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Where are you hiding, sugar? (Sugar content of popular drink and snacks, with suggestions for healthier alternatives)

Ashta Narain

University of Vermont Larner College of Medicine

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“Where are you hiding,
sugar?”

Family Medicine- Milton

ASHTA NARAIN

FAMILY MEDICINE: JULY-AUGUST 2021

PROJECT MENTOR: KELLY BROOKS

Added Sugars

▶ Problem:

- ▶ “Intake of added sugars is problematic nationally and locally, especially in economically disadvantaged populations, due to their deleterious impact on human health. Educating the community of the harmful impact of added sugars on the body as well as food and beverage sources of added sugar and healthy alternatives is an important part addressing the problem.”

- Bridget Shea, Dietician

- ▶ Many residents of Milton, and the US in general, are unaware of the added sugars hiding in everyday snacks and drinks
- ▶ These added sugars can insidiously push individuals over the recommended amounts of daily sugar, stressing their bodies as their pancreas and other organs must deal with the excess sugar in their bloodstreams
- ▶ These added sugars can contribute to the development of diabetes, weight gain, metabolic syndrome, fatty liver disease, and other chronic health morbidities in those who consume them

Public Health Impact

- ▶ Diabetes
 - ▶ “The total estimated 2017 cost of diagnosed diabetes of \$327 billion includes \$237 billion in direct medical costs and \$90 billion in reduced productivity.” (diabetes.org)
- ▶ Obesity
 - ▶ “Obesity-related medical care costs in the United States, in 2008 dollars, were an estimated \$147 billion.¹⁵ Annual nationwide productivity costs of obesity-related absenteeism range between \$3.38 billion (\$79 per obese individual) and \$6.38 billion (\$132 per individual with obesity).” (cdc.gov)
- ▶ Fatty Liver Disease
 - ▶ “Nonalcoholic fatty liver disease (NAFLD) is estimated to affect over 64 million people each year in the United States, leading to medical costs of more than \$100 billion, according to a new analysis.” (mdedge.com)

Perspective of Community Physician

▶ Dr. Kelly Brooks, M.D (Family Medicine Physician)

“Even small changes in reducing the amount of ‘hidden’ sugar can have big, long-term effects. Finding ways to make a small change can also make the change more approachable. Even reducing the number of sugary drinks from 3 to 1 per day can have an empowering effect on one’s health. Find non-sugary substitutions that are still enjoyable, such as sparkling water or a piece of fresh fruit, to make the change a positive one!”

Perspectives of Community Dieticians

▶ Kimberly Swartz-Doyle (Dietician)

“Some added sugar in our diets are fine within the context of an overall healthy eating pattern. Sugar can become a problem when we eat too much of it on a daily basis, increasing our risk for high blood sugar, unintentional weight gain and fatty liver disease. Studies have shown that sugar actually has a powerful physiological effect on our brains and bodies. When we ingest sugar it lights up the pleasure pathway in our brain which over time can cause a sugar dependency or sugar addiction in some people. For some, sugar can become a way to self-medicate as it can be used to quiet both physical and emotional pain. There is a danger in the overuse of sugar which is why it is important as a dietitian to help patients find a healthier, sustainable eating pattern; knowing there are other ways to eat what feels good.”

▶ Emily Clairmont: (Dietician- Burlington)

“The elimination (or significant reduction) of added sugar in the diet has led to healthy weight loss, reduced chronic pain and inflammation, lowered hemoglobin A1C, reduced reliance on diabetes medications, reduced stomach pain and IBS-related digestive issues, and improved sleep. The challenge that we face is that a great majority of easily available and affordable foods are processed with added sugar – sugar consumption then becomes an economic and political issue. However, as a healthcare provider and medical nutrition therapist, I have the opportunity to educate my community on food sources of added sugar, unsweetened and unprocessed foods, and how to prepare foods from scratch. And ultimately, I have the opportunity to educate my community of the fact that there is no biological requirement for added sugar in our bodies, therefore can we find a way to limit it in our diets.”

