

# **Wisconsin Public Psychiatry Network Teleconference (WPPNT)**

- This teleconference is brought to you by the Wisconsin Department of Health Services (DHS), Division of Care and Treatment Services, Bureau of Prevention Treatment and Recovery and the University of Wisconsin-Madison, Department of Psychiatry.
- Use of information contained in this presentation may require express authority from a third party.
- 2022, Daniel Barry, Reproduced with permission.

# WPPNT Reminders

## How to join the Zoom webinar

- **Online:** <https://dhswi.zoomgov.com/j/1606358142>
- **Phone:** 669-254-5252
- Enter the Webinar ID: 160 635 8142#.
  - Press # again to join. (There is no participant ID)

## Reminders for participants

- Join online or by phone by 11 a.m. Central and wait for the host to start the webinar. Your camera and audio/microphone are disabled.
- [Download or view the presentation materials](#). The evaluation survey opens at 11:59 a.m. the day of the presentation.
- Ask questions to the presenter(s) in the Zoom Q&A window. Each presenter will decide when to address questions. People who join by phone cannot ask questions.
- Use Zoom chat to communicate with the WPPNT coordinator or to share information related to the presentation.
- Participate live or view the recording to earn continuing education hours (CEHs). Complete the evaluation survey within two weeks of the live presentation and confirmation of your CEH will be returned by email.
- A link to the video recording of the presentation is posted within four business days of the presentation.
- Presentation materials, evaluations, and video recordings are on the WPPNT webpage: <https://www.dhs.wisconsin.gov/wppnt/2022.htm>.

# Obesity, Cholesterol, and Diabetes: A Primer for Mental Health Providers

Daniel J. Barry, M.D.

June 23, 2022

# A Little Introduction

- Why this talk?
- Value of free advice?
- Teachable moment
- #1 Best bit of advice:
- **Get a Primary Care Provider!!**
- Story: A recent life-and-death example.

# Top Three Causes of Death in Adults

- Cardiovascular Disease...heart attack, heart failure and stroke
- Cancer...lung, colorectal, pancreatic and breast
- (Covid in 2021)
- Accidents...poisoning, motor vehicles, drowning and falls

We will talk mostly about Cardiovascular Disease. Why?

# Our Patient, Mr. Smith

Gender: Male

Age: 50

Weight: 200 lb.

Blood Pressure: 139/81 mmHg

Fasting Blood Sugar: 120

Lipids:

Total Cholesterol: 240

HDL: 45

LDL: 160

Triglycerides: 180

Meds: Clozapine, 150 mg. bid

# Infobits on Weight

- BMI= Body Mass Index
  - Normal: 17-25
  - Overweight: 25-30
  - Obese: 30-40
  - Morbid Obesity: > 40
- 
- 73% of Americans are overweight
  - 42% of Americans are obese
  - Obese males have 2.5 x higher death rates than normals

# Average American Weight BMIs

- Mr. Smith is average height, so at 200 lbs his BMI is 29 kg/m<sup>2</sup>. He's overweight and almost obese. For him at 5' 9":
  - 170 lbs. Is overweight
  - 205 lbs. Is obese
  - 250 lbs. Is morbidly obese
- The average American woman is 5' 4" tall, so for her
  - 145lbs. Is overweight
  - 175 lbs is obese
  - 235 lbs is morbidly obese



# Problems Associated With Overweight

To name just a few:

Atherosclerosis = Heart Attack and Stroke

Diabetes

Hyperlipidemia

Hypertension

Arthritis and muscular skeletal pain

Oh, did I mention non-alcoholic fatty liver disease? Don't worry, I won't.

# Treatments?

Eat less, exercise more? Yes, but unfortunately it is often not effective, based on 35 years of medical practice. 100 dieting people on a scale weigh within 100 lbs total a year later.

Drugs? Historically dangerous. Future, though, is hopeful: Newer diabetes drugs are now showing significant weight loss..even in folks without diabetes.

