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Nutrition, Diabetes and Misconceptions

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Family Medicine Rotation #3
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Problem Identification: Diabetes & Poor Nutritional Literacy

- Diabetes is a disease in which the body cannot make or utilize insulin appropriately.
  - This results in elevated blood sugar levels which can cause damage to many tissues and organs.
- As of 2016, diabetes affects 29.1 million people in the United States.¹
  - And it affects 50,000 people in Vermont.²
- It is estimated that 1/3 of Americans could develop diabetes by the year 2050.¹
- Research has shown us that weight loss is key to managing type 2 diabetes³ and that caloric restriction is more important than physical activity when it comes to weight loss.⁴
- Fruits and vegetables are low in calories but most people are not eating enough.
  - As of 2016, 75% of adult Vermonters do not eat the recommended 5 fruits and vegetables per day.⁵
- These trends might be related to poor nutritional literacy
  - 8 out of 10 consumers say they encounter “a lot of conflicting information about what to eat.”⁶
  - 56 percent of consumers say the “conflicting information makes them doubt the choices they make.”⁶
Public Health Costs

National Costs:

- Diabetes increases all-cause mortality rate by 1.8.
- It is the leading cause of kidney failure, lower limb amputations, and adult-onset blindness.
- $245 billion is the total cost of diabetes in the U.S.
  - Including costs of medical care, disability, and premature death.¹

Vermont Costs:

- In 2012, the costs of total direct medical expenses in Vermont was $409 million.
  - This includes diabetes, prediabetes, gestational diabetes both diagnosed and undiagnosed.⁷
- In addition to direct medical costs, it was estimated during 2012 in Vermont that an additional $134 million was spent on indirect costs.
  - These indirect costs include work absenteeism and lost productivity while working due to physical impairment.⁷

Research has shown us ways to save money:

- The Look AHEAD trial is a national clinical trial that has studied the effects of an intensive lifestyle intervention compared to a control group in a population of patients with type 2 diabetes, BMI>25, between the ages of 45-75.
  - Demonstrated fewer anti-hypertensive and lipid-lowering medications⁸, hospitalizations, less days in hospital and overall prescription usage in the ILI group.⁹
  - The cost analysis for the study demonstrated that even with the costs of the intervention, participants could save $600 over 10 years.⁹
- The IDOLc study, which was a Look AHEAD translation study, determined that participants in the 6 month lifestyle program lost more weight, had greater A1C reductions, and were on less medications.
  - The costs of the programs, after including savings from medication reduction, were comparable: $162 for dietitian counseling and $192 for lifestyle groups.¹⁰
Community Perspective (A)

• Linda Tilton, RD, CDE at UVMCC, has been counseling patients on their diabetes for many years. She stresses the importance of the patient understanding what their diagnosis means as well as acknowledging the emotions that come along with the diagnosis. She concedes that people will come to her without truly understanding what having diabetes means.

• “It is critical, when someone receives a diagnosis, that they meet with someone who has the time to sit and listen to their concerns and frame their diagnosis in a positive way.” This allows the patient to release themselves from their “burden of guilt” and “come up with goals that are achievable.”

• Linda Tilton states that an initial visit with her is usually focused on the diagnosis and breaking down the pathophysiology of the disease so the patient understands “why good control matters” because too often this is confusing to patients.

• After this has been established, she delves into lifestyle changes stating that “lifestyle is the foundation” of diabetes management. Carbohydrates seem to come up frequently and Linda Tilton tell her patients that “carbs can be healthy or not. The key is moderation.”
Community Perspective (B)

- Emily Clairmont, RD is a member of the Community Health Team at UVMMC, acknowledges that the current messages surrounding nutrition can be confusing and often lead patients to wonder “what can I eat?” This feeling, in addition to a possible new diagnosis of diabetes, can lead many patients feeling discouraged. This is why she stresses balance.

- “It is fine to have carbohydrates to an extent. If you have a carbohydrate, you need to have protein! Carbohydrates still turn into sugar but it will do so a lot slower with a protein on board.”

- Emily Clairmont states that with all of the nutritional information she is giving out during her sessions she tries to make it positive. “I try and tell them more of what they can do instead of what they cannot.”
Intervention and Methods

• Intervention – patient education
  • A one-page document was created to clarify common misconceptions that people have regarding appropriate lifestyle changes that can be made to improve their health.
  • The common misconceptions were gathered by community interviews with Emily Clairmont, RD, and Linda Tilton, CDE, RD.

• How to deliver this new tool:
  • After Visit Summary (AVS) Smart Phrase entry
    • Providers will be able to write the smart phrase text into the AVS and the information will automatically enter there.
  • Handouts
    • Handouts were made available in the waiting room of Hinesburg Family Health.
Do you have diabetes? Not sure where to start with your diet?

Here are some suggestions about your diet that may help your diabetes improve:

- If you are thirsty, look for calorie and carbohydrate free beverages.
  - Try to drink water instead of soda, juice, or milk.
  - If you do not like plain water – drink seltzer water without any additives.
- If you eat sweets, limit them to one per day.
  - Sweets include soda, candy, cookies, cakes, donuts, etc.
- Make sure you have protein with each meal.
  - Sources of protein include lean or low fat meat, chicken, salmon, trout, eggs, beans, and soy products.
  - This helps you metabolize carbohydrates slower.
- Fill half of your plate with a low-carbohydrate vegetable.
  - Watch out for peas, corn, and potatoes, which are high in carbohydrates!
- Try to eat a series of smaller meals every 2-3 hours instead of 2 or 3 bigger meals each day.

If you want more suggestions on better eating habits you can go to [www.choosemyplate.gov](http://www.choosemyplate.gov) or ask for a referral to see your local diettian.
Effectiveness and Limitations

• Effectiveness
  • In order to measure how effective this information was, we can gather patient satisfaction data.
  • We can also compare patients’ weights and A1Cs from their last provider visit to their first visit with a CDE or RD, before the handouts were available and after, to see if patients were able to implement changes and decrease their weights and/or A1Cs.

• Limitations
  • Lifestyle change takes time and practice before improvements can be seen.
    • In order to see the effectiveness of a lifestyle change, progress must be followed for a long period of time, which we could not do.
  • Every patient has different changes that they need to make and the information we have provided may not be useful for all patients.
Recommendations for future

• Make the handout, smart phrase more specific.
  • Could have one for soda-drinkers, one for people who eat too little protein, etc.

• Collect data asking patients what they are confused about.
  • Use this information to make necessary changes to the handout, smart phrase.

• Information could be mailed to patients that haven’t come into the clinic but were either diagnosed with diabetes or prediabetes at their last visit.

• This information could be given to people with prediabetes.
References