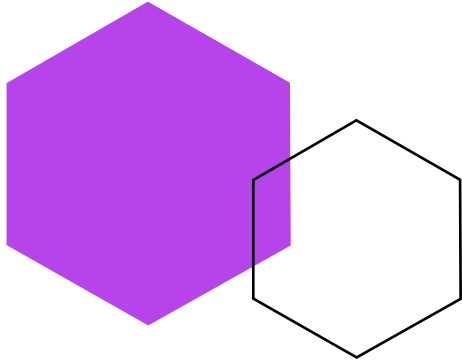
Reference: Sarwer and Polonsky. The Psychosocial Burden of Obesity. *Endocrinol Metab Clin North Am*. Author manuscript; available in PMC 2018 July 19.



- After the surgery, patients presented improvements in depressive symptoms, self-esteem, health-related quality of life, and body image.
- Depression and anxiety reduced in patients within a year after surgery.
- Intensive long-term post-surgery follow-up can significantly improve weight loss outcomes and reduce both physical and psychological comorbidities.

Reference: Kubik et al. The Impact of Bariatric Surgery on Psychological Health. Journal of Obesity Volume 2013, ArticleID837989.





Pharmacy as educator,  
referral, advocate of  
patients with obesity



## Pharmacist role

- Educate patients
- Provide counseling
- Advice in selecting medications and their appropriate use
- Design a pharmacotherapy plan
- Monitor the medication safety and efficacy
- Promote healthy lifestyle changes

Reference: Gómez-Martínez et al. Effectiveness of a Patient-Centered Weight Management Model in a Community Pharmacy: An Interventional Study. Patient Preference and Adherence 2020:14



## Pharmacist role

- Look the risks of patients
- Assess weight loss goals
- Propose modifications
- Analyze reasons to lose weight
- Evaluate the role of medications
- Discuss medications adverse effects

Reference: Hippensteele, A. Pharmacy Times. 2024. Addressing Obesity Through Shared Decision Making in an Interdisciplinary Weight Management Clinic. Accessed from <https://www.pharmacytimes.com/view/addressing-obesity-through-shared-decision-making-in-an-interdisciplinary-weight-management-clinic> on July 2024.

Medications that promote weight gain

Insulin

Sulfonylureas

Atenolol,  
metoprolol,  
propranolol

Tricyclic  
antidepressants

MAO inhibitors

Lithium,  
divalproex

Clozapine,  
olanzapine,  
quetiapine

Risperidone,  
mirtazapine

Carbamazepine,  
gabapentin

## Opportunities

Discuss with patients the side effects or undesirable reactions of medications

Do not report toxicity or adverse effects of drugs when encountered

Educate about the recommended percent weight to be lost over time and how to maintain healthy habits.

Training in weight management.

Reference: Hijazi, Mohamad Ali & Shatila, Hibeh & El-Lakany, Abdalla & Rifai, Hiba & Aboul-Ela, Maha & Naja, Farah. (2020). Role of community pharmacists in weight management: results of a national study in Lebanon. *BMC Health Services Research*. 20. 10.1186/s12913-020-05258-7.

## Barriers

Time

Space

Staff

Remuneration

Relevant equipment

Reference: Hijazi, Mohamad Ali & Shatila, Hibeh & El-Lakany, Abdalla & Rifai, Hiba & Aboul-Ela, Maha & Naja, Farah. (2020). Role of community pharmacists in weight management: results of a national study in Lebanon. BMC Health Services Research. 20. 10.1186/s12913-020-05258-7.

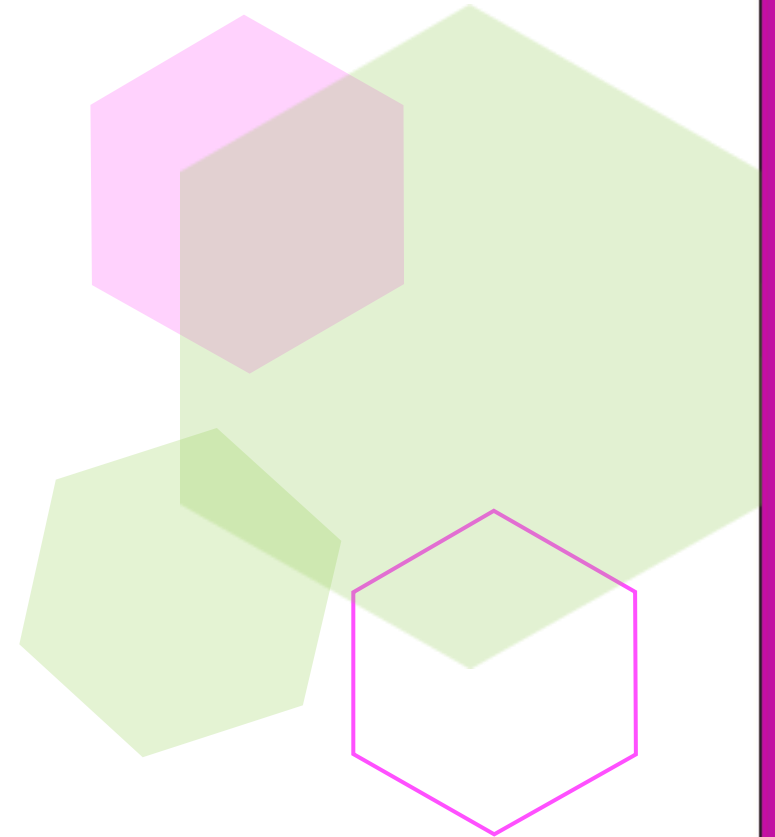
## Question 3

As pharmacists,

1. What interventions are we implementing for our patients?
2. What barriers do we face in our settings?
3. What opportunities do we have with this population?

# Summary

- The pharmacist's responsibilities include patient education, counseling on medication management, and promoting healthy lifestyles through diet and physical activity.
- Pharmacists conduct medication reviews to identify and treat undiagnosed conditions, manage minor ailments, and improve adherence to treatments, thereby enhancing patient quality of life.
- Community pharmacies are highly accessible healthcare points for providing weight and lifestyle management services. They are crucial in preventing, detecting, and addressing opportunities to enhance the quality of pharmacotherapy for patients.





## Case

MG is a 42-year-old woman who comes to your pharmacy asking for advice. Her primary care physician recommended that she lose weight (her current body mass index [BMI] is 34 kg/m<sup>2</sup>). MG is concerned she will be given a diagnosis of diabetes, which runs in her family, so for the past 6 months, she has taken daily walks and decreased the portion sizes of her meals; however, she has not lost much weight. MG has taken phentermine in the past, but it made her heart race. Her medical history includes irritable bowel syndrome and depression (she takes bupropion XL 300 mg orally daily), and she has no known drug allergies.

# Case

## Collect

- Patient characteristics (age, race, sex)
- Patient history (past medical, family, social—dietary habits, tobacco use)
- Obesity-related conditions
- Current medications including prescription, nonprescription, and herbal product use
- Weight loss history and prior attempts to lose weight
- Objective data
  - Height, weight, BMI, waist circumference, and blood pressure
  - Labs (fasting glucose, hemoglobin A1c, lipid panel)

# Case

## **Assess**

- Causes of secondary obesity (cushing syndrome)
- Current medications that may contribute to weight gain
- Presence of obesity-related comorbidities (hypertension, dyslipidemia, coronary artery disease, type 2 diabetes mellitus, sleep apnea, increased waist circumference).
- Class of overweight and obesity determined by BMI, waist circumference, and obesity-related comorbidities.
- Readiness to engage in weight loss efforts and potential barriers to success.
- Candidacy for treatment with pharmacotherapy, medical devices, or bariatric surgery.

# Case

## Plan

- Nonpharmacologic lifestyle intervention including low-calorie diet, physical activity, and behavioral modifications.
- Determine appropriate weight loss goals based on severity of existing obesity-related complications.
- Pharmacotherapy including specific medication, dose, route, frequency, and duration; specify the continuation and discontinuation of existing.
- Monitoring parameters including efficacy (weight loss) and tolerability (medication adverse effects)
- Bariatric surgery (if appropriate) ensuring specific pre and postoperative criteria are met.
- Patient education (purpose of dietary and lifestyle modification, medication therapy)
- Self-monitoring of weight—when and how to record results
- Referrals to other providers when appropriate (physician, dietitian, psychologist)

# Case

## **Implement**

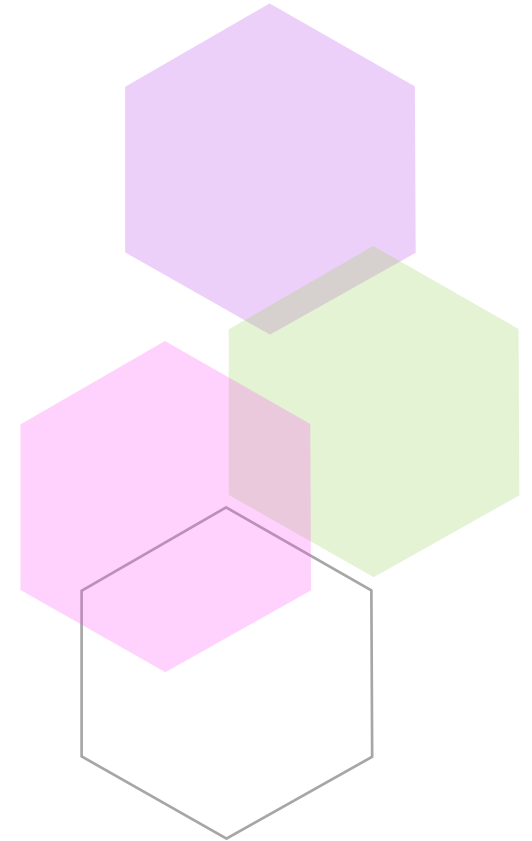
- Educate patient regarding health risks associated with overweight and obesity
- Provide patient education regarding all elements of treatment plan
- Use motivational interviewing and coaching strategies to maximize adherence
- Schedule appropriate follow-up (monthly for first 3 months and every 3 months thereafter) based on treatment selected

