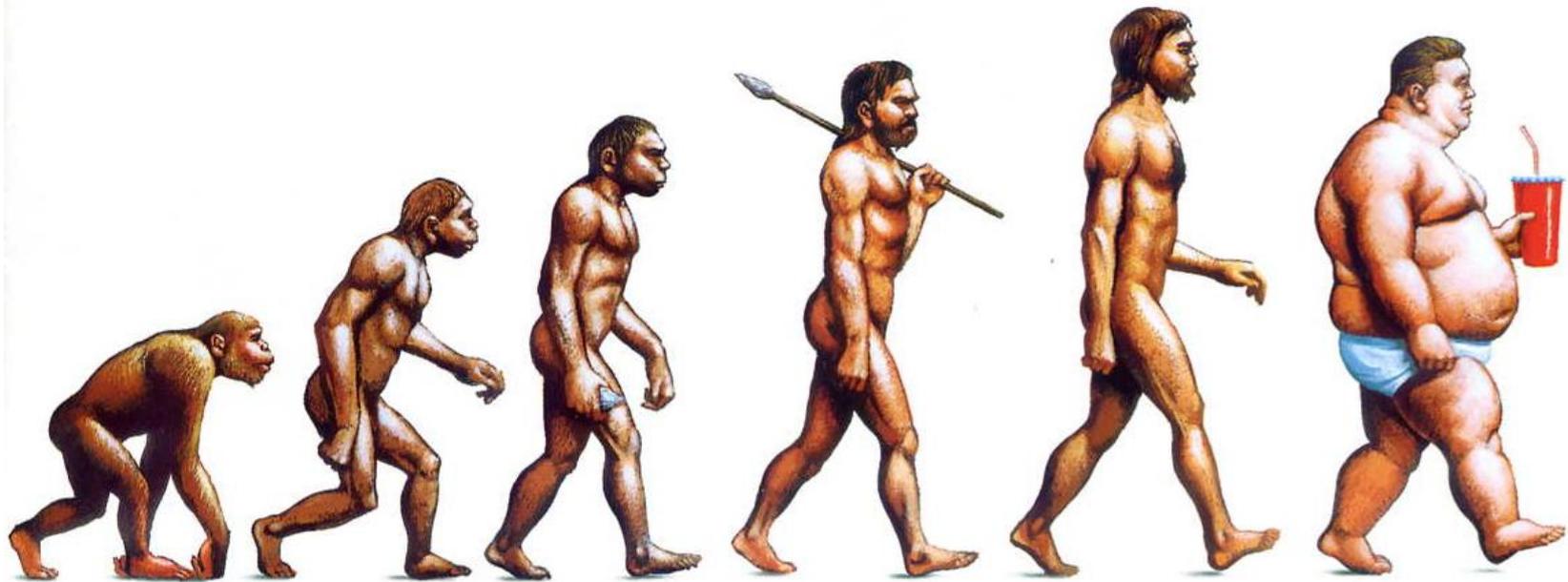

Weight management in patients with severe mental illness

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Evolution of human body size



Family portrait



Outline

- Obesity in patients with SMI
 - Weight management strategies
 - Clinical monitoring
 - Choice of psychotropic medication
 - Lifestyle intervention
 - Pharmacological intervention
 - Coordination of physical and mental health care
-

Obesity in patients with SMI

- Obesity: nearly twice as in the general population
 - Obesity: increased risk for metabolic syndrome
 - Metabolic syndrome (3 or more criteria)
 - Waist circumference (men > 40 inches, women > 35 inches)
 - Triglycerides (≥ 150 mg/dL)
 - HDL (men < 40 mg/dL, women < 50 mg/dL)
 - Blood pressure ($\geq 130/85$ or drug treatment)
 - Fasting glucose (≥ 100 mg/dL or drug treatment)
-

Metabolic syndrome in schizophrenia

- The percentage of people with metabolic syndrome
 - Schizophrenia: 43%
 - General population: 24%
 - The percentage of people with diabetes
 - Schizophrenia: ~14%
 - General population: 7%
 - Metabolic syndrome: a major risk factor for cardiovascular disease and death
-

