OBESITY

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DISCLOSURES

- No financial disclosures
OUTLINE

- Statistics
- Medications
- Diets
- Exercise
OBESITY STATISTICS IN INDIANA

- 65.9% overweight (12)
- 29.6% obese (12)
- 28.1% of adults report 2 servings of fruit a day (12)
- 23.7% of adults report 3 servings of vegetables a day (12)
- 43.2% of adults achieve 300 minutes a week of moderate intensity activity of 150 minutes a week of high intensity activity (12)
- 27.2% of adults report no physical activity in the last month (12)
HOW WE COMPARE
MEDICATIONS

- Phentermine (Adipex)
- Phentermine and topiramate extended-release (Qsymia)
- Lorcaserin (Belviq)
- Naltrexone and bupropion extended-release (Contrave)
- Orlistat (Xenica/Alli)
- Liraglutide (Saxenda/Victoza)
WHEN TO START MEDICATIONS

- Indication: BMI > 30 or >27 with 1 weight related comorbid condition (DM, HTN, HLD)
- Willing to make lifestyle changes
- No planned pregnancy, preferably on birth control
- Willing to have monthly visits
WHEN TO STOP MEDICATION

- Reached weight loss goal
- No or little weight loss over 12 weeks
- Gained weight
- New or recently uncontrolled hypertension
- Side effects
- If patient desires will offer switch to another medication
PHENTERMINE (ADIPEX)

- Reduces appetite by increasing activation of adrenergic and dopaminergic receptors
- Approved in 1959 by the FDA
- Most wildly prescribed 25.3 million rx to 6.2 million patient between 2008-2011 (3)
- Usually the cheapest and covered by insurances
- Only approved for short term use (<12 weeks) (3) effect does wear off over time.
- BUT no great studies on long term safety, possibility of increased BP as well as MI and CVA. (3) Also risk of primary pulmonary hypertension and valvular heart disease
- Do not use in people with CAD, CVA, arrhythmias, CHF, HTN, hyperthyroidism, glaucoma, agitated states or h/o drug abuse.
PHENTERMINE AND TOPIRAMATE EXTENDED-RELEASE (QSYMIA)

- Mechanism of action: Appetite suppressant and feeling more satisfied after eating
- Average weight loss 8.1 kg (1)
- 62% lost at least 5% of weight (1)
- 37% lost at least 10% of weight (1)
- Reduced incidence of DM in trial (2)
- Can raise HR-unsure of long term CVD risk
  - Close monitoring of resting HR and BP
- Do Not give to patients with recent or unstable vascular disease
LORCASERIN (BELVIQ)

- Selective serotonin receptor agonist
- Increases satiety
- Average loss 3.2 kg more than placebo (3)
- 47% lost at least 5% of weight (3)
- 23% lost at least 10% of weight (3)
- Additional decrease of BP LDL and TG more than placebo (3)
- Side effect - valvulopathy, depression
NALTREXONE AND BUPROPION EXTENDED-RELEASE (CONTRAVE)

- Down regulates hunger signals, feel full sooner and fewer cravings
- 4-5 KG weight loss more than placebo (3)
- 48-66% lost at least 5% (3)
- 25-42% lost at least 10% (3)
- Warning of suicide and manic episodes due to bupropion
- Do not give to people on opioids, with uncontrolled HTN or seizure disorder
- Other side effects: HTN, hepatitis, angle closure glaucoma
ORLISTAT (XENICA, ALLI)

- GI lipase inhibitor causes excretion of 30% of ingested fat
- Taking TID during or up to 1 hour after meals
- Available OTC
- Average weight loss is 3.4 kg more than placebo (3)
- Shown improvement in decreasing LDL, fasting glucose and BP after 1 year of treatment(3)
- Frequently discontinued due to GI side effects when low fat diet not followed.
LIRAGLUTIDE
(SAXENDA/VICTOZAZA)

- glucagon-like peptide-1 analog
- Slows gastric emptying, decreases gluconeogenesis and increasing insulin production
- Once daily administration plus diet and exercise mean weight loss was 4.8-7.2 kg over 20 weeks (4)
- Weight loss was 5.4 kg greater than placebo on 3.0 mg daily (5)
- 76% of individuals lost more than 5% of body weight with 3mg daily. (4)
- Side effects: pancreatitis, choledocolithiasis, possible thyroid tumors (seen in rats - unknown in humans)
- Sustained weight loss over 2 years, decreased prevalence of prediabetes (5)
DIET

- DASH Diet
- Low Fat
- Low Carbohydrate
- Paleo diet
- Vegetarian/Vegan
- Thrive Diet
- Whole 30
- Beach body 21 day fix
- Weight Watchers
DASH DIET

- High in fruits and vegetables
- Moderate in low fat dairy products
- Low in animal protein
  - Lower consumption of red and processed meats
  - Original dash diet 27% calories from fat
- Substantial amounts of plant protein from legumes and nuts
- Whole grains
- Dashdietoregon.org
DASH DIET

- Counseling plus DASH diet lost an average of 6.1kg compared with just one educational session lost 1.1 kg in 6 months\(^{(9)}\)
- That study also found that those people with the most weight loss have the largest decrease in dietary energy density \(^{(9)}\)
- Nurse’s health study with 24 year follow up showed lower coronary heart disease and stoke risk in middle ages women\(^{(10)}\)
LOW FAT DIET

- AHA and most others: Fat <30% of calories
  - 67 g of fat for 2000 calorie diet
- WHO study group: <15%
Post menopausal woman instructed to eat low fat diet (13% lower fat than in control) did not change CVD events (7)