# Case

## **Follow – up: monitor and evaluate**

- Determine weight loss goal attainment
- Presence of adverse medication reactions
- Patient adherence to treatment plan using multiple sources of information

POST TEST



# QUESTIONS

1. Several comprehensive reviews have suggested that between 20% and 60% of persons with obesity, and extreme obesity in particular, suffer from a psychiatric illness. These percentages are typically greater than those seen in the general population.
  - a. True
  - b. False



# QUESTIONS

2. The most common eating disorder among persons with obesity is binge-eating disorder.
- a. True
  - b. False

# QUESTIONS

3. The use of psychiatric medications, particularly antipsychotics and some classes of antidepressants, can contribute to weight gain and/or negatively impact weight loss efforts.
- a. True
  - b. False

# QUESTIONS

4. Patients frequently make unrealistic weight loss goals; conducting psychological evaluations before treatment allows clinicians to temper expectations and identify contraindications to success.
  - a. True
  - b. False

# QUESTIONS

5. People with obesity need to be screened and evaluated for psychiatric illnesses like depression, binge eating and other eating disorders, and mood disorders.
  - a. True
  - b. False

# QUESTIONS

6. Although persons living with obesity are likely to be motivated by the prospect of improved health and wellbeing, concerns of discrimination experienced from professionals and concerns about physical appearance, body image and shame of not having been able to achieve weight-related goals can have a role in whether someone accesses and engages in treatment.
  - a. True
  - b. False

# QUESTIONS

7. A holistic intervention plan can then be formed in patients with obesity. This could include interventions such as medication management, dietary intervention, support from an exercise practitioner to build self-efficacy in engaging in physical activity, and psychological support exploring self-esteem.
  - a. True
  - b. False

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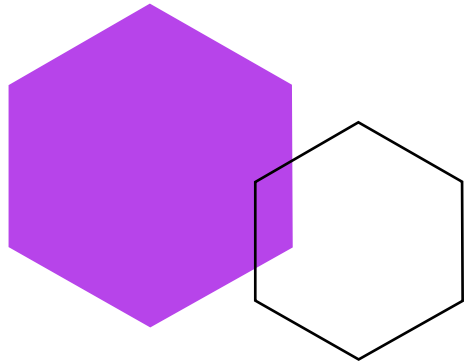
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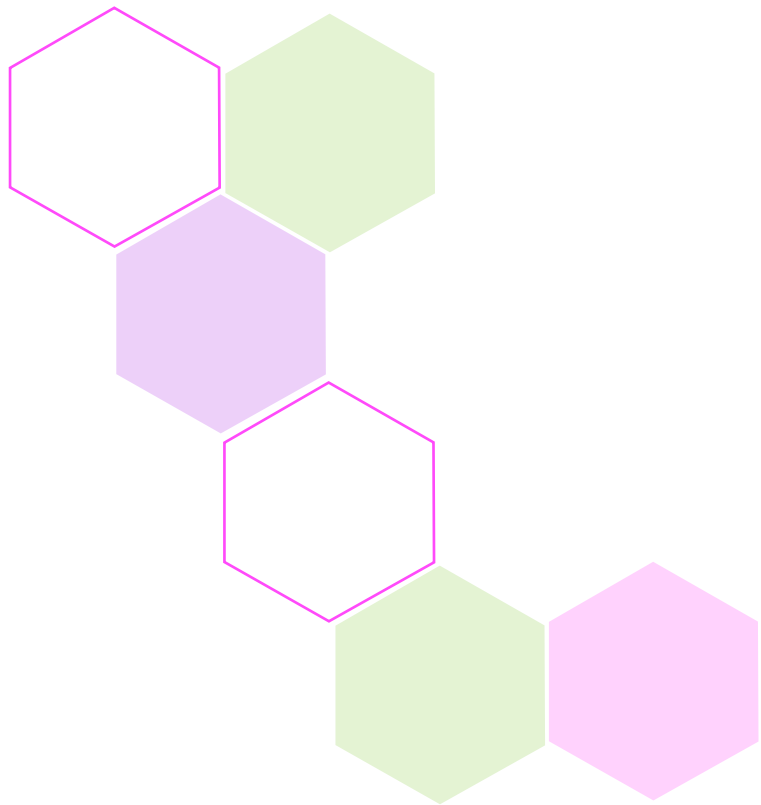


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CODE

Tiene hasta el 5 de Octubre para completar la evaluación y prueba y poder obtener su certificado



# Thank you

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