PREVENTION AND MANAGEMENT OF DIABETES IN PRIMARY CARE

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OVERVIEW

- Diabetes and prevention of diabetes takes up a significant and growing part of our practice
- The epidemic is growing: cost of diabetes increased 26% from 2012 to 2017
- The medicines are getting more expensive
- Kaiser Permanente offers many resources to support this work
- PCPs are not always aware of/able to readily access these services
- PCPs are not always clear on what dietary approaches are being recommended
CASE STUDY: INSULIN

• We’re using more:
  • Our insulin dispenses have roughly doubled since 2004

• It costs more:
  • Insulin list prices have nearly tripled between 2002 and 2013
  • Brand names like Lantus are six times as expensive

Why treating diabetes keeps getting more expensive, Washington Post oct 31 2016
LIFE OF THE PCP

• 20 minute office visits, 10-15 minute phone visits

• FP’s address average of 5 problems per visit for patients with DM

• The “tyranny of the urgent” vs preventative tasks
  • To fully satisfy the USPSTF recommendations, for 2500 pt panel would generate 7.4 hours of work/day
  • PCP with 2000 pts would need 17.4 hr/d to provide all recommended acute, chronic and preventative care

Primary Care: current problems and proposed solutions, Health Affairs, May 2010
Primary Care: Is There Enough Time for Prevention? Am J Public Health, April 2003
OUR MANY HELPERS AND RESOURCES

• Helpers:
  • glycemic nurses
  • pharmacists
  • nutritionists
  • health coaches

• Resources: classes, webinars, booklets, self directed modules
PREDIABETES

• In order to prevent diabetes, the American Diabetes Association recommends:
  • Modest weight loss (5-10% of body weight)
  • Moderate intensity exercise (30 minutes 5 days per week)
  • Smoking cessation

• The Diabetes Prevention Program trial showed that when successfully implemented, these changes reduce the risk of incidence of diabetes by 58%.

PREDIABETES: OUR LOCAL PROJECT

The problem:

• approximately 800 EIN PC patients who have been identified as at risk for diabetes. (A1c>5.7)

• Currently no outreach other than provider education (variable)

Our solution:

• Outreach by phone/email to those with A1c 6.1-6.4 in last year

• Offered health coaching, classes, or RN/BHC visit
**PREDIABETES: OUR LOCAL PROJECT- RN VISITS**

**Initial visit:** 60 minutes with RN to review history, give education, make plan

- What is DM: types, how dx, complications
  - A1c
  - Dietary recommendations
  - Exercise recommendations

- Set behavioral SMART goal (Specific, Measurable, Attainable, Relevant, Time based) around diet and/or exercise
  - Ex: I will walk 15 minutes three times per day for 2 weeks

- Decide on tracking program (app (lose it, my fitness app, spark people) diary)
Follow up visits:

• Set up follow up plan (TAV vs OFV) with RN or BHC or health coach
  • 1-3 months: OFV/video q2 weeks with phone check in on off weeks
  • > 3 months: monthly OFV or TAV

• Set up lab frequency: A1c q3 or 6 month

• Review PST to identify and close care gaps: Immunizations, labs (A1c, kidney function), LOPS, diabetic retinopathy eye screening, etc.

• Consider other departments or disciplines that may be working with diabetic patients to avoid duplication or overlap (DM Case Manager, Pharmacy)

• Review pt education resources
**DIETARY ADVICE TO PREVENT CVD**

- It works
- We don’t do it
  - Only 1 in 5 high risk patients (CVD, DM, hyperlipidemia) receive nutrition counseling in their visits
- We haven’t been trained to do it
  - Only 25% of medical schools offer a dedicated nutrition course
- It’s a teachable skill
- Patients want it
- It can avoid disease and unnecessary medication use
- ADA and USPTF say: Do It!

*Nutrition counseling in clinical practice: how clinician can do better JAMA sept 26 2017 vol 318, no 12*
BUT WHAT IS GOOD NUTRITION?

ADA consensus recommendations:

• Promote healthy eating patterns, emphasize variety of foods in appropriate portion sizes
  • Healthy eating patterns = DASH, Mediterranean, plant based

• Address individual nutrition needs

• Maintain pleasure of eating

• Give practical tools to develop healthy eating patterns rather than focusing on individual macronutrients, micronutrients, or single foods.

ADA Standards of medical care in diabetes- 2018 Diabetes Care, Jan 2018

Management of Hyperglycemia in Type 2 Diabetes, 2018. A Consensus Report by the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD)
BUT WHAT IS GOOD NUTRITION?

ADA Standard of medical care...some mixed messages

<table>
<thead>
<tr>
<th>This is true...</th>
<th>....but so is this</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Monitoring carbohydrate intake is key for improving postprandial glucose control”</td>
<td>“There is not an ideal percentage of calories from carbohydrate, protein, and fat for all people with diabetes”</td>
</tr>
<tr>
<td>Eat nutrient dense foods:</td>
<td>Restrict calories:</td>
</tr>
<tr>
<td>• whole grains, vegetables, fruits, legumes, nuts, seeds</td>
<td>• Women: 1200-1500 kcal/d</td>
</tr>
<tr>
<td>• low fat dairy, lean meats</td>
<td>• Men: 1500-1800 kcal/d</td>
</tr>
<tr>
<td>“Limit saturated fat”</td>
<td>“Ideal amount of fat for DM is controversial”</td>
</tr>
</tbody>
</table>

ADA Standards of medical care in diabetes: 2018 Diabetes Care, Jan 2018
**BUT WHAT IS GOOD NUTRITION?**

<table>
<thead>
<tr>
<th>What's good for you</th>
<th>What's probably not good for you</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exercise - cardiovascular</td>
<td>Sugar</td>
</tr>
<tr>
<td>Relationships</td>
<td>Refined carbohydrates</td>
</tr>
<tr>
<td>Sleep</td>
<td>Alcohol &gt; 1-2/d</td>
</tr>
<tr>
<td></td>
<td>Trans fats</td>
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</tbody>
</table>

**Debate over:**
- Fats – Saturated: effect on weight gain/DM/CVD disease
- Salt: Ideal intake
- Carbs: amount for diabetic
- Calorie restriction: as a long term weight management strategy
- Safety and sustainability of ketogenic diet

*Dietary and Policy Priorities for Cardiovascular Disease, Diabetes, and Obesity: A Comprehensive Review. Mozaffarian D. Circulation. 2016 Jan*
## DIFFERENT DIETARY APPROACHES

<table>
<thead>
<tr>
<th>Eating pattern</th>
<th>Calorie restriction?</th>
<th>Fat restriction?</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADA/Plant based/DASH</td>
<td>Yes</td>
<td>Yes - saturated</td>
</tr>
<tr>
<td>Mediterranean</td>
<td>Yes</td>
<td>Yes – saturated (More monounsaturated)</td>
</tr>
<tr>
<td>Low Glycemic Index</td>
<td>No</td>
<td>Maybe - saturated</td>
</tr>
<tr>
<td>Low carbohydrate/high fat (Ketogenic)</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
DIFFERENT DIETARY APPROACHES: MACRONUTRIENT BALANCE

- ADA/DASH/Plant based
- Mediterranean
- Low Glycemic index
- Low carb/High Fat (Ketogenic)

![Pie charts showing macronutrient distribution for different dietary approaches.](image-url)
### DIFFERENT DIETARY APPROACHES: A TYPICAL PLATE

<table>
<thead>
<tr>
<th>ADA /Mediterranean</th>
<th>Plant based</th>
<th>Low Glycemic index</th>
<th>Low carb/High Fat (Ketogenic)</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="ADA/Mediterranean" /></td>
<td><img src="image2" alt="Plant based" /></td>
<td><img src="image3" alt="Low Glycemic index" /></td>
<td><img src="image4" alt="Low carb/High Fat" /></td>
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</table>

The ADA/Mediterranean diet is plant-based with a low glycemic index, while the low carb/high fat (ketogenic) diet is high in fat and low in carbohydrates.
# GRATITUDE

- **Patients**=Why we are here + need to be better
- **Teachers**=Aspiration
  - Jeff Stanley, MD
  - Stephanie Fitzpatrick, PhD
  - David Ludwig, MD
- **Colleagues**=Inspiration
  - Keith Bachman, MD
  - Andrea Payne-Osterlund, MD
  - Emily Doss, MD
  - Neil Blair, MD
  - Marie Johnson, RD
  - Paula Winch, Health coach
  - Heidi Rolfs, RN