Mortality in SMI: compared with the general population

- Mortality rate: 2-4 times higher
 - Life expectancy: 20-30% shorter
 - Death: up to 3 decades earlier
 - Cardiovascular disease: the major cause
 - Cardiovascular death: 6-7 times higher
-

Obesity: definition

- Weight
- Body mass index (BMI): $\text{weight(kg)}/\text{height(m}^2\text{)}$
 - 25-30: overweight
 - ≥ 30 : obese
- Waist/hip ratio
- Waist circumference
 - Better than BMI or waist/hip ratio in predicting insulin resistance in clozapine treated patients with schizophrenia¹

¹*J of Psychiatric Practice*, 2009

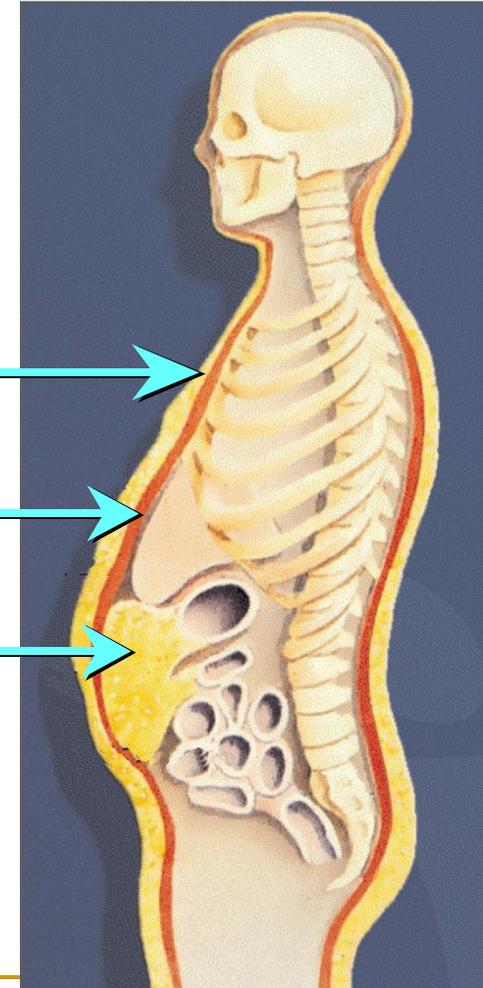
Obesity: location matters



**Subcutaneous
Fat**

**Abdominal
Muscle Layer**

**Intra-
abdominal Fat**



Metabolic obese but normal weight (MONW)

- Obesity is NOT necessary for the development of
 - Diabetes
 - High cholesterols
 - Hypertension
 - Heart attack
- MONW identified in patients with schizophrenia¹

¹*Schizophrenia Research*, 2010

Increased risk for obesity in SMI: why?

- Genetic vulnerability
 - Unhealthy lifestyle
 - Unhealthy food
 - Lack of exercise
 - Psychotropic medications
 - Most antidepressants, mood stabilizers and antipsychotics
 - Some are worse than the others
 - Barriers to medical care
-

Weight gain: clinical questions

- Not everyone gains weight
 - Difficult to predict who will gain weight
 - Weight gain starts early
 - Weight gain levels off in 3 months to 1 year (?)
 - Weight gain: difficult to lose
 - Weight gain: not necessary for the development of other metabolic problems
 - Effects on self-esteem, compliance
-