Intervention and Methodology

- ▶ One flyer was designed with information regarding the sugar content of 6 popular sugary drink classes and another flyer was designed with the same information regarding 4 common snack categories
- ▶ In addition to these common sugary options, other drink/snack examples with less sugar content in them were also provided as healthier alternatives
- ▶ Both flyers also included health education content from the American Heart Association regarding the recommended daily sugar intake, as well as quotes from dieticians based in the Vermont area on the important topic of added sugar
- ▶ A dotphrase was then made for each flyer in order to make the information more easily distributable by physicians to interested patients

Results/Data

- ▶ Word Documents:
 - ▶ Flyer on beverage health data
 - ▶ Flyer on snack health data
- ▶ Dot Phrases for each flyer
 - ▶ Usable format for providers to insert quickly and easily into their after-visit summaries for interested patients
- ▶ The content of both flyers was evaluated by multiple attending physicians at Milton Family medicine and met with enthusiasm as to the applicability to patients as well as the convenience of having a dot phrase with which to easily be able to distribute the information

Beverage Flyer (Front)

Coca-Cola

- 8 oz can: 26 g of sugar
- 12 oz can: 39 g of sugar
- 16 oz plastic bottle: 52 g of sugar
- 20 oz plastic bottle: 65 g of sugar

Orange Juice

- 8 oz glass: 24 g of sugar

Apple Juice

- 8 oz glass: 28 g of sugar

Energy Drinks

- **Monster Original (1 can): 55 g of sugar**
- **Red Bull Original (1 can): 51 g of sugar**

The **American Heart Association** recommends a total daily intake sugar of:

- 36 grams (g) per day for men
- 25 grams (g) per day for women, as well as for children over the age of 2 years old

***** 1 teaspoon= 4.2 g of sugar**

***** 1 sugar cube= 4 g of sugar**

Very common American drinks and the sugar hidden within them...

While flavored beverages can be very tasty additions to our meals, and our days in general, there can be a lot of sugar hidden inside. Over time, this sugar content can, in turn, contribute to diabetes, weight gain, and other health issues.

“Sugar can become a problem when we eat too much of it on a daily basis, increasing our risk for high blood sugar, unintentional weight gain and fatty liver disease. Studies have shown that sugar actually has a powerful physiological effect on our brains and bodies. When we ingest sugar, it lights up the pleasure pathway in our brain which over time can cause a sugar dependency or sugar addiction in some people.”

- **Kim Swartz-Doyle, Dietician**



Beverage Flyer (Back)



Sports Drinks (ex. Gatorade, Powerade)

- 8 oz glass: 14 g sugar
- 32 oz bottle: 56 g sugar

Iced Tea

- 8 oz glass: 23-24 g of sugar

Milk

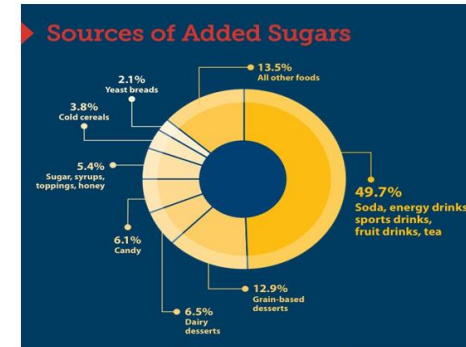
- Whole milk: 12 g natural sugar
- Chocolate milk: 24 g sugar (12 natural + 12 added)

“Even small changes in reducing the amount of ‘hidden’ sugar can have big, long-term effects. Find non-sugary substitutions that are still enjoyable, such as sparkling water or a piece of fresh fruit, to make the change a positive one! Even reducing the number of sugary drinks from 3 to 1 per day can have an empowering effect on one’s health.”

Dr. Kelly Brooks, M.D

“The elimination (or significant reduction) of added sugar in the diet has led to healthy weight loss, reduced chronic pain and inflammation, lowered hemoglobin A1C, reduced reliance on diabetes medications, reduced stomach pain and IBS-related digestive issues, and improved sleep.”

Emily Clairmont, Dietician



Healthier Alternatives:

Water

Contains 0 sugars! If the taste of water doesn't appeal to you, try adding a slice of lemon or lime (up to 1-2 times per day, to minimize the impact of acid on teeth) or cucumber for flavoring 😊

Fruit Smoothies

By maximizing the fresh fruit added into smoothies and using no or low-sugar dairy products (milk and yogurt), you can create a drink with less added sugar than many of the other beverages available. Although fruit still contains a significant amount of sugar, the natural source of the sugar and lack of added sugar in processing help to keep smoothies on the healthier side.

Snack Flyer (Front)

Granola Bars (average sugar in 1 bar)

- Clif Bars: ~20 g sugar
- Luna Bars: ~11-13 g sugar
- Nutrigrain Bars: ~12 g average sugar

Welch's Fruit Snacks

- Mini snack pack (6-7 gummies): 7 g of sugar

Animal Crackers

- 16 crackers (160 crackers per box): 7 g of sugar

Flavored Yogurt

- Yoplait (strawberry): 13 g added sugar
- Chobani (key lime blended flavor): 15 g total sugar

People are so busy nowadays that reaching for a snack that is delicious and quick often seems easiest. However, some of our favorite snacks can have loads of hidden sugar inside that can, over time, overwhelm our bodies and lead to diabetes, obesity, fatty liver disease, and many other health issues.

