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Screening and Clinical Correlations of Pathological Eating Behaviors in Rural Populations

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Faculty Disclosure

- Nothing to disclose

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Objectives

- Upon completion of this educational activity, you will be able to:
  1. Describe the differences in eating disorders and disordered eating
  2. Describe clinical applications to eating disorders in rural US
  3. Describe clinical correlates with eating disorders

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Expected Outcome

- The desired change/result in practice from this educational intervention is:
  1. To be able to better understand how to screen for eating disorders
  2. To evaluate the pros and cons of screening and diagnosing for eating disorders in your clinic

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Uniqueness of Pathological Eating Behaviors

- To understand their complexity, think about the timeline pathological eating behaviors has been described, and there is still so much we don't know:

- 1347 St. Catherine of Siena (Holy Anorexic) starved herself as a route to God
- 1689 Richard Morton gave first description of Anorexia
- 1859 Louis-Victor Marce described an Anorexic patient

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Uniqueness of Pathological Eating Behaviors

- There remains considerable uncertainty about how to conceptualize Eating Disorders:

> Are they problems of eating or body image, or are they neurotic, psychotic, or psychosomatic disorders (Phillipou et al, 2018)

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Uniqueness of Pathological Eating Behaviors

- Pathological Eating Behaviors are characterized by the intersection of the psychological and physiological realm. Understanding how they impact the individual is difficult because mental health is deeply personal.

- Remains impossible to fully grasp the depth **("The more we know, the more we don't know")**

- Evident in Diagnostic Statistical Manual
  - DSM III - Anorexia and Bulimia described for first time
  - DSM IV - Binge Eating Disorder (and EDNOS) later described
  - DSM V - Multiple categories of eating disorders added
  - Versus Major Depressive Disorder that hasn't changed across versions

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Uniqueness of Pathological Eating Behaviors

- Globally, the prevalence of eating disorders has increased by 25%, but only about 20% of affected individuals present for treatment
  (Treasure, et al, 2020)

Differences

- Commonly known that Eating Disorders and Disordered Eating are terms which are interchanged frequently
  - Disordered Eating (DE) describes what is not categorized as a medical diagnosis, but rather a description of irregular eating behaviors
    - DE behaviors are the core symptom of complex ED's
  - Eating Disorders (ED) are specific behaviors which are outlined in the Diagnostic and Statistical Manual of Mental Disorders

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Differences

- Disordered Eating can potentially be managed with nutritional counseling and lifestyle change
- Eating Disorders often require comprehensive treatment, which should include medical and psychological intervention

- Importance of recognition
  - DE can lead to ED's, but existing at a sub-threshold level, they independently can cause physiological stress
  - ED can lead to significant physiological stress, involving potentially severe psychological conditions and in extreme cases, death

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Disordered Eating

- Broad umbrella term which included disordered relationships with food, exercise, and one's body (Campbell, nd)

Eating Disorders

- All ED's have specific criteria but they won't all be listed. There are also minimal amounts of time which the behaviors must be engaged in before they become diagnosable.

- DSM-5 named ED's:
  - Anorexia Nervosa – identified by severe restriction in calories and food eaten
  - Bulimia Nervosa – binge eating then perform what are commonly called compensatory purging behaviors in an attempt to prevent weight gain (may have a feeling of being out of control when eating)

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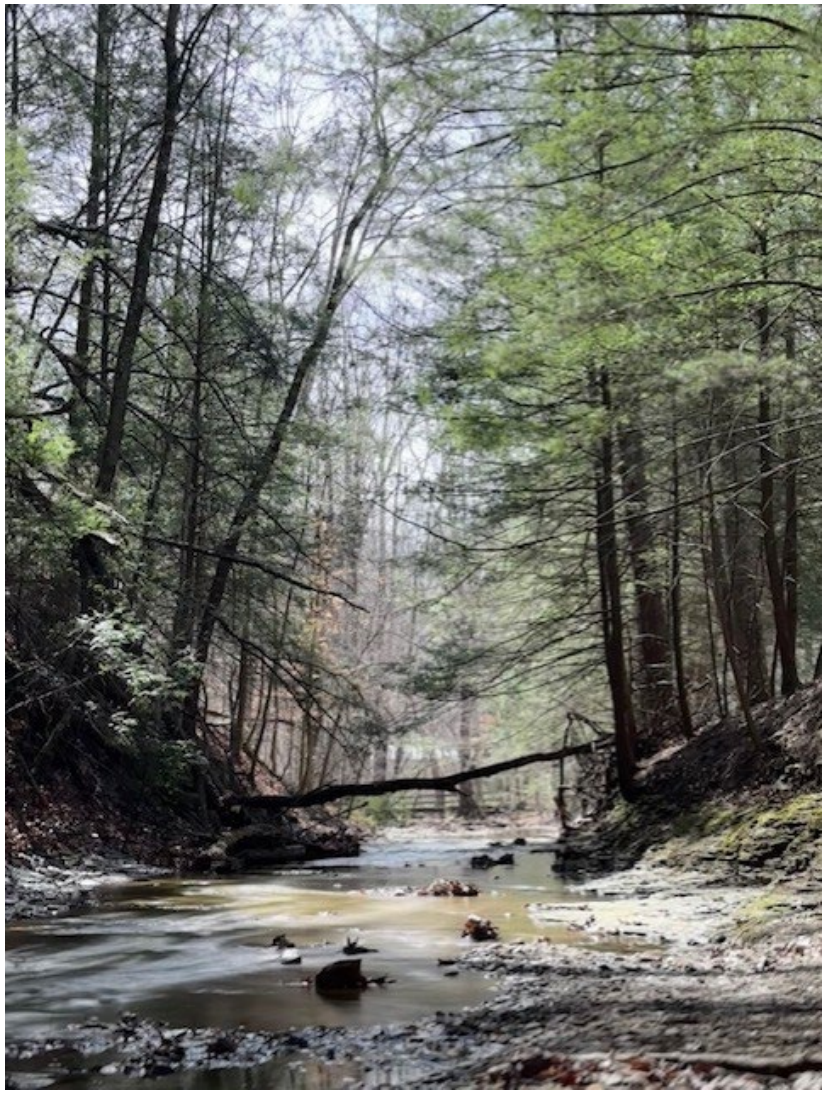
Eating Disorders

- DSM-5 named ED's:
  - Binge Eating Disorder – similar to Bulimia, but individuals will not perform any compensatory behaviors after the binge. While binge eating individuals will typically eat faster than normal, eat until they feel uncomfortably full, with or without being hungry, eat along because of embarrassment, and feel guilty afterwards. Guilt and shame can then lead to restrictive eating.



Eating Disorders

- Avoidant/Restrictive Food Intake Disorder (AFRID) – individuals will restrict the amount or types of food eaten, which could lead to severe weight loss, nutritional deficiencies, and impaired psychosocial functioning. Food avoidance may be due to a lack of interest in food, past consequence, sensitivity of the smell, taste, texture, or appearance. This eating disorder is not characterized by a distorted body image or fear of weight gain.

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Eating Disorders

- DSM-5 named ED's:
  - Other Specified Feeding and Eating Disorder (OSFED) – may have an eating disorder that does not fall under any of the previously mentioned categories. Individuals often have similar symptoms as other eating disorders but do not meet ALL of the criteria for the ED.
  - Pica – repeatedly eats things that are not food and have no nutritional value
  - Rumination Disorder – involves the repeated regurgitation and re-chewing of food after eating whereby swallowed food is brought back up into the mouth voluntarily and is re-chewed and re-swallowed or spat out

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Physical Findings in Main ED's

- Anorexia
  - Physical toll is extensive
  - Main systems which are impacted are as follows:
    - CV, Dermatological, Endocrine, Gastrointestinal, Hematologic, Neurological, Oral, Skeletal, Renal, Liver, Reproductive
  - Remains highest risk for death in all ED's, with mortality ranging from 6%-20% from malnutrition or suicide (Pearce, 2004)

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Physical Findings in Main ED's

- Bulimia and Binge Eating Disorder
  - Main systems impacted are:
    - Cardiovascular: arrhythmias, cardiac failure
    - Endocrine: electrolyte disturbances
    - GI: constipation, gastric ulcers, pancreatitis
    - Hematological: leukopenia
    - Oral: dental erosion
    - Renal; acute renal injury
  - BN and BED, may be an overlap with atypical depression (Singleton, 2019)
  - Roughly 50% of BN patients feature symptoms of ADHD, 15% of patients have multiple comorbid impulsive behaviors, including substance abuse, impulse buying, shopping and multiple sexual relationships (Nazar et al, 2014; Sonneville et al, 2015)
    - May also display self-harm, display intense emotions, and have chaotic sleeping patterns

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Physical Findings in Main ED's

- Avoidant-restrictive food intake disorder
  - Can be mistaken as "picky eating", but functional changes such as concomitant low weight or inability to grow along developmental trajectory
  - Patients with avoidant-restrictive food intake disorder are susceptible to same medical complications as patients with AN

- Pica
  - Can be observed in individuals with autism, intellectual disability,or schizophrenia (Treasure, et al, 2020)

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Physical Findings in Main ED's