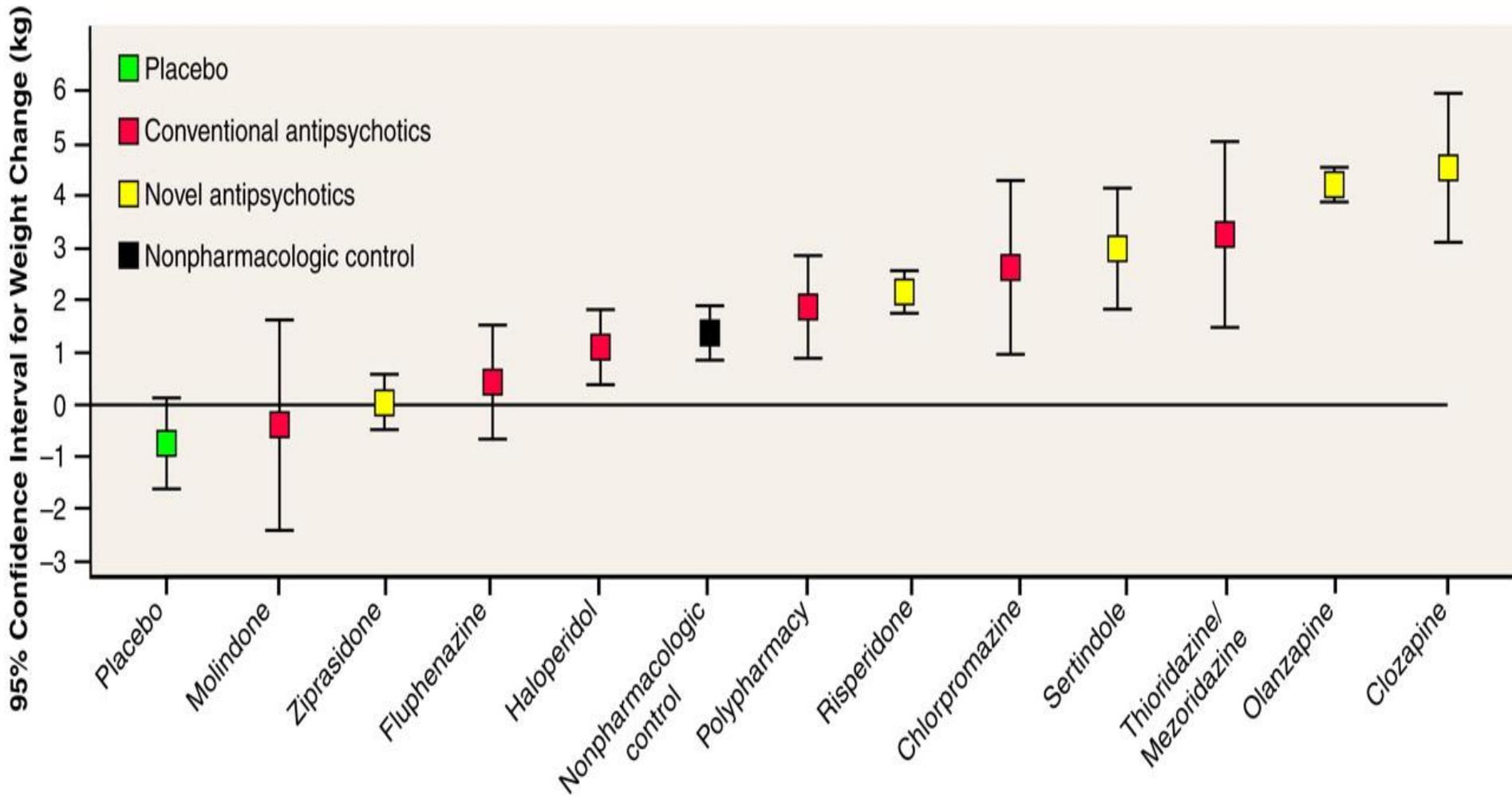
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Weight management: clinical monitoring

	Start	4 weeks	8 weeks	12 weeks	3 months	12 months	yearly
Personal/ family History	X						
Weight	X	X	X	X	X	X	X
Waist circumference	X					X	X
Blood pressure	X			X		X	X
Fasting glucose	X			X		X	X
Fasting cholesterol profile	X			X		X	X

