Challenging Obesity Paradigms
How can I help my patients?

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Advances in Obstetrics and Gynecology
Feb 9, 2018
Conflict of interest

healthcoin Medical Advisor
Objectives

1. Participants will understand how the current dietary guidelines have contributed to the obesity epidemic

2. Participants will be given tools to help their patients achieve weight loss and improve their health
HPI:
• 24 yr old G0P0 healthy Indian female here for annual exam. Had nl PAP with co-testing last year. c/o polyuria, irregular menses. Doesn’t see PCP.

Histories:
• FH: DM in both mother and father
• SH: denies Tob, drinks 1 time per month, no SA. Single, not sexually active
• Surg hx: none
• Medications: none

PE: BP 122/85, P 96, BMI 41, rest of exam nl

Labs: Urine dip with glucose. BS 268, Elevated LFTs, A1c 10.1
Pulmonary disease
- Abnormal function
- Obstructive sleep apnea
- Hypoventilation syndrome

Nonalcoholic fatty liver disease
- Steatosis
- Steatohepatitis
- Cirrhosis

Gall bladder disease

Gynecologic abnormalities
- Abnormal menses
- Infertility
- Polycystic ovarian syndrome

Osteoarthritis
Skin problems
Gout

Idiopathic intracranial hypertension
Stroke
Cataracts

Coronary heart disease
- Diabetes
- Dyslipidemia
- Hypertension

Severe pancreatitis

Cancer
- Breast, uterus, cervix, colon, esophagus, pancreas, kidney, prostate

Phlebitis
- Venous stasis

https://www.nhlbi.nih.gov/health/health-topics/topics/obe/risks
Life Expectancy In U.S. Drops For First Time In Decades, Report Finds

December 8, 2016 · 12:02 AM ET
Heard on Morning Edition

• America's 30-year-old obesity problem is still hanging strong

• Despite millions spent for research, trials, observational studies, community and hospital programs, as well as the development of equipment and medication

http://jamanetwork.com/journals/jama/fullarticle/2526639
Lifestyle diseases need to be treated with Lifestyle changes
Standard lifestyle advice
-and what I handed out for 20 years

Eat a low fat diet
Eat less and move more

Puts the blame on the patient

https://www.google.com/search?q=cartoon+of+running+on+a+treadmill&rlz=1C1GGRV_enUS751US752&tbm=isch&source=iu&ictx=1&fir=7aZBmAVb4YJJ5M%253A%252CF-Buw-oviS0bIM%252C_&usg=__WXJI4rfa7Spn0gxuGk7wLRXglgA%3D&sa=X&ved=0ahUKEwjlroD2xsbYAhWCTd8KHc5iBV4Q9QEIMTAE#imgrc=7aZBmAVb4YJJ5M:
Where did the low fat diet come from?
First dietary guidelines 1980

Seven Countries Study: Saturated fat and heart disease

![Graph showing the relationship between saturated fat and heart disease](image)

- **Masai**
- **Inuit**
- **Rendille**
- **Todelau**

Alumni Update

Source: Dr. Stephan Guyenet. The American Diet, 2012.

Cochrane Database Syst Rev. 2002;(2)
Where’s the evidence for the low fat diet?
Objective To test the hypothesis that a dietary intervention, intended to be low in fat and high in vegetables, fruits, and grains to reduce cancer, would reduce CVD risk.

48,835 postmenopausal women aged 50 to 79 years

40% in intervention arm, followed for 8.1 yrs

Total fat decreased by 8.1% to less than 20% of calories

No significant effects on incidence of CHD (hazard ratio (HR, 0.97; 95% CI, 0.90-1.06), stroke (HR, 1.02; 95% CI, 0.90-1.15), or CVD (HR, 0.98; 95% CI, 0.92-1.05).

JAMA. 2006 Feb 8;295(6):655-66
Associations of fats and carbohydrate intake with cardiovascular disease and mortality in 18 countries from five continents (PURE): a prospective cohort study

- 2017, 18 countries, 7 years, 135,000 people

Hazard Ratio for Total Mortality (Highest Quintile vs Lowest Quintile)

<table>
<thead>
<tr>
<th>Group</th>
<th>HR (95% CI)</th>
<th>P for trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbohydrate</td>
<td>1.28 (1.12–1.46)</td>
<td>0.0001</td>
</tr>
<tr>
<td>Total fat</td>
<td>0.77 (0.67–0.87)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Saturated fat</td>
<td>0.86 (0.76–0.99)</td>
<td>0.0088</td>
</tr>
<tr>
<td>Monounsaturated fat</td>
<td>0.81 (0.71–0.92)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Polyunsaturated fat</td>
<td>0.80 (0.71–0.89)</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

Highest fat and saturated fat associated with lowest mortality

• 2015 Meta-analysis comparing long-term effect (≥1 year) of low-fat and higher-fat dietary interventions on weight loss
• 53 studies, 68,128 participants

Low-carbohydrate interventions led to significantly greater weight loss than did low-fat (18 comparisons; WMD 1·15 kg [95% CI 0·52 to 1·79]; I(2)=10%).

Evidence from RCTs does not support low-fat diets over other dietary interventions for long-term weight loss.
How does this advice work for diabetes?
Excess reduction in HbA1c (%) versus carbohydrate intake (E%), 8 RCTs

\[(R = -0.85, p < 0.01)\]

Meta-analysis
1376 participants
<45% energy from carbs
Should a Low Carbohydrate Diet be Recommended for Diabetes Management?
M.R. McKenzie, S. Illingworth
DOI: https://doi.org/10.1017/S0029665117000192
Published online: 03 February 2017, E19, Proceedings of the Nutrition Society Dec meeting

• Literature review randomized control trials and intervention studies published between 2001–2015.
• Significant reductions in A1c levels with the greatest reduction −2.2 % (p < 0.001) correlating with lowest carb intakes (30gm/d)
• At 2 years greater weight loss in those following low carb diet (−4.7 kg) compared to low fat diet (−2.9 kg)
• 52 % of subjects consuming 14 % (TEI) from carbs reduced medication (p = 0.01) compared to 21 % following a diet of 53 % (TEI)
A carbohydrate restricted diet can provide a safe and effective solution for improving diabetes management and should have a place within the diabetic guidelines.

There were significant reductions or cessation of diabetic medication reported throughout the literature alongside a reduction in the psychological aspects of living with a long-term disease. It is possible that the current [high-carb] dietary advice may actually accelerate beta cell exhaustion…
New Dietary Guidelines 2015

• Removed total fat limits
  – Still have limits on saturated fat
• Removed limits on dietary cholesterol
• Limits on sugar introduced
• Focus on vegetables, fruits, whole grains, seafood, legumes, dairy products
• Less meat, sugar-sweetened foods/drinks, refined grains

How can you apply this in your practice?
Focus on diet

• Find out what they are eating!!
• Teach to read labels
• Focus on food quality
• Eat real food
• Don’t fear fat
• Lower carbohydrates
  o Target added sugar
Limit added sugar

80% of our food has added sugar
1 tsp sugar = 4 grams

35 g sugar ≈ 9 tsp sugar
What do I teach my patients to eat?

**More of this:** eggs, full fat dairy, non-starchy vegetables, meat, poultry, fish, cheese, berries, nuts, olive oil, butter

**Less of this:** bread, rice, pasta, cereal, chips, crackers, yogurt, milk, fruit

**None of this:** cake, candy, cookies, ice cream, soda, juice, smoothies
What about that exercise?
Diet more effective than exercise

### Analysis 2.1. Comparison 2 Exercise versus diet, Outcome 1 Weight change in kilograms.

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Exercise N</th>
<th>Mean(SD)</th>
<th>Diet N</th>
<th>Mean(SD)</th>
<th>Mean Difference IV, Fixed, 95% CI</th>
<th>Weight</th>
<th>Mean Difference IV, Fixed, 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gordon 1997</td>
<td>14</td>
<td>-1 (1.8)</td>
<td>15</td>
<td>-5.8 (3.9)</td>
<td></td>
<td>8.9 %</td>
<td>4.80 [2.61, 6.99]</td>
</tr>
<tr>
<td>Pritchard 1997</td>
<td>21</td>
<td>-2.6 (3)</td>
<td>18</td>
<td>-6.4 (3.3)</td>
<td></td>
<td>10.7 %</td>
<td>3.80 [1.81, 5.79]</td>
</tr>
<tr>
<td>Schwartz 1987</td>
<td>14</td>
<td>-2.8 (3.6)</td>
<td>12</td>
<td>-13.1 (6.1)</td>
<td></td>
<td>2.8 %</td>
<td>10.30 [6.37, 14.23]</td>
</tr>
<tr>
<td>Schwartz 1990</td>
<td>18</td>
<td>-2.3 (3.4)</td>
<td>13</td>
<td>-13.6 (6.7)</td>
<td></td>
<td>2.7 %</td>
<td>11.30 [7.33, 15.27]</td>
</tr>
<tr>
<td>Stefanick 1998</td>
<td>90</td>
<td>-0.5 (2.8)</td>
<td>95</td>
<td>-2.8 (3.5)</td>
<td></td>
<td>51.3 %</td>
<td>2.30 [1.39, 3.21]</td>
</tr>
<tr>
<td>Wing 1998</td>
<td>33</td>
<td>-2.1 (4.2)</td>
<td>35</td>
<td>-9.1 (6.4)</td>
<td></td>
<td>6.5 %</td>
<td>7.00 [4.44, 9.56]</td>
</tr>
<tr>
<td>Wood 1988</td>
<td>47</td>
<td>-4 (3.9)</td>
<td>42</td>
<td>-7.2 (3.7)</td>
<td></td>
<td>17.1 %</td>
<td>3.20 [1.62, 4.78]</td>
</tr>
</tbody>
</table>

**Total (95% CI)**

- Exercise: 237
- Diet: 230

Heterogeneity: Chi² = 41.67, df = 6 (P < 0.00001); P = 86%
Test for overall effect: Z = 10.83 (P < 0.00001)
Test for subgroup differences: Not applicable

43 studies, n = 3476

Kelly A Shaw et al., Cochrane Metabolic and Endocrine Disorders Group Published Online: 18 OCT 2006
Exercise adds little

Diet +
exercise =
-1.0 kg

Diet +
intensive
exercise =
-1.5 kg

Analysis 3.1. Comparison 3 Exercise + diet versus diet alone, Outcome 1 Weight change in kilograms.
If diet doesn’t get you far enough, then what?

Treat the obesity first
Antiobesity drugs in the management of type 2 diabetes: A shift in thinking?

Cleveland Clinic Journal of Medicine 2017 July;84(suppl 1):S39-S46

Author(s): Bartolome Burguera, MD, PhD, Khawla F. Ali, MD, Juan P. Brito, MD

Medications for weight loss

- BMI ≥ 30 or 27 with comorbidities (DM, HTN, Sleep apnea)
- Rapid growth over past few years
- Can be a very useful adjunct
- Not just for short term

- **Caution:** Most teratogenic
Think about weight loss surgery

Average weight loss

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Gastric Bypass</th>
<th>Sleeve</th>
</tr>
</thead>
<tbody>
<tr>
<td>%EBW in 5 years</td>
<td>60-75%</td>
<td>55-60%</td>
</tr>
</tbody>
</table>

Candidates:
- BMI $\geq 40$, $\geq 35$ with weight related comorbidity

Documented survival benefit
## Risk of weight loss surgery - less than lap cholecystectomy

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Complication rate, %</th>
<th>Mortality, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>LRYGB (n=16 509)</td>
<td>3.4</td>
<td>0.3</td>
</tr>
<tr>
<td>Lap Chole (n=15 306)</td>
<td>3.7</td>
<td>0.7*</td>
</tr>
<tr>
<td>Lap Appy (n=4537)</td>
<td>4.5*</td>
<td>0.5*</td>
</tr>
<tr>
<td>Lap Colon (n=5511)</td>
<td>12*</td>
<td>1.8*</td>
</tr>
<tr>
<td>CABG (n=2868)</td>
<td>46.6*</td>
<td>2.8*</td>
</tr>
<tr>
<td>Knee Sx (n=9184)</td>
<td>16.7*</td>
<td>0.3</td>
</tr>
</tbody>
</table>

See provider often

Evidence that frequent visits to discuss weight most effective

Look AHEAD study found that Intensive Lifestyle Intervention including monthly visits and phone calls led to significantly more weight loss and diabetes improvement.

Association of an intensive lifestyle intervention with remission of type 2 diabetes.
Ew Gregg H Chen Le Wagenknecht Jm Clark Lm Delahanty J Bantle Hj Pownall Kc Johnson MM Safford AE Kitabchi Fx Pi-Sunyer Rr Wing AG Bertoni
Consider an Obesity Medicine Specialist

- Board certification in obesity medicine
- Additional training post primary specialty
- Place for patients or providers to turn to for help
- [https://obesitymedicine.org/](https://obesitymedicine.org/)
Case Presentation

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Labs: Urine dip with glucose. BS 268, Elevated LFTs, A1c 10.1
Food Diary

Breakfast: Smoothie (spinach, apple, 1/2 ban, berries, citrus)
Lunch: Rice and veggies, meat and fish, lentils, Asian food
Dinner: Rice and veggies, meat and fish
Snacks: nuts and chips and fruits
Beverages: Smoothies, fruit juice, 3L of Hzo
Special Diet: No pork
Food Diary

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Snacks: nuts and chips and fruits

Beverages: Smoothies, fruit juice, 3L of Hzo

Special Diet: No pork
Plan

- Reduce carbohydrates
- Target liquids
- Increase healthy fats
- Look for substitutions
- Cauliflower rice
- Add metformin

Result - 3 month f/u

• A1c 10.1 → 6.1
• Weight loss of 27 lbs (BMI for 41 to 36)
• Regular menses
• Happy patient
How can you help your patients?

• Focus on diet
  - Food quality, real food
  - Lower carb, higher fat
• Think about medications
• Consider surgery
• See provider often
• Consider an obesity medicine specialist

https://www.google.com/search?q=let+food+be+thy+medicin e+quote&espv=2&source=lnms&tbm=isch&sa=X&ved=0ah UKEwi1kdO-wl3TAhXq44MKHd_TCT4Q_AUIBygC&biw=1366&bih=662#imgrc=0DlcfFlmVqhh-oM:
Everybody Loses, Everybody Wins!

When Family Support is a Super-Power!

By Robin Farmer - January 4, 2018

At last check, (back row, from left) Hassel Wooley Jr., Vern Phelps, Sharon Wooley, (seated) Cathy Phelps, and Carol Wooley have lost 398 pounds — working together as a family with medical direction from VCU Health Associate Professor Susan Wolver, MD.
Resources

https://www.dietdoctor.com/