- Eating disorders can affect individuals of all ages, gender, sexual orientations, ethnicities and geographies.
- Onset is rare for AN after 30, and age of onset appears to be decreasing (Steinhausen and Jensen, 2015)

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Uniqueness of Rural America

- Roughly 60 million Americans live in rural areas
- Commonly seen barriers to healthcare in rural areas are (CDC, nd):
  - Distance and Transportation
  - Workforce Shortages
  - Health Insurance and coverage costs
  - Broadband Access (telehealth access)
  - Health Literacy
  - Social Stigma and Privacy Issues because of small communities

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Uniqueness of Rural America

- Commonly seen health issues in rural areas (CDC, nd):
  - Heart Disease
  - Cancer
  - Unintentional Injury (MVA's)
  - Chronic Lower Respiratory Disease
  - Stroke

- Reasons for health issues:
  - Higher rates of cigarette smoking, high blood pressure, and obesity
  - Higher rates of poverty, less access to healthcare

Uniqueness of Rural America

- Additional risk factors in rural America (Hahn, 2023)
  - Children are 30% more likely to live in poverty compared to urban counterparts (US Dept of Ag, 2022)
    - Rural Kentuckians earn significanly less than urban counterparts
    - KY median income is ~$60K, rural median income often falls ~$35K
  - Less likely to have access to full-service grocery stores which offer fresh fruits and vegetables and are reliant on convenient stores.
  - Reduced food access due to geographical distance may further contribute

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Eating Disorders in Rural America

- Little has been published regarding this population, however limited results suggest adolescents from rural communities may have elevated eating disorder risk relative to their urban-dwelling peers (Hahan, S, et al, 2023)
- Outside the US have reported same statistic
- Healthcare professionals choosing not to screen, due to lack of resources if ED is found (Wade et al, 2022)
- Adolescents are fearful that their provider will share sensitive information (small community)

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Eating Disorders in Rural America

- Rural populations place emphasis on ability to contribute to their community, and many individuals do so with labor intensive jobs. These jobs may lead to body ideals emphasizing more muscular physiques.
    - Muscular ideals and disordered muscle building behaviors have not been explored in this population.

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Pathological Eating Behaviors and Correlates

- Psychosocial Correlates (Franzoni et al, 2026)
  - Pressure from society and how strongly athletes believed in these ideals – had a big impact
  - Females: low self-esteem and difficulty managing emotions
  - Males: pressure about weight from their sport and negative mood played larger role

- Sports pressures were associated with internalization of body ideals, body dissatisfaction, dietary restrain, negative affect, and drive for muscularity (Franzoni et al, 2026)

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Pathological Eating Behaviors and Correlates

- Internalization (Franzoni et al, 2026)
  - Associated with high body dissatisfaction
  - Stemmed from pressure from family, peers, media and significant others

- Emotion dysregulation and impulsivity (McDonald et al, 2019)
  - ED's in those individuals who are diagnosed with bipolar disorder is significantly higher versus general population.
  - Comorbidity of ED's in bipolar disorder: correlates included alcohol, substance abuse, suicidality and mood instability.

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Pathological Eating Behaviors and Correlates

- Life events (Pacanowski et al, 2024)
  - Authors examined disordered eating prevalence rated pre/post Covid-19
  - Disordered Eating was significantly lower in pre-pandemic years versus pandemic years
    - Isolation which is reflective of previous mention of internalization
    - Post Traumatic Stress Disorder (PTSD) is a significant risk factor for the development of an eating disorder and co-occurs with ED's at a much higher rate than general population. Also higher tendency to drop out of treatment.
    - Lash out at oneself
    - ED's can be a way to self-medicate and cope with unmanageable feelings

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Helpful tools

- What is the purpose for your screening
- Listed tools:
  - Eating Disorder Examination Questionnaire (EDE-Q)
  - Eating Attitudes Test-26
  - SCOFF (5 questions)
  - Eating Disorder Screener for Primary Care (4 questions)
  - Body Esteem Scale
  - Beck Depression Inventory II
  - Coping Inventory for Stressful Situations (CISS)
  - Weight Pressure in Sport in Female Athletes (WPS-F)
- Listed tools (continued):
  - Sociocultural Attitudes Towards Appearance Questionnaire (SATAQ-R)
  - Body Image Matrix of Thinness and Muscularity – Female Bodies (BIMTM-FB)
  - Drive for Muscularity Scale
  - Conformity to the Sport Ethic Scale (CSES)
  - Athletic Identity Measurement Scale
  - Rosenberg Self-Esteem Scale (RSES)
  - Difficulties in Emotion Regulation Scale Short Form (DERS-SF)

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Helpful tools

- Future tools :
  - Machine Learning: subset of AI that trains software (models) to recognize patterns in data and make predictions without being explicitly programmed with card-coded rules.
    - Wang (2021) concluded that ML is promising, but it did need external validation.
  - AI: artificial intelligence: computer systems capable of performing tasks that typically require human intelligence
    - Linardon et al (2025) reported a high level of AI usage for personal reasons in ED clinicians (over half), but less than 30% thought it would significantly improve clinical outcomes. 9/10 agreed that AI may be improperly used if not trained on AI usage. Authors also reported that clinical and human relational skills would never be outperformed by AI.

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Screening vs Diagnosing

- Screening (in healthcare): involves testing individuals who have no symptoms to detect underlying disease or risks early when they are easier to treat.
  - Remember, you don't have to have a formal tool to screen, just need to know what you are looking for: **look for correlates**
- Diagnose (in healthcare): identify the exact nature, cause, or identity of an illness, disease, or mechanical problem by examining symptoms, conducting tests, or evaluating evidence.

Screening vs Diagnosing

- In your clinic, which would be more appropriate?
- Do you have a plan in place if you diagnose an ED?

Resources at UK St Claire

- UK St Claire Counseling Center
  - Do not formally treat ED's as there are not individuals trained
  - Inpatient cases are referred out
  - We do manage clinical aspects (LCSW, RD)

- James Lynch, MD
  - Bariatric surgeon who has implemented a weight loss program for patients that are about to go through surgery
  - Some of the same aspects are addressed, but ED's are not treated

Thank You!

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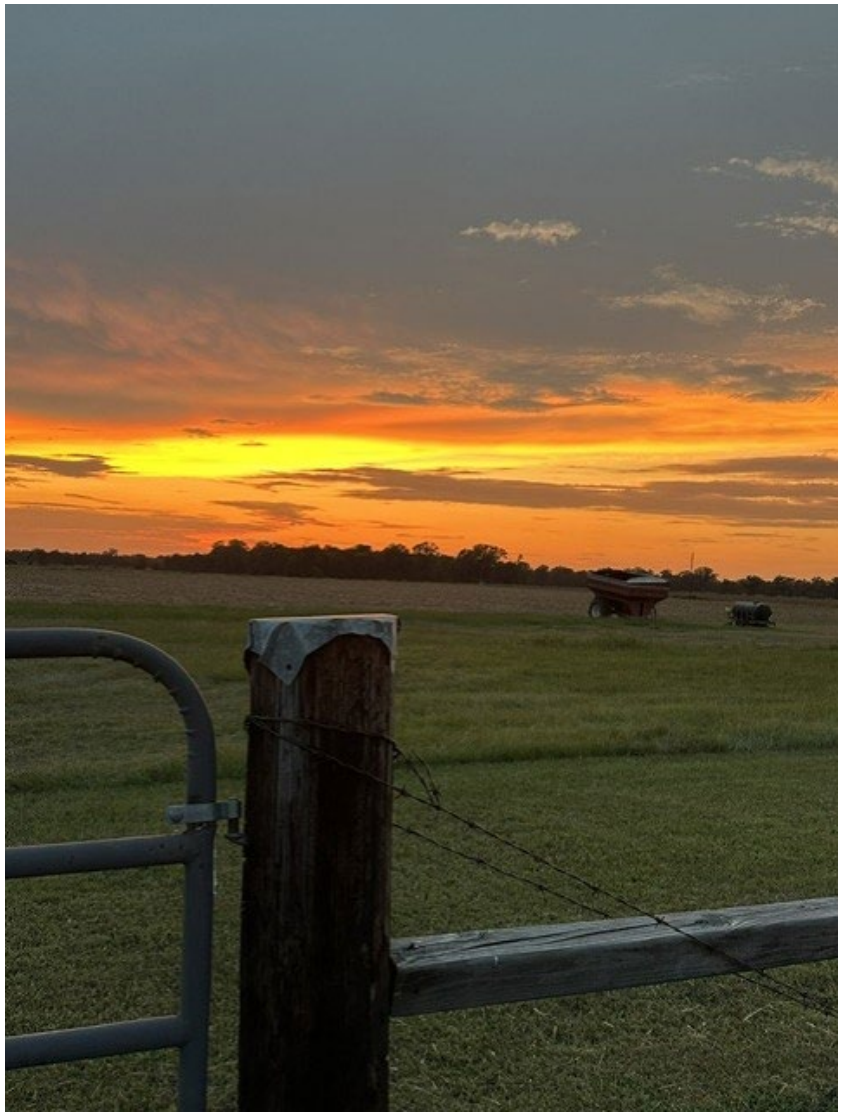

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