Surgery? It works, but only advised if person has serious side effects of obesity...and it has side effects, too.

# Does Mr. Smith Have Diabetes?

- No, but he's getting there...a fasting sugar of 120 is close.
- What is Type II diabetes?
- Type II..plenty of insulin, but body resists it, so sugar cells is too low while sugar in bloodstream is too high.
- Definition: Fasting Sugar 125 or higher
- Definition: HgA1c 6.5 or higher
- Cause: Obesity: Almost all obese people have or will get Type II diabetes  
(Diet: Carbs (sugars and starches) are the primary culprits. Orange juice ...12 glasses a day.....can cause diabetes!! Oh, and soda pop is BAD.)

# Symptoms, Risks, and Treatment of Diabetes

- Symptoms:
- Thirst, urinary frequency and in women frequent UTIs, skin infections, visual loss, painful numbness in feet leading to injuries and infections. Diabetes is the #1 cause of AMPUTATION in the U.S.
- Risks:
- Much higher risk of heart attacks and strokes. Kidney failure and dialysis for some. Diabetic kidney failure is #1 reason for dialysis in U.S.
- Treatment:
- Weight loss, exercise (7000 steps is fine), lower carb diets, drugs, especially Metformin.

## Tips:

More beans, less white stuff (rice, bread, tortillas, potatoes, sugar.)

Lotion to feet daily, yearly eye exams.

**GET A PRIMARY CARE PROVIDER!**

# Fats in the bloodstream

- Cholesterol is a necessary building block..especially for hormones like cortisol, testosterone, estrogen and mineralocorticoids...which control salt and water level in the body.
- Too low is bad, but too high is worse and much more common. Ah, but what's too high?? It all depends on atherosclerotic risk score, but in general:

HDL = happy cholesterol.....< 40 is bad

LDL = lousy cholesterol.....> 150 is usually bad (70 up to 190 might be OK)

Triglycerides = sugar related lipid..> 150 is risky

# Problems With Lipids

- High LDL and low HDL cause ATHEROSCLEROSIS...plugging up the pipes...which result in:
  - Heart Attacks
  - Strokes
  - Claudication = blockage of the arteries to the legs
- (More to follow later in this talk.)

# Lifestyle Changes for Cholesterol/Triglyceride Problems

- For high LDL: Fewer saturated fats, no transfats.
- For low HDL: More good fats: fish, nuts (walnuts and Brazil nuts are best,) canola oil. Olive oil is neutral. Exercise...7000 steps, for example.
- For high Triglycerides: Down with the carbs = less sugar, soda, candy “low fat” yogurt, rice, bread, potatoes, tortillas, cookies, etc.

# Medical Treatments for Cholesterol

- Statins can lower LDL up to 50% and lower death rate up to 25% in people who have had a heart attack or other diagnosis of atherosclerosis, so-called “secondary prevention.”
- PCSK9 inhibitors, like Repatha, also lower death rates but are less well tested and expensive.
- Statins lower cholesterol in average risk people without a diagnosis of atherosclerosis..when used for so-called “primary prevention” ... but lower the death rate only minimally.
- Other drug families exist to treat lipids and improve numbers but generally do not lower death rates much, if at all.



# Atherosclerosis: Definition and Effects

- The deposition of fatty plaques ... LDL cholesterol...in the linings of arteries, causing decreased blood flow or even complete blockage.
- Partial blockage causes inadequate levels of oxygen and food to downstream muscle or brain cells, causing malfunction.
- Total blockage of an artery causes death of perfused tissues. Dead brain tissue is a stroke. Dead heart muscle is a heart attack.