Moderate fat diet (35% of calories) showed more weight loss over 18 mos than low fat (20% of calories)
- Weight loss of 4.1 kg vs 2.9 kg
- Moderate fat had less dropout rate (8)

Many foods labeled as low fat have added sugar so it does not aid in weight loss
LOW CARBOHYDRATE DIET

- 20-30g carbohydrates per day
- First 6 months lost more weight than low fat, but tended to regain weight by 1 year (11)
- Physiologically carbs generate more ATP than protein or fat so higher carbs = more available energy = less weight loss (17)
- Watch replacing carbs with fats
PALEO DIET

- Eat as the cavemen did because it is more natural and they had less chronic diseases.
- lean meat, fruits, vegetables and nuts, and excluding nonpaleolithic type foods, such as cereal grains, dairy or legumes
PALEO DIET EVIDENCE

- Tiny short term studies show good and weight loss and improve BP, glucose, and cholesterol. (15, 16)
- A little bigger study over 10 weeks showed weight loss but worsening cholesterol prolife (18)
- Not many studies, no good studies.
- Good to reduced processed foods, but whole grains and legumes are not evil.
**VEGETARIAN/VEGAN DIETS**

- Vegetarian: nothing that causes an animal to die. Foods that come from animals but do not result in their death are ok (milk, eggs)
- Vegan: Nothing that comes from an animal: no eggs, milk, honey, gelatin
VEGETARIAN/VEGAN DIET EVIDENCE

- Improved cholesterol and overall health (19)
- Ornish diet (low fat vegetarian, exercise, and stress management) showed reduction in coronary artery stenosis over 1 year (20)
- Review of RCT vegans lost most weight (2.5 more kg) then control and lacto-ovo vegetarians lose more weight than control (1.4 kg more) (24)
- Need to actually eat vegetables not just vegetarian processed foods.
THRIVE DIET

- Vegan diet, stress reduction, and exercise
- Start by adding in fruits, vegetables, legumes
- Then eliminate caffeine, sugar, processed foods, meat, and grains, and limit starchy vegetables
- Effective based on low carb vegan diet
- May be difficult in certain areas to get variety of foods needed to maintain health.
Higher number of stressful events and chronic stresses was associated with:

- higher BMI, excessive alcohol use, and smoking (26)
- higher glucose and insulin levels (26)
- May promote irregular eating patterns and more calorie dense food consumption (26)
- Cortisol release increases gluconeogenesis and chronically high cortisol increases insulin resistance and abdominal adiposity (think cushing syndrome) (26)
Whole 30: eliminate sugar (even artificial), grains, dairy, alcohol and legumes from diet.

- No evidence for eliminating dairy - conflicting trials (21, 22)
- Zero studies on legumes
- Low carb ok in short term
- Eliminating sugar is helpful
- Eliminating artificial sugars probably good
  - May lead to weight gain, HTN, elevated glucose (23)
  - In people who regularly consume artificial sugars their brains respond to sucrose and sucralose the same. (23)
  - May blunt body’s response to sugar load (23)
BEACH BODY 21 DAY FIX

- Containers for different types of food-fruits, vegetables, proteins, carbs, healthy fats, seeds and dressings and workout dvds (recommended 30 mins every day).
- No real studies done
- Good concept of portion control (amount of containers you can eat depends on your calorie count-information in a book you have to buy)
- Exercises are cardio plus weight training which is recommended.
WEIGHT WATCHERS

- About watching calories/points
- Healthy recipes
- Exercise encouraged
- Group support
- Small studies show it is effective (25)
- Avg weight loss 5.3 kg at 26 wks, 7.4 kg at 12 wks (25)
EXERCISE

- 300 minutes of moderate exercise per week or
- 150 minutes of vigorous exercise per week
- Small study showing that exercise with diet causes more weight loss than just diet, and that even exercise without weight loss redistributes weight and reduces abdominal adiposity. (6)
GENERAL TIPS

- Increase amounts of less energy dense foods.
- Do not drink your calories.
- Reduced-calorie diets result in clinically meaningful weight loss regardless of which macronutrients they emphasize. (14)
- Decrease temptation.
- Small changes.
- Patient suggests change.
GENERAL TIPS CONT.

- mind-full eating
- Tracking meals
- Tracking exercise
- More than just the number on the scale
- Frequent follow-ups
- Change lifestyle, don’t just go on a diet
QUESTIONS?
REFERENCE


2. W Timothy Garvey et al. Two-year sustained weight loss and metabolic benefits with controlled-release phentermine/topiramate in obese and overweight adults (SEQUEL): a randomized, placebo-controlled, phase 3 extension study1,2,3 Am J Clin Nutr February 2012 vol. 95 no. 2 297-308


6. Robert Ross et al. Reduction in Obesity and Related Comorbid Conditions after Diet-Induced Weight Loss or Exercise-Induced Weight Loss in Men Annals of Internal Medicine Volume 133 • Number 2 18 July 2000


11. Linda Stern, MD et al. The Effects of Low-Carbohydrate versus Conventional Weight Loss Diets in Severely Obese Adults: One-Year Follow-up of a Randomized Trial; 18 May 2004 Annals of Internal Medicine Volume 140 • Number 10

REFERENCE CONT.


Accessed 4/20/16


DOI: 10.1186/1743-7075-1-15

REFERENCE CONT.


21. Rajita Sinha, PhD 1,2,3 and Ania M. Jastreboff, MD, PhD Stress as a common risk factor for obesity and addiction Biol Psychiatry. 2013 May 1; 73(9): 827–835.