***** 1 teaspoon = 4.2 grams of sugar**

***** 1 sugar cube = 4 grams of sugar**

The American Heart Association recommends a total of 36 grams (g) of sugar for men and 25 grams (g) of sugar for women and children over age 2, per day.



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Snack Flyer (Back)



Goldfish Crackers

Cheddar Flavor

- 55 pieces: Less than 0.5 g added sugar

Nuts (per 1 oz)

- Almonds: 1.25 g sugar
- Walnuts: 0.7 g sugar
- Peanuts: 1.34 g sugar

Alternatives with less sugar:

Pretzels

Mini Pretzels

- 20 pretzels: less than 0.5 g added sugar

Popcorn

- Movie Theater Butter: 0 g sugar
- Kettle Corn: 0 g sugar



“Sugar can become a problem when we eat too much of it on a daily basis, increasing our risk for high blood sugar, unintentional weight gain and fatty liver disease. Studies have shown that sugar actually has a powerful physiological effect on our brains and bodies. When we ingest sugar, it lights up the pleasure pathway in our brain which over time can cause a sugar dependency or sugar addiction in some people.”

Kim Swartz-Doyle, Dietician

Cutting down

Cutting out our favorite snacks entirely does seem like a rather large change. Instead, try cutting down slowly on the amount of the sugary snack that you eat (and substituting in a healthier snack if you're still hungry) to eliminate some unnecessary sugar from your day.

Benefits of lowering sugar intake

“The elimination (or significant reduction) of added sugar in the diet has led to healthy weight loss, reduced chronic pain and inflammation, lowered hemoglobin A1C, reduced reliance on diabetes medications, reduced stomach pain and IBS-related digestive issues, and improved sleep.”

- Emily Clairmont, Dietician

Dot-phrase for Beverage Flyer

User SmartPhrase – SUGARYDRINKSAN [339893]

Do not include PHI or patient-specific data in SmartPhrases.

Insert SmartText Insert SmartList

Very common American drinks and the sugar hidden within them...

While flavored beverages can be very tasty additions to our meals, and to our days in general, there can be a lot of sugar hidden inside. This sugar content can, in turn, contribute to diabetes, weight gain, and many other health issues.

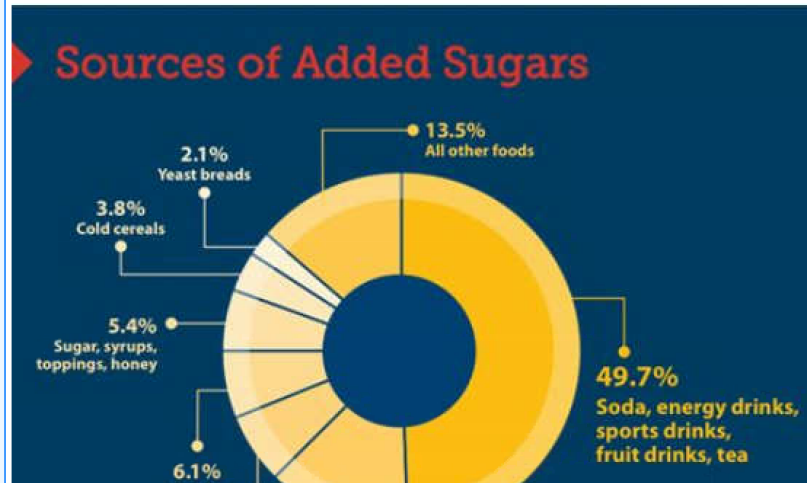
Recommended daily sugar:

The American Heart Association recommends a total daily intake sugar of:

- 36 grams (g) per day for men
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*** 1 teaspoon = 4.2 g of sugar

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Settings

Name

SUGARYDRINKSAN

Description

[Populate from Text](#)

Sugar content of popular beverages and healthier alternatives

Text Format

Rich Text Plain Text

SmartLink Text Size and Font

Match Template Formatting Keep SmartLink Formatting

Synonyms

Sharing

You are an editor [Remove Me](#)

	User	Can Edit?
1	NARAIN, ASHTA [M313960]	<input checked="" type="checkbox"/>
2	<input type="text"/>	<input type="checkbox"/>

Copy Users Mark All as Editors

Dot-phrase for Snack Flyