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Ohio Cardiovascular and Diabetes Health Collaborative



In partnership with:



Cardi-OH ECHO

What's New in Cardiovascular Prevention? A Series of Case-Based Discussions

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- The following speakers have a relevant financial interest or affiliation with one or more organizations that could be perceived as a real or apparent conflict of interest in the context of the subject of their presentation:
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Person-Centered Language Recommendations



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The ADA and the APA recommend language that emphasizes inclusivity and respect:

- **Gender**: Gender is a social construct and social identity; use term “gender” when referring to people as a social group. Sex refers to biological sex assignment; use term “assigned sex” when referring to the biological distinction.
- **Race**: Race is a social construct that is used broadly to categorize people based on physical characteristics, behaviors, and geographic location. Race is not a proxy for biology or genetics. Examining health access, quality, and outcome data by allows the healthcare system to assist in addressing the factors contributing to inequity.
- **Sexual Orientation**: Use the term “sexual orientation” rather than “sexual preference” or “sexual identity.” People choose partners regardless of their sexual orientation; however, sexual orientation is not a choice.
- **Disability**: The nature of a disability should be indicated when it is relevant. Disability language should maintain the integrity of the individual. Language should convey the expressed preference of the person with the disability.
- **Socioeconomic Status**: When reporting SES, provide detailed information about a person’s income, education, and occupation/employment. Avoid using pejorative and generalizing terms, such as “the homeless” or “poor.”
- **Violent Language**: Avoid sayings like ‘killing it,’ ‘pull the trigger,’ ‘take a stab at it,’ ‘off the reservation,’ etc.



Obesity and Mental Health

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Learning Objectives



- 1) In general terms, describe the relationship between anxiety, depression, and other conditions and body weight.
- 2) Describe a minimum of three recent advances in our understanding of psychological causes of obesity, including among peri-menopausal and menopausal women.
- 3) List and describe a minimum of three strategies for weight management among patients with serious underlying psychological or psychiatric illness.

Obesity and Mental Health



Women

As appearance satisfaction ↓ depressive symptoms significantly ↑ for women compared to men.

Men and Women

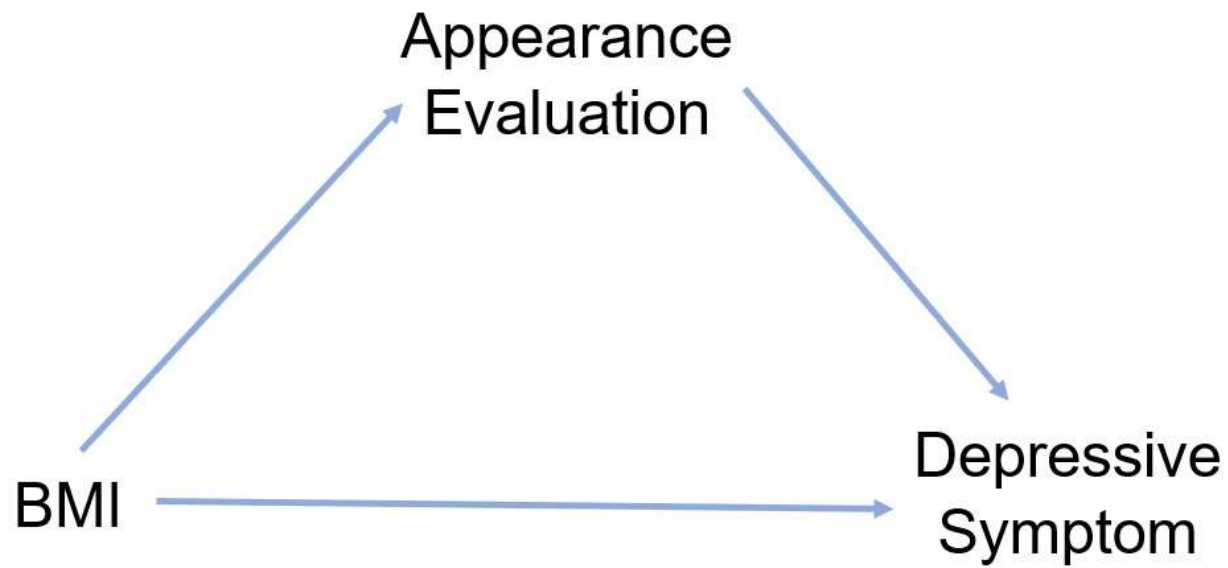
↓ positive body image is related to ↑ depressive symptoms

↑ BMI related to ↓ lower satisfaction with appearance

One study showed that men reported fewer depressive symptoms than women and higher satisfaction with appearance compared to women.

Weinberger NA, Kersting A, Riedel-Heller SG, Luck-Sikorski C. The relationship between weight status and depressive symptoms in a population sample with obesity: The mediating role of appearance evaluation. *Obes Facts* 2018; 11:514-523.

Mediation Found for Men but Not for Women



Depression and Excess Weight



- Weight Perception and Depression

Results from a study by Paulitsch, Demenech and Dumith showed that obesity and the perception of being fat significantly increases the likelihood of depression

and

- The association between obesity and depression is mediated by weight perception.

Depression and Obesity



- Mediation occurred in participants with partners, non-smokers, non-alcohol abusers, and participants who did not engage in physical activity.
- There is evidence that the higher the BMI, the greater the probability of experiencing depression.

Paulitsch RG, Demenech LM, Dumith SC. Association of depression and obesity is mediated by weight perception. *Journal of Health Psychology*. 2021. 26(11) 2020-2030.

Obesity and Appearance-Based Social Anxiety



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- Appearance-based social anxiety: “The tension and anxiety one experiences when others evaluate him/her in terms of physical appearance.”
- The association between BMI and appearance-based social anxiety is mediated by body dissatisfaction.
- Recommended to provide interventions to improve body image perceptions in weight loss management programs.

Sanlier N, Pehlivan M, Sabuncular G, Bakan S, Isguzar Y. Determining the relationship between body mass index, healthy lifestyle behaviors and social appearance anxiety. *Ecology of Food and Nutrition*. 2018; 57:2, 124-139.

Obesity and Mental Health



- Generally, irregular eating habits are associated with:
 - Depression and anxiety
 - Body dissatisfaction
 - Distorted body image perception
 - Unhealthy weight loss methods and diet history
- Anxiety disorders are often comorbid with eating disorders
- Persons in the obese category overall have higher rates of social anxiety compared to the general population

Sanlier N, Pehlivan M, Sabuncular G, Bakan S, Isguzar Y. Determining the relationship between body mass index, healthy lifestyle behaviors and social appearance anxiety. *Ecology of Food and Nutrition*. 2018; 57:2, 124-139.

Psychological Causes of Obesity and Peri- and Post-Menopause



- In the United States, more than 63 million women are over 50 years old.
- Women will experience menopause as defined by The World Health Organization (WHO) as :

“the permanent cessation of menstruation resulting from the loss of ovarian follicular activity or follicle depletion (natural menopause)”

World Health Organization. Research on the Menopause in the 1990s: Report of a WHO Scientific Group.

Menopause



- The average age of menopause is 51; however, many women go through natural menopause or surgical menopause too early.
- Approximately, 5% of women 40-45 experience early menopause (or primary ovarian insufficiency [POI]).
- The transition into menopause is often accompanied by several systemic symptoms, including: hot flashes, night sweats, trouble sleeping, memory difficulties, **weight gain**, mood changes, and vaginal dryness.

Faubion SS, Crandall CJ, Davis L, El Khoudary SR, Hodis HN, Lobo RA, Maki PM, Manson JE, Pinkerton JV, Santoro NF, Shifren JL. The 2022 hormone therapy position statement of The North American Menopause Society. *Menopause*. 2022 Jul 1;29(7):767-94.

Brief Overview of Factors Leading to Weight Gain in Menopausal Women



2022 Focus Group Study in New Delhi, India

The following factors led to weight gain in peri- and post-menopausal women (40-55 years old)

- Daily psychological stressors
- Fatigue
- Reduced activity levels
- Overeating
- Prioritizing others' needs over their self-care needs

Behavioral Barriers and Observations



- Emotional eating
- Difficulty managing exercise and healthy dietary habits (continued to engage in religious and cultural food practices)
- Confinement during COVID-19
- Stress and lack of time
- Women witnessed peers gaining weight during this life phase
- Women reported drastic weight gain as body fat in the abdomen, thighs, and hip areas

Chopra S. *et al.* Perceived risk factors for weight gain, barriers, and facilitators related to weight loss experienced by perimenopausal women: focus group discussion and thematic analysis. *Menopause: The Journal of The North American Menopause Society.* 2022; 29 (2), 219-224.

Other Perceived Factors Leading to Weight Gain and Motivators for Weight Loss



- For peri-menopausal women
 - Cravings around menstrual cycles
 - Reduced physical activity when menstrual flow is heavy
 - ↑ Consumption of foods higher in fat, salt, and sugar
- Women may have physical limitations due to medical conditions

Motivators

- Intrinsic motivators (seeing results from efforts)
 - Appearance
 - Prevention of health-related issues

Survey of Latin American Women



6,079 women aged 40-50 years were surveyed from Latin American countries. The results from logistic regression analyses:

- Compared to non-sedentary women, sedentary women are more likely to have
 - ↑ Severe menopause symptoms
 - ↑ Depressive and anxious symptoms
 - ↑ Insomnia
 - ↑ Waist circumference
 - ↑ Prevalence of obesity
 - ↑ Prevalence of HTN

A stable partner, use of hormone therapy, and higher educational levels were found to be negatively associated with sedentary lifestyle habits.

General Information Menopausal Women



- Prevalence of obesity and metabolic syndrome is 3x higher in menopausal vs pre- and peri-menopausal women
- Obesity seems to be related more to lifestyle and age
- Activity levels decrease with advancing age and mental health disorders
 - Depression, in particular, impacts activity levels and nutritional intake

General Information Menopausal Women



- Duration of sleep reduces in the menopausal years also leading to weight gain and changes in fat mass
- Lean body mass decreases with age and body composition
- Fat distribution changes significantly during menopause with increased abdominal and visceral fat

North American Menopause Society, Menopause practice: a clinician's guide, Mayfield Heights, OH: The North American Menopause Society, 6th ed, 2019.

Overview of 3 Strategies for Weight Management for the SMI Population



- STEPWISE (England)
- ACHIEVE (USA)
- STRIDE (USA)

REFERENCES:

Holt RIG *et. al.* Structured lifestyle education for people with schizophrenia, schizoaffective disorder and first-episode psychosis (STEPWISE): randomized controlled trial. *The British Journal of Psychiatry* (2019). 214, 63-73.

Daumit GL., *et. al.* A behavioral weight-loss intervention in persons with serious mental illness. *N Engl J Med.* 2013; 368 917): 1594-1602.

Green CA. *et. al.* The STRIDE weight loss and lifestyle intervention for individuals taking antipsychotic medications: A randomized clinical trial. *Am J Psychiatry.* 2015. 175(1): 71-81.

STEPWISE



- 12-month, theory-based program (behavior change theory) focused on:
 - Food and physical activity
 - Psychological processes underlying weight management
 - Challenges of living with psychosis and its impact on eating and weight
- Four 2.5-hour, weekly group sessions followed by maintenance sessions at months 4, 7, and 10
- 1:1 support contact for 10 minutes every 2 weeks after the intervention period

STEPWISE



Intervention group

- n = 145 schizophrenia
- n = 30 schizoaffective
- n = 32 first-episode psychosis

Intervention group Ethnicity

- n = 179 White European
- n=9 Asian
- n=12 Black
- n= 4 Mixed
- n= 3 other

Control group

- n = 138 schizophrenia
- n = 36 schizoaffective
- n = 31 first-episode psychosis

Control group Ethnicity

- n = 170 White European
- n=7 Asian
- n=19 Black
- n= 7 Mixed;
- n= 2 other

STEPWISE Session Content



- Session 1: Healthier drinks
- Session 2: Healthier snacks and physical activity
- Session 3: Calories and portions, sedentary behaviors
- Session 4: Eating out: challenges, solutions, and making choices
- Sessions 5-7: Booster sessions (4, 7, and 10 months) to help with sticking to the program

STEPWISE Results



INTEND TO TREAT ANALYSES

- Average weight loss between study and TAU was ~.05 pounds.
- The schizoaffective group achieved the largest weight reduction of 2.7 lbs.

Rationale for Unsuccessful Outcomes



STEPWISE WAS UNSUCCESSFUL BECAUSE

- Not enough attention on mental health challenges and medication management
- For those who lost weight, findings suggest that monitoring and regular feedback from the facilitators helped them to succeed
- Participants wanted the intervention to be longer than 10 months
- However, monitoring was not an explicit part of the STEPWISE intervention

ACHIEVE



18-Month Intervention

- Social cognitive and behavioral self-management theories, congruent with psychiatric rehabilitation principles of skill building and environmental supports
- Interventions included:
 - Lifestyle interventions shown to be effective in the general population
 - Addressed deficits in memory and executive function (divided information into small components and repeatedly targeted skills)

ACHIEVE



Intervention included three types of intervention sessions

1. Group weight-management
2. Individual weight-management
3. Group exercises

ACHIEVE



Intervention group

- n = 44 schizophrenia
- n= 41 schizoaffective
- n =28 bipolar
- n =18 MDD
- n=13 Other

Intervention group Ethnicity

- n = 82 White
- n=56 Black
- n=5 Hispanic
- n=10 Other

Control group

- n = 41 schizophrenia
- n= 43 schizoaffective
- n =36 bipolar
- n =17 MDD
- n=10 Other

Control group Ethnicity

- n =81 White
- n=59 Black
- n=8 Hispanic
- n=7 Other

Groups Offered Vs Attended



- Median **group weight management sessions offered**
 - 1st 6 months (16)
 - 7-18 months (13)
- Median **individual sessions offered**
 - 1st 6 months (5)
 - 7-18 months (12)
- Median **group exercise sessions offered**
 - 1st 6 months (61)
 - 7-18 months (141)
- Median **group weight management sessions attended**
 - 1st 6 months (10)
 - 7-18 months (7)
- Median **individual sessions attended**
 - 1st 6 months (4)
 - 7-18 months (4)
- Median **group exercise sessions attended**
 - 1st 6 months (30)
 - 7-18 months (24)

RESULTS



- Analyses were conducted according to the intention-to-treat principle. Primary outcomes were changes in weight from randomization to 6 months and 18 months
- The mean net weight change (change in weight in the intervention group minus change in weight in the control group) at 6 months was -3.3 lbs. At 18 months, the net change was -7.5 lbs.
- At 18 months for the intervention group, 63.9% of participants were at or lower than their baseline weight compared with 49.2% of those in the control group.
- 37.8% of participants in the intervention group lost at least 5% of their baseline weight compared with 22.7% in the control group.

STRIDE



12-month intervention

- Weekly 2-hour group sessions, including 20 minutes of physical activity, delivered over 6 months
- Followed by 6 monthly maintenance sessions

Interventions included:

- Education about records of food, beverages, and calories consumed
- Education about recommended servings of fruits, vegetables, and low-fat dairy products
- Education about recommended fiber and fat intake
- Recorded minutes of daily exercise
- Recorded sleep

STRIDE Interventions Continued



- Participants were encouraged to do ≥ 25 minutes of moderate daily physical activity
- Other monitoring records were used to assess progress and identify barriers to lifestyle change
- Participants and interventionists reviewed records and evaluated and modified goals and plans
- Calorie King book was given to participants along with a resistance band to encourage strength training

STRIDE



Intervention group

- n=31 schizophrenia spectrum
- n =71 bipolar or affective psychosis
- n=2 PTSD

Intervention group Ethnicity

- n =90 White
- n=12 non-White
- n=3 Hispanic

Control group

- n=27 schizophrenia spectrum
- n=67 bipolar or affective psychosis
- n=2 PTSD

Control group Ethnicity

- n =81 White
- n=12 non-White
- n=1 Hispanic

Results



Intent-to-treat analyses

- Intervention group lost 9.7lbs more than control participants from baseline to 6 months
- Intervention group lost 5.7lbs more than controls from baseline to 12 months

Fasting Glucose at 12 months

- Intervention group decreased from 106.3 mg/dL to 100.4 mg/dL
- Control group increased from 106.0 mg/dL to 109.5 mg/dL



Thank you!

Questions/Discussion