Weight management: choice of antipsychotic medication



Weight management: choice of antipsychotic medication

- **Metabolically neutral choices**
 - Ziprasidone: under-utilization, under-dosing because of concern for QTc prolongation
 - Aripiprazole: monthly IM injection form available soon
 - Lurasidone: more long-term data needed
 - **Dosing**
 - Acute stabilization versus maintenance
 - Smoking versus non-smoking
 - **Inappropriate use of antipsychotic agents: “universal glue”**
-

Weight management: lifestyle intervention

- Food intervention
 - Choose healthy diet
 - Minimize fast food
 - Downsize the meal portion
 - Monitor food intake
-

Healthy diet

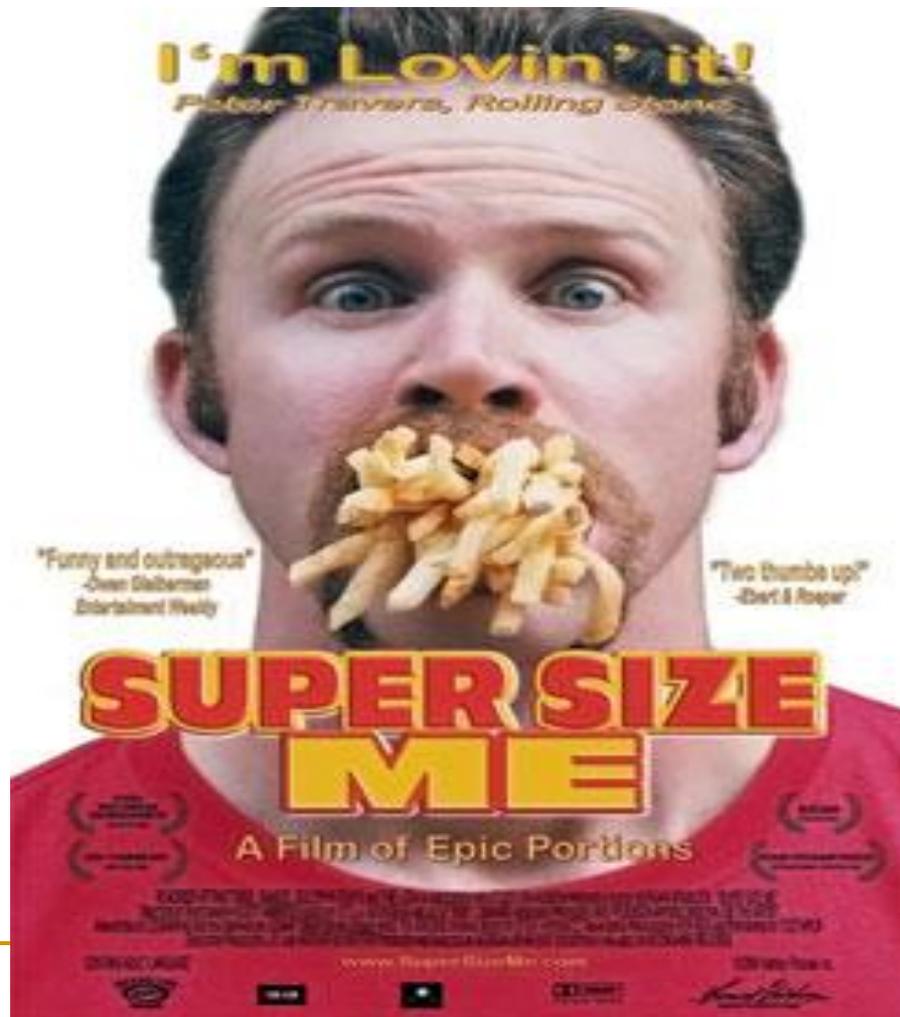
- Emphasizes fruits, vegetables, whole grains, and fat-free or low-fat milk and milk products
 - Includes lean meats, poultry, fish, beans, eggs, and nuts
 - Minimizes saturated fat, trans fat, cholesterol, salt and sugar
 - Fat
 - Bad fat
 - Saturated fat: whole milk, cheese, ice cream...
 - Trans fat: deep fried fast food –French fries, fried chicken...
 - Good fat
 - Polyunsaturated fat: fish, fish oil...
 - Monounsaturated fat: olive oil, seeds and most nuts...
-

Fast food

“A large fast food meal (double cheeseburger, French fries, soft drink, desert) could contain 2,200 calories, which... would require a full marathon to burn off”
(*Lancet*, 2002)



Portion size matters



My Food Diary

Please, write down everything you had during the day. Please underline the day you are writing about!

Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday

Breakfast: 	
Snack: <i>Between Meal</i> 	
Lunch: 	
Snack: <i>Between Meal</i> 	
Dinner: 	
Nibbles: 	

Weight management: lifestyle intervention

■ Exercise intervention

- Walking (moderate to vigorous)
 - 20-30 minutes per day (stop watch)
 - 10,000 steps per day (pedometer)
 - Limit TV time (no more than one hour per day)
 - Physical activity log
-

Pedometer

- The use of pedometer associated with
 - Increased activity (2,000 steps or 1 mile/day)
 - Clinically relevant reductions in weight and blood pressure
- Strategies
 - Setting a step goal
 - The use of a step diary

(JAMA, 2007)



Behavioral change in patients with SMI: special considerations

- Cognitive deficits (memory, executive function)
 - Highly structured presentation format
 - Frequent repetition of material
 - A/V presentation
 - In vivo practice
 - On-site nutrition education in a grocery store
 - Group walk exercise
-

Behavioral change in patients with SMI: special considerations

- Behavioral modification techniques
 - Shaping
 - Reinforce successive steps towards specified goals
 - Token economy
 - Based on principles of operant conditioning and social learning
 - Token: redeemable for consumables
-

Weight management: lifestyle intervention

- NEJM, 4/25/2013
 - An 18-month behavioral weight loss intervention in overweight or obese adults with SMI
 - N=291 (58% schizophrenia, 22% bipolar disorder, 12% major depression)
 - Randomization: intervention versus control
 - At 18 months, between-group difference in weight change – 3.2kg
-

An “obesogenic” environment





Exhibit

24
HOUR

FITNESS

EXNER'S
QUALITY STYLING
BY
SANDY GARDNER
MUSCLE BAY
HOT LIPS

WE POINT TO
THE STAIRS

FITNESS

JOIN
US!

24
HOUR

POINT LO
HANDICAP
TO UPPER
LOCATED
24 HOUR

Weight management: pharmacological intervention

- First-episode schizophrenia treated with low-dose clozapine, risperidone, olanzapine or sulpiride.
- Randomized to three groups
 - Metformin alone
 - Lifestyle plus metformin
 - Lifestyle plus placebo
- The lifestyle-plus-metformin treatment was significantly superior to metformin alone and to lifestyle plus placebo for
 - Weight
 - BMI
 - waist circumference reduction.

Integration of physical and mental health care

- Schizophrenia: “split mind”
 - The reality of “schizophrenic” care of mind and body
 - Mental health providers: medical issues “not my area”
 - Physical health providers: lack of knowledge about psychotropic agents; fear of “mess around” with schizophrenia patients; time constraint
 - Failure of the metabolic monitoring schedule
 - Consequence: medical problems “fall through the cracks” – undiagnosed, untreated
-

Integration of physical and mental health care

■ CHL model

- ❑ A Primary and Behavioral Health Care Integration (PBHCI) program supported by a SAMHSA grant
 - ❑ Offers on-site primary care, nurse care management, peer support, and wellness groups to consumers already receiving outpatient behavioral health services
 - ❑ Challenges
 - Billing
 - Separated medical records
 - SUSTAINABILITY
-

Integration of physical and mental health care

■ Health home model

- Multiple stakeholders>>sustainable
 - Customized to meet the specific needs of low-income patients with chronic medical conditions
 - Major components
 - Comprehensive care management and coordination
 - Comprehensive transitional care
 - Patient and family support
 - Referral to community and support services
 - Use of health information technology to link services
-

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