# Symptoms of Atherosclerosis

- Angina pectoris: Chest pressure or pain with walking that improves with rest. Women more likely to get just shortness of breath or rapid heart beat but certainly can get chest pain, too.
- Myocardial Infarction = Heart Attack, death of heart muscle cells: Elephant sitting on your chest and left arm and no relief with resting. Death: 12-30%.
- Stroke = Death of nerve cells in part of the brain: Painless weakness on one side of body, often with inability to speak or loss of vision. 12-25% death rate.
- Claudication = bad blood flow to muscles, usually in one leg: Pain in the calf with walking. Relief with rest.

# Prevention of Atherosclerosis

- Stop smoking! Cuts risk of heart attack 50-75%
- Do things already mentioned to lower cholesterol, sugar, weight, and blood pressure.

## • Treatment of Atherosclerosis.

- Walking and other exercise actually improve symptom of claudication in the legs.
- Meds to reduce symptoms, which generally slow down the heart, weaken it's beating, or dilate blood vessels. Statins lower cholesterol and slow the march of artery blockages
- Stenting = stretching out a narrow artery with a balloon and then putting in a metal net tube to keep it open.
- Bypass surgery

# Essential Hypertension

- Blood pressure: Top # (systolic BP) when heart muscle squeezes, bottom # (diastolic BP) when it relaxes.
- Affected by stretchability of arteries = compliance, which worsens with age and atherosclerosis.
- High blood pressure is associated with heart attacks, strokes caused by blockages and bleeding, kidney failure and generally a shorter life.
- Death rate increases with systolic blood pressures above 115 mm Hg, but treatment with meds doesn't help to lower death rates unless systolic BP is above 140-160.

# HT: Definitions and Disputes

- 119/79 or less      Normal
  - 120-129/80          Elevated
  - 130-139/81-89      Stage I Hypertension
  - 140+/90+            Stage II Hypertension
  - 180+/120+          "Crisis"
- 
- 47% of American adults have systolic BP > 130 = Stage I Hypertension
  - FDR's BP was 260/150 at the Yalta Conference in 1945. He died 8 weeks later of a bleed in the brain (hemorrhagic stroke.)

# Prevention and Treatment of HT

- Don't get fat. Losing 10% of body weight lowers BP 4 points.
- Exercise. Daily walking 30 minutes lowers BP 5-8 points.
- Limit salt to 1 tsp (2500 mg of sodium) per day. One can of minestrone soup contains 1550 mg of sodium.
- Increase potassium. Daily supplementation lowers BP 6 points. Salt substitutes available in grocery stores are cheapest way to do this.
- Meditation/relaxation practice can lower BP about 5 points.
- Meds: Many families of drugs are now available, diuretics (water pills) usually first choice.

# Role of Psyche Meds

- Most neuroleptics cause weight gain, in up to 75% of patients taking clozapine, for instance. A third of folks on it gained 15 lbs or more over 3 years.
- Many anti-psychotics increase the risk of diabetes, up to 36% with clozapine over five years.
- Some of these meds have lower risks of causing weight gain or diabetes, for instance aripiprazole (Abilify) and ziprasidone (Geodon.)
- Many antidepressants also cause weight gain, especially tricyclics like amitriptyline and the SSRI Paroxetine. Some have the opposite effect, like bupropion.

# A Little Bit of Each = Metabolic Syndrome

- Definition, 3 of the following:
- Overweight or waist > 40 inches = BMI of 27 or more
- Fasting sugar > 100
- BP > 130/85
- Triglycerides > 150 or HDL < 40

So, **Mr. Smith has Metabolic Syndrome** which increases his overall risk of death by twofold



# What Can Mr. Smith Do?

- 7000 steps a day is best but 30 minutes walking 4 times a week helps.
- More beans, less white stuff.
- Two ounces of tree nuts a day.
- Fish twice a week
- Five servings of fruits and veges daily (13% decreased mortality compared to 2 servings or fewer per day.)
- Discuss possible medication change with psychiatric prescriber. Multiple studies have shown that regular exercise is as effective as medication for mild to moderate depressions.
- GET A PRIMARY CARE PROVIDER!** Someone who knows medicine, who knows the system and who knows the patient!