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Collaborating, Co-managing and Facilitating Metabolic Improvement in Patients with Severe Mental Illness (SMI)

**14th Canadian Collaborative
Mental Health Care Conference**

**Montréal, Québec
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Why should we care ?

Where is the literature heading?

What should we be doing about it?

How can **health professionals** work together?

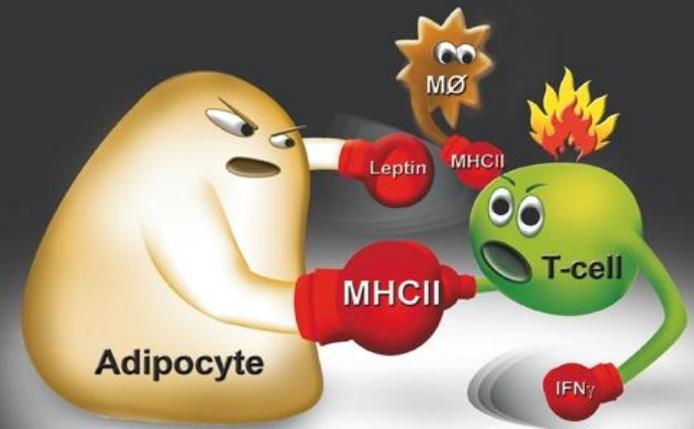
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Cell Metabolism

Volume 17
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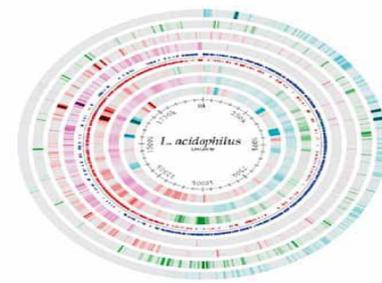
March 5, 2013

www.cellpress.com



Claudia Lamschtein, MD

Learning Objectives



- Discuss the literature regarding possible **neurobiological** underpinnings for cardiometabolic risk associated with Severe Mental Illness SMI
- Consider **scales and tools** useful in monitoring cardiometabolic risk and related physical problems in persons with SMI
- Review **strategies** to improve clinical outcome: integration of evidence-based approaches in a multidisciplinary team that address the prevention, diagnosis, and treatment of physical problems in persons with SMI

Data Sources

- **Pub Med**
 - **Embase**
 - **Cochrane**
 - **Medscape**
 - **Up to date**
 - **CMAJ**
 - **Ebsco**
 - **Stahl-Neuro Pharmacology**
 - **Health Canada-Nutrient Value of some common foods**
 - **Psychiatric Times**
 - **The Medical Post**
 - **Medscape Medical News from the American Medical Association (AMA) 2013 Annual Meeting**
 - **Canadian Health & Lifestyle**
 - **Current Psychiatry**
 - **Nutrition & diagnosis related care – Sylvie Escott-Stump, 7th Edition**
 - **Endocrinology & Metabolism clinics of North America, volume 30, Number 3, 2001**
 - **The gravity of weight, clinical guide, AP Publishing , 2013**
 - **Preventive Nutrition, 4th Edition**
- Limits: Clinical Trial, Randomized Controlled Trial, Comparative Study**
- Access to full text through Horizon Library**
- Focus on outpatient treatment**

Researched using the following terms:

- Brain-gut/top-down regulation
- Gut Microbiota & Obesity Immune development & function
- Immune System Dysregulation & Schizophrenia
- Inflammatory markers
- Intestinal Microbiota, Probiotic & Mental Health
- Microbial colonization programs the HPA for stress response
- Neuroendocrinology of stress
- Probiotics in relation to inflammation, stress & mental health
- hsCRP in Mental Illness AND CV diseases and Risk Factors
- Canadian Cardiovascular Society / Canadian guidelines for the diagnosis and treatment of dyslipidemia and prevention of cardiovascular disease in the adult 2009 recommendations
- European Society of Cardiology, Guideline May 2012
- Pro-inflammatory cytokines in psychiatric disorders
- Psychoneuroimmunology: Clinical application of an emerging field in medicine, May 21, 2013, APA
- Role of probiotics in the management of psychiatric disorders
- Symposium – What are we missing in Schizophrenia – Dr. Nasrallah
- Use of probiotics in adult mental healthcare
- Psychoneuroendocrinology, intestinal permeability, lipopolysaccharide endotoxin
- Addressing the Major Unmet Needs in Schizophrenia-Henry Nasrallah
- Canadian Diabetes Association Clinical Practice Guidelines 2013
- Psychological Interventions for the Management of Obesity in Patients with Psychiatric Disorders, CPA course October 2012
- Shape up Sommerville, 2011

THE LANCET

Volume 381 · Number 9878 · Pages 1597-1686 · May 11-17, 2013

www.thelancet.com

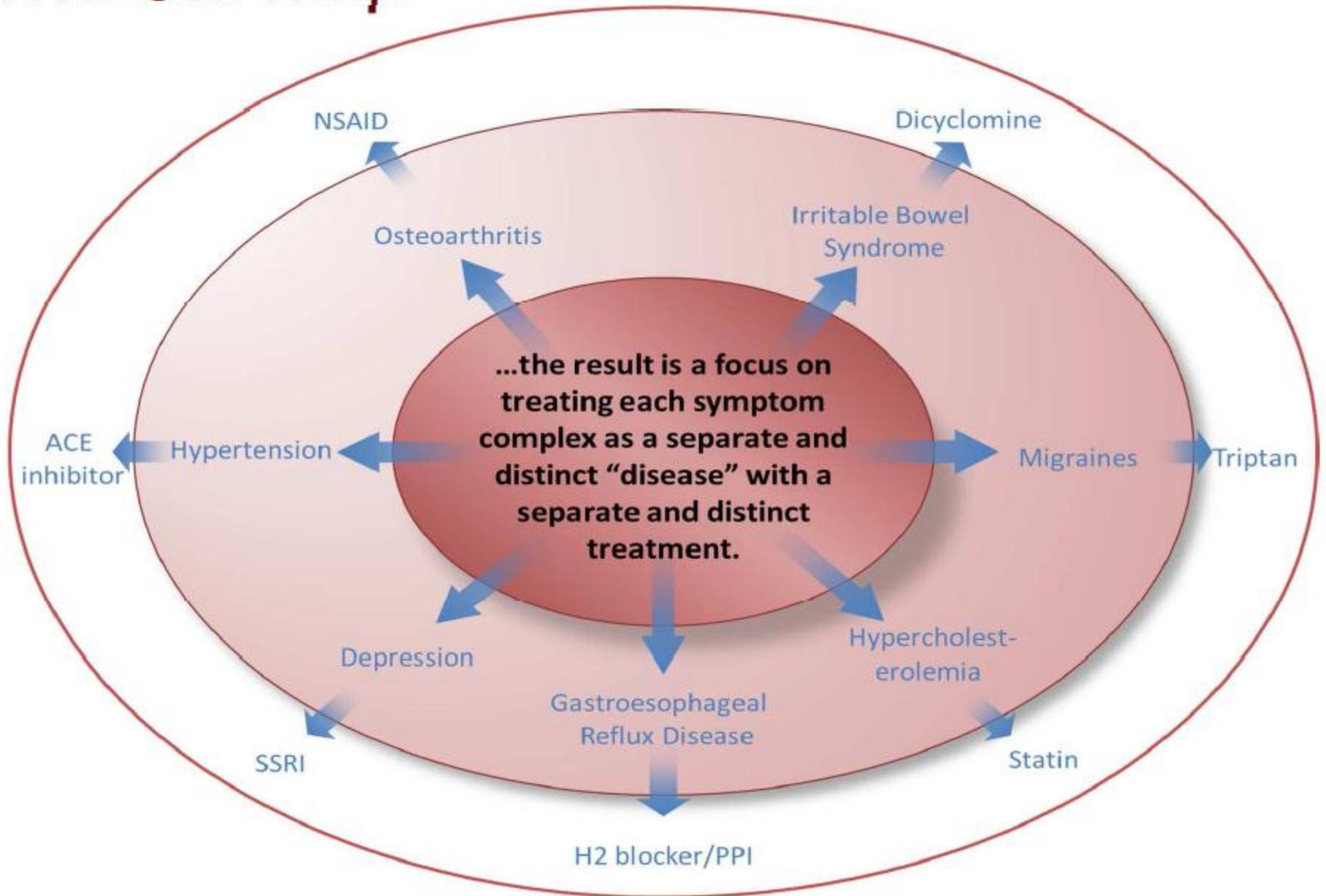
“The psychiatrist of the future must be able to ally human and scientific understanding; to collaborate meaningfully and respectfully with patients in planning care; and to be confident and pragmatic, but receptive to new discoveries that may challenge the very basis of his or her understanding of mental illness. Psychiatry demands exceptional doctors.”

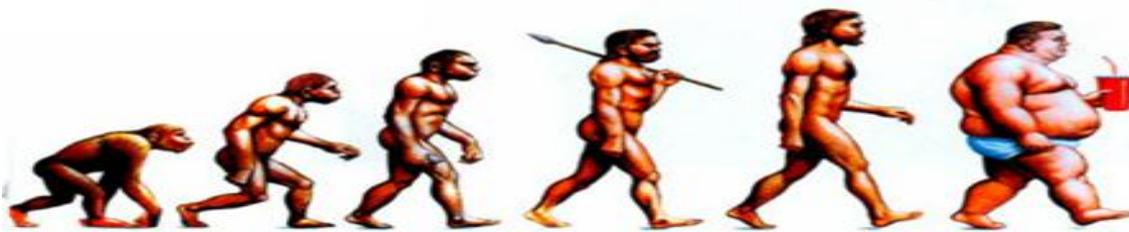
Staging psychiatric disorders: A clinico-biologic model

It's time for psychiatry
to adopt a staging
schema based on
clinical progression
and neurobiology

.....progressive psychotic and mood disorders from the preclinical stage to chronic deteriorative state include inflammation, oxidative stress, loss of neurotropic growth factors and impaired neuroplasticity, all of which result in deleterious neuropathologic progression of damage to key brain circuits.

The Old Map



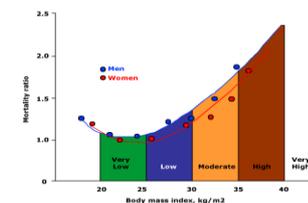


Our Observations Tell Us...

- Our clients are experiencing substantial weight gain
- Irregular lipid profiles
- Disproportionate rates of Type II diabetes
- Emotional responses and non adherence related to **changes in body image**
- **Our clients are dying young**

Research Says...

Relation between mortality and body mass index



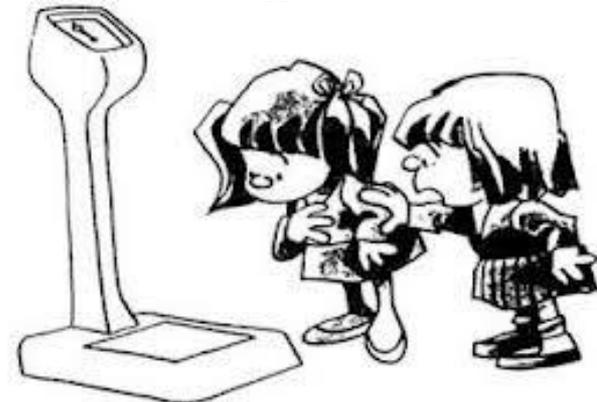
At a body mass index below 20 kg/m² and above 25 kg/m² there is an increase in relative mortality for men and women.
Data from Lew, EA. *Ann Intern Med* 1985; 103:1024.

UpToDate

- Increased Morbidity and Mortality are associated with SMI
- 30 - 40 % mortality related to suicide
- **60% of premature deaths related to “natural causes” such as:**
 - Metabolic Disorders, Cardiovascular Disease, Diabetes Mellitus
 - High Prevalence of Modifiable Risk Factors (Obesity, Smoking)
- Some psychiatric medications contribute to risk
- **Established monitoring and treatment guidelines to lower risk are UNDERUTILIZED in SMI Populations**

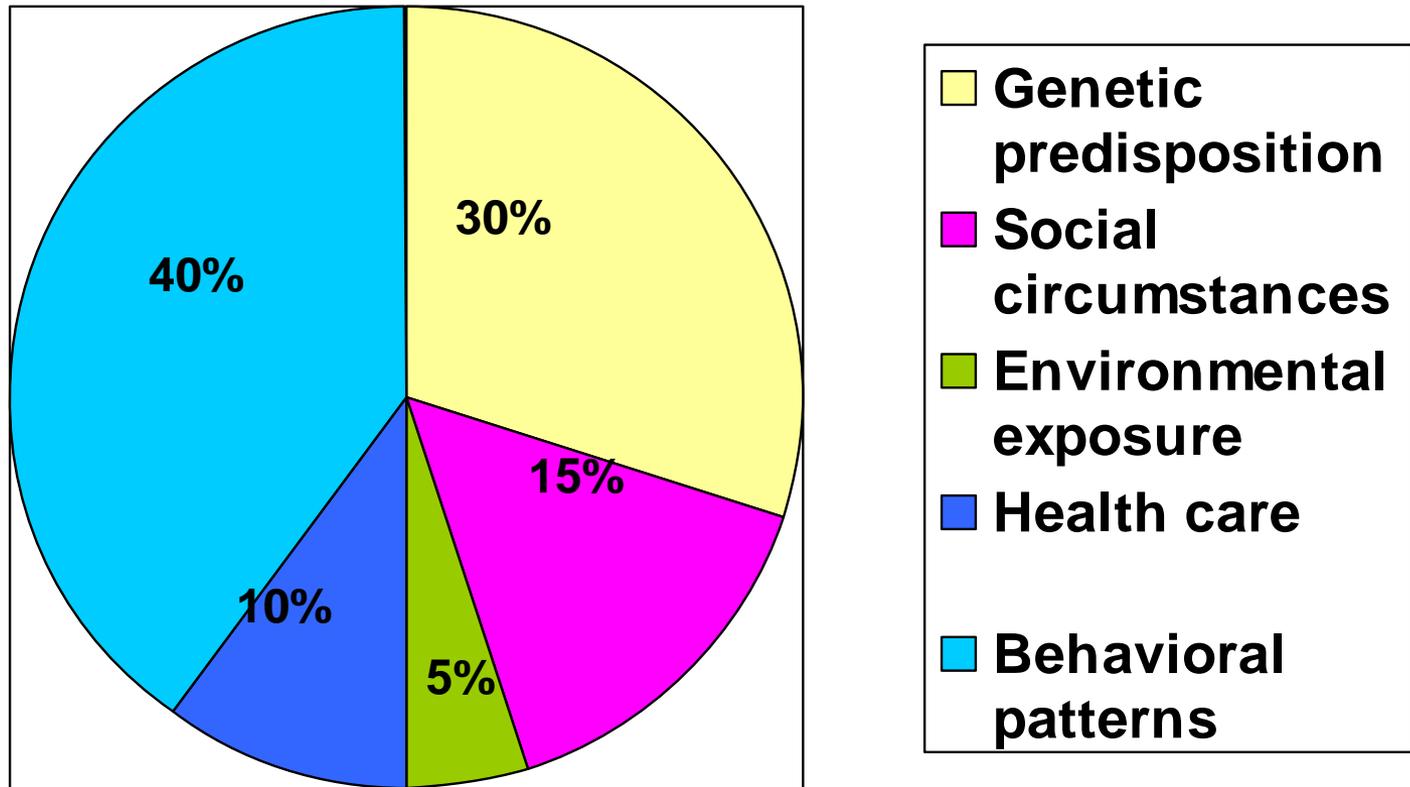
SMI poses a multifactorial risk:

- **Patient factors:** motivation, fearfulness, homelessness, victimization / trauma, resources, advocacy, unemployment, incarceration, social instability, IV drug use
- **Provider factors:** Comfort level and attitude of healthcare providers, coordination between mental health and general health care, stigma.
- **System factors:** Funding, fragmentation.



"Don't step on it . . . it makes you cry."

Determinants of Health and Their Contribution to Premature Death



**When I
Grow
Up, I'm
Going
to Weigh
300 Lbs.
Help!**

MELINDA
GATES'S BIRTH-
CONTROL
BOMBHELL

BILL MAHER
REMEMBERS
JOHNNY
CARSON

THE RAW
COURAGE OF
CHINA'S
BLIND
FUGITIVE

“We need to be aware that the only illness perhaps more stigmatizing than mental illness is obesity.

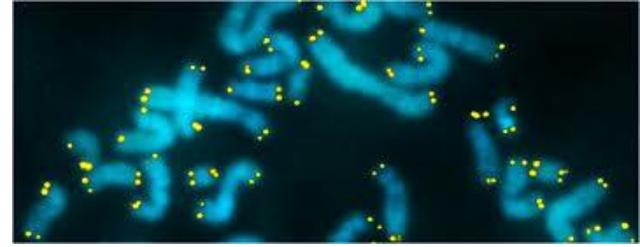
So when you have a population that has both, realize that that's a group that is going to be really vulnerable and at risk”.

Grade 1 overweight (commonly and simply called overweight) – BMI of 25-29.9 kg/m²
Grade 2 overweight (commonly called obesity) – BMI of 30-39.9 kg/m²
Grade 3 overweight (commonly called severe or morbid obesity) - BMI ≥ 40 kg/m²

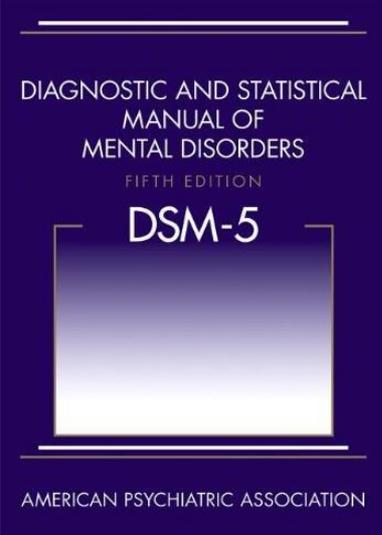
Research Says

- The WHO refers to the *escalating global epidemic of obesity* as “**globesity**”
 - estimates that there are more than **1 billion overweight** adults globally of whom at least 300 million are obese (BMI > 30 kg/m²)
- According to **StatsCan (2007)**:
 - 16% (**4 million**) are adult obese
 - 32% (**8 million**) are overweight
- **1 in 4 Canadian adults and 1 in 10 Canadian children are now clinically obese**
- Over 2 million Canadians are living with Diabetes, six million are pre-diabetics

Is Obesity.....



- A disease a disorder an addiction
- An inappropriate adaptation
- A metabolic disease
- Neurochemical alteration
- A behaviour problem
- An extreme condition of weight control and maintenance gone awry??????



Obesity is not included in DSM-5 as a mental disorder.

A range of genetic, physiological, behavioral, and environmental factors that vary across individuals contributes to the development of obesity, thus, obesity is not considered a mental disorder.

However, there are robust associations between obesity and a number of mental disorders (e.g. binge-eating disorder, depressive and bipolar disorders, schizophrenia).

The side effects of some psychotropic medications contribute importantly to the development of obesity, and obesity may be a risk factor for the development of some mental disorders (e.g. depressive disorders)

[Medscape Medical News](#) > [Conference News](#)

AMA Declares Obesity a Disease

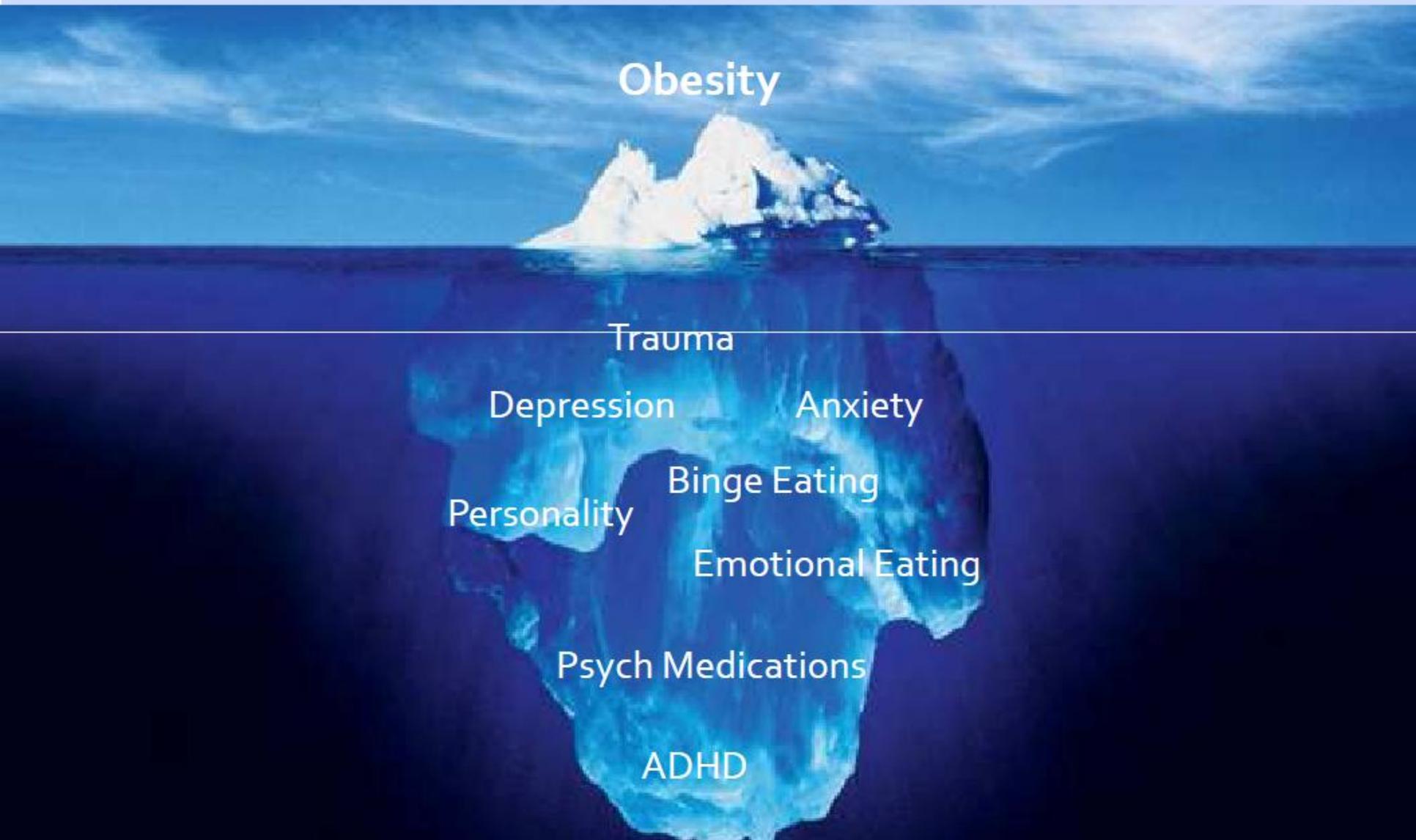
Marcia Frellick

Jun 19, 2013

"Obesity is a pathophysiologic disease. There is a treatment for this disease; it involves behavioral modifications, medications, and surgeons. **Obesity affects minorities disproportionately**" said Jonathan Leffert, MD, alternate delegate for Endocrinology, Diabetes, and Metabolism.

"The scientific evidence is **overwhelming.**"

Psychiatric Factors Related to Obesity



Obesity

Trauma

Depression

Anxiety

Personality

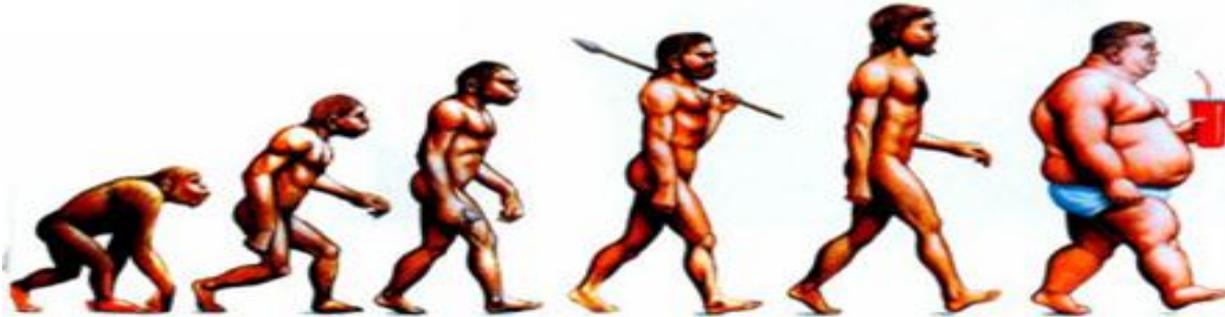
Binge Eating

Emotional Eating

Psych Medications

ADHD

Patients with SMI have approximately **twice** the prevalence of risk factors for Metabolic Syndrome as the general population

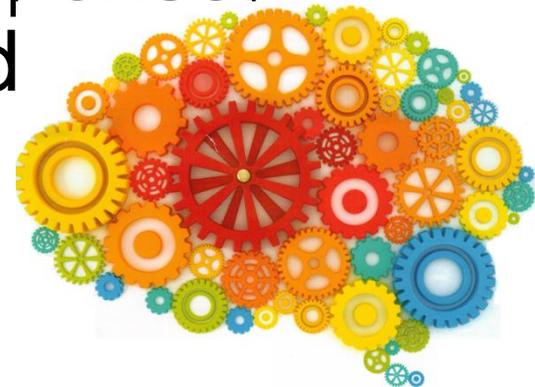


“There is **room for improvement** in risk factor control even in for individuals at high risk”



Schizophrenia and Obesity

- 50% of clients on antipsychotics exceed recommended weight by >20%
- Diabetic risk increases by 600%
- Average weight gain in early treatment is 5% which impacts on physical and emotional health
- Weight gain associated with response: dose related with Clozapine and Olanzapine



Metabolic Syndrome

- According to the:
 - American Heart Association
 - The National Heart, Lung, and Blood Institute

Metabolic Syndrome

If present *three or more* of the following markers:

≥3 Risk Factors Required for Diagnosis	
Risk Factor	Defining Level
Abdominal obesity Men Women	Waist circumference >40 in (>102 cm) >35 in (>88 cm)
Triglycerides	≥150 mg/dL (1.7mmol/L)
HDL cholesterol Men Women	<40 mg/dL (1.03mmol/L) <50 mg/dL (1.30mmol/L)
Blood pressure	≥130/85 mm Hg
Fasting blood glucose	≥110 mg/dL (5.6mmol/L)

Neurobiology of MetS and Mental Illness:

