Approaches to Prevention and Management of Obesity

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CPE Information and Disclosures
Sarah Kelly declares that she owns stock in the following companies:
Pfizer
Medtronic

The American Pharmacists Association is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education.

CPE Information

• Target Audience: Pharmacists & Technicians
• ACPE#:0202-0000-15-211-L01-P/T
• Activity Type: Application-based

Pharmacist Learning Objectives

1. Review guideline recommendations regarding lifestyle and pharmacologic interventions for the management of obesity.
2. Summarize existing pharmacologic options for patients who do not reach target weight by implementing lifestyle modifications alone.
3. Educate patients about the risks, benefits, and appropriate use of pharmacologic treatments to manage obesity.
4. Describe strategies that can be used to support adherence to weight management strategies, including diet, physical activity, and pharmacological interventions.
5. Discuss the use of technology, including smartphone apps, to support weight management.

Technician Learning Objectives

1. State guideline recommendations regarding lifestyle and pharmacologic interventions for the management of obesity.
2. Name existing pharmacologic options for patients who do not reach target weight by implementing lifestyle modifications alone.
3. Recognize strategies that can be used to support adherence to weight management strategies, including diet, physical activity, and pharmacologic interventions.
4. Discuss the use of technology, including smartphone apps, to support weight management.
Self-Assessment Question 1

How many minutes of moderate intensity physical activity are recommended for adults per week?
A] 2 hours 30 minutes
B] 3 hours 30 minutes
C] 1 hour 15 minutes
D] 1 hour 30 minutes

Self-Assessment Question 2

What is the recommended adult weight loss in six months per clinical guidelines?
A] 5%
B] 10%
C] 15%
D] 20%

Self-Assessment Question 3

What is a serious side effect of lipase inhibitors such as Orlistat (Alli® or Xenical®)?
A] hepatotoxicity
B] aplastic anemia
C] Reynaud's phenomenon
D] pancreatitis

Key Points

• Obesity Epidemiology
• Treatment diet/exercise
• Existing pharmacological treatments
• Adherence strategies
• Technological Tools

Obesity Epidemiology

Prevalence of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2014

Source: Behavioral Risk Factor Surveillance System, CDC.

Adult Obesity Epidemiology

• More than one third (34.9% or 78.6 million) of U.S. adults are obese
• Annual cost of obesity is $147 billion in 2008 dollars
  – Medical costs were $1,429 higher than those of normal weight
• Non-Hispanic blacks: highest age-adjusted rates of obesity (47.8%)
• Hispanic (42.5%)
• Non-Hispanic whites (32.6%)
• Non-Hispanic Asians (10.8%)

http://www.cdc.gov/obesity/data/adult.html
**Child Obesity Epidemiology**

- Children 2-19 years old, prevalence is 17%; affects 12.7 million children in the past 10 years
- 2011-2012 prevalence was higher among Hispanics (22.4%) and non-Hispanic blacks (20.2%) than non-Hispanic whites (14.1%)
- Prevalence of obesity in non-Hispanic Asian youth was lower than other groups (8.6%)

http://www.cdc.gov/obesity/data/childhood.html

**Obesity Definition**

- Body Mass Index (BMI) defines overweight or obese
- Weight compared to height = \[\frac{\text{mass (kg)}}{\text{(height)}^2}\]
- In children, top 95% percentile for weight

UMHS Obesity Prevention and Management, Clinical Practice Guideline, July, 2013

**Treatment Goals**

- Children: lose 1-2 lb per week
- Adults: 10% weight loss in 6 months
- Physical Activity
- Dietary considerations
- Sleep
- Medications
- Bariatric Surgery

UMHS Obesity Prevention and Management, Clinical Practice Guideline, July, 2013

**Lifestyle Assessment**

- Assess BMI at least once a year
- Review dietary and physical activity habits including sleep
- Review other obesity risk factors
- Medical co-morbidities
- Family history of obesity
- Medication use
- Nutrition knowledge deficit/assess skills preparing food

UMHS Obesity Prevention and Management, Clinical Practice Guideline, July, 2013

**Adult Physical Activity Recommendations**

- 2 hours 30 minutes a week of moderate physical activity
  - Walking briskly
  - Light yard work (raking/bagging leaves or using a lawn mower) or snow shoveling
  - Actively playing with children: basketball, playground
  - Biking at a moderate pace
- OR
  - 1 hour 15 minutes of vigorous physical activity
  - Jogging/running
  - Swimming laps
  - Rollerblading/inline skating at a brisk pace
  - Cross-country skiing
  - Most competitive sports (football, basketball, soccer)
- Note: 2 days a week of muscle strengthening activities
  - Weight lifting
  - Push-ups and pull ups
  - Tree or rock climbing

http://www.cdc.gov/physicalactivity/basics/adults/index.htm

**Physical Activity Recommendations for Children**

- Children and Adolescents should get 60 minutes or more of physical activity each day.
  - A combination of aerobic, muscle strengthening, and bone-density building exercise is recommended
    - Bicycle riding
    - Gymnastics
    - Riding a bike
    - Jumping rope
    - Monkey bars
    - Tag
    - Organized sports (soccer, baseball, basketball etc)
- Limit screen time and encourage activity with family/friends

www.cdc.gov/physicalactivity/basics/children/index.htm
**LET’S GO! 5-2-1-0**

- 5 or more servings of fruits and vegetables
- 2 hours or less of screen time daily
  - Keep TV/computer out of bedroom
  - No screen time for children under age 2
- 1 hour or more daily of physical activity
- 0 sugary drinks—more water and milk

http://www.letsgo.org

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**Nutrition**

- Eat a variety of nutritious foods
- Decrease high calorie foods and sugary drinks
- Support breastfeeding through infancy
- Discuss ways to access affordable healthy foods
- Promote family meals and limit eating out or fast food

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**Childhood Sleep Recommendations**

Promote age-appropriate sleep durations

*Children*: preschoolers (3-5 years: 11-13 hours), school-aged (5-12 years: 10-11 hours)
- Maintain a daily sleep schedule and consistent bedtime routine
- Establish a relaxing bedtime routine
- Create a quiet, dark and relaxing bedroom environment
- Establish an environment that is used for sleeping only and not for other activities (e.g. watching TV, using the computer)

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**Guidelines for Healthy Eating**

- Diet and eating: avoid high calorie, low nutrient foods
- Eat a variety of nutritious foods. Encourage and support breastfeeding during infancy. Emphasize:
  - Fruits and vegetables — at least 5 servings per day
  - Whole grains — look for 100% whole wheat or whole grain and at least 3 grams of dietary fiber per serving
  - Fat-free or low-fat milk and milk products. If lactose-intolerant, choose fat-free lactose-free milk or fat-free, plain soy milk.

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**Guidelines for Healthy Eating**

- Lean meats, skinless poultry, fish, beans, soy products, eggs, and nuts. Bake, broil, steam or grill. Avoid frying foods.
- Low saturated fats (look for 5% or less on the nutrition facts label)
- Stay within your daily calorie needs or use the plate method to control caloric intake
- Eliminate or Reduce:
  - Foods high in saturated fat
  - High calorie beverages, high calorie & low nutrient foods
  - Avoid fast food and limit eating out to rare occasions.

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**Guidelines for Healthy Eating**

Address environmental and family factors associated with eating:
- Reduce portions. Use smaller plates and measure foods.
- Schedule food consumption.
- Help adults increase children’s healthy eating. Promote family meals and limited eating out or fast food.
- Limit the purchase of packaged, processed foods.
- Read food labels and select low fat, high fiber, and low sodium foods: Look for no more than 5 grams of fat per serving, 5 grams of fiber or more per serving. Limit sodium to 300 mg per serving.
Adolescent and Adult Sleep Recommendations

Adolescents (12-18 years): 9-10 hours
Adults: 7-8 hours
- Avoid caffeinated beverages after lunchtime
- Plan to be in bed with lights off at least 7 hours before the time to get up
- Avoid activities that may be arousing around bedtime (e.g. playing computer games, texting)
- Establish relaxing activities such as writing in a journal, listening to relaxing music, stretching
- Create a quiet, dark, and relaxing bedroom environment

Overview of FDA Approved Medications to Treat Obesity

- Phentermine (Suprenza®, Adipex-P®)
- Orlistat (Alli®, Xenical®)
- Phentermine and topiramate (Qsymia®)
- Lorcaserin (Belviq®)
Use for chronic weight management with a BMI ≥ 30 kg/m² or BMI ≥ 27 kg/m² with one weight-based comorbid condition (hypertension, dyslipidemia, type 2 diabetes)

Phentermine

- Duration of use: 3 months
- Effect: 3-5% weight reduction per year
- Mechanism: appetite suppressant/sympathomimetic agent
- Side effects:
  - Blood pressure elevation
  - Constipation
  - Dry mouth
  - Insomnia
- Contraindications: pregnancy, older than 65 years, history of drug abuse

Phentermine (continued)

- Caution with heart disease, high blood pressure, arteriosclerosis, hyperthyroidism, diabetes, glaucoma
- Caution also with SSRIs, MAO inhibitors, TCAs, stimulants
- Dosing: 8 mg three times daily
  - Take 30 minutes before meals with last dose 4-6 hours before bedtime to prevent insomnia
  - Or take 15-37.5 mg once daily before breakfast or 1-2 hours after breakfast

Cost: Brand $69
  Generic $14

Orlistat (Alli®, Xenical®)

- Duration of Use: No time limitation; continue if weight loss 5% at 12 weeks achieved; if no weight loss, little benefit in continuing therapy
- Effect: Added to diet/lifestyle changes, added weight loss of 4-7 pounds additional weight loss per year
- Mechanism: prevents fat absorption
- Side effects: GI related: excess flatulence/greasy stools limit compliance; rare but severe hepatotoxicity, vitamin deficiencies
- Contraindications: pregnancy, malabsorption disorders, reduced gallbladder function

Orlistat (Alli®, Xenical®) continued

- Use caution in patients with obstructed bile duct, impaired liver function or pancreatic disease
- Take with meals that contain fat up to 3 times a day
- Avoid foods with high fat to reduce GI side effects
- OTC Alli®: 60 mg tablets $60
- RX Xenical®: 120 mg tablets $150
# Phentermine and Topiramate (Qsymia®)

- **Duration of Use:** Extended use
- **Effects:** Adding to lifestyle modifications 5-10% weight loss in 1 year
- **Mechanism:**
  - Phentermine: Reduced appetite/food consumption
  - Topiramate: appetite suppression/increased satiety
- **Side Effects:** Paraesthesia, dizziness, dysgeusia, insomnia, constipation, dry mouth
- **Contraindications:** pregnancy, patients older than 65 years of age, patients with a history of drug abuse

# Phentermine and Topiramate (Qsymia®) continued

- **Relative contraindication:** heart disease, high blood pressure, atherosclerosis, hyperthyroidism, diabetes, glaucoma
- **Caution in patients taking SSRIs, MAO inhibitors, TCAs, stimulants**
- **Take once daily in the morning**
  - 3.75 mg (phentermine)/23mg (topiramate) daily for 14 days, then increase to 7.5 mg (phentermine)/46mg (topiramate) Max dose is 15mg (phentermine)/92mg (topiramate)
  - Discontinue or increase dose if 3% weight loss not achieved after 12 weeks on 7.5/46
  - Discontinue gradually if 5% weight loss not achieved after 12 weeks on maximum dose
- **Brand $130**

# Lorcaserin (Belviq®)

- **Duration of Use:** Stop use if 5% weight loss not achieved after 12 weeks
- **Effects:** Adding to lifestyle modifications 5% weight loss in 12 weeks
- **Mechanism:** activates serotonin 5-HT_2C_ receptors; leads to greater satiety and decreased food intake
- **Side Effects:** bradycardia, priapism, mental status changes, WBC/RBC count decreases, hyperprolactinemia, primary pulmonary hypertension, serotonin syndrome, valvular heart disease

# Lorcaserin (Belviq®)

- **Contraindications:** pregnancy, patients with a history of drug abuse
- **Use Caution:** men at risk for priapism, Child-Pugh score >9, renal function < 30mL/minute, mental status changes
- **Take 10 mg twice daily**
  - Discontinue if 5% weight loss not achieved after 12 weeks on maximum dose
- **Brand $239 for 30 day supply**

# Counseling and Approaches to Weight Loss

- **Provide healthy lifestyle messages**
- **Discuss weight control tools for overweight patients**
- **Use patient-centered counseling techniques**
  - What is the patient interested in learning?
  - What would they like to focus on?
  - What is their level of readiness to start making positive changes?
  - Set goals if patient is ready to make changes, otherwise bring up at next visit

# Motivational Interviewing

- **Ask open-ended questions**
- **Listen Reflectively**
- **Summarize**
- **Affirm**
- **Elicit self-motivational status**
Motivational Interviewing (continued)

- Four elements of motivational interviewing:
  - Partnership (collaboration)
  - Acceptance
  - Compassion
  - Evocation


Motivational Interview Practical Exercise

- Case:
  - BM, a 59 year old obese white female comes to the pharmacy to pick up her refills. She starts small talk and mentions how much she enjoys spending time with her three young grandchildren. While talking, she expresses frustration at her current inability to keep up with them and mentions that she wants to lose weight. Her PMH includes hypertension, type 2 diabetes mellitus, and hypercholesterolemia.

Now It's Your Turn!

- Act out with the person sitting next to you how you would counsel this patient.
- What motivates her?
- What would be a recommended goal weight loss per week?
- Inspire resources for change to find this patient's motivation
- Remember it is more like a “dance” than a “fight”.

Time to Motivate!

- Spend 3 minutes motivating the person next to you. Then we will switch roles.
- Any questions?
- BEGIN!

Technology

- Now that you have practiced motivational interviewing, let's see some tools we can use to help our overweight patients lose weight.

Technology Tools for Weight Loss

- Top Apps for weight loss:
  - For iPhone
    - Lose IT! (290K reviews on iTunes)
    - The Daily Burn
  - For iPad:
    - Go Meals HD
    - Calorie 1
    - Carb Master

Accessed 4 Sep 2015.
Summary Key Points

• Obesity Epidemiology
• Treatment diet/exercise
• Existing pharmacological treatments
• Adherence strategies
• Technological Tools

Answers To Self-Assessment Questions

• How many minutes of moderate intensity physical activity are recommended for adults per week?
  – 2 hours 30 minutes
• What is the recommended adult weight loss in six months per clinical guidelines?
  – 10 percent
• What is a serious side effect of lipase inhibitors such as Orlistat (Alli® or Xenical®)?
  – hepatotoxicity

Closing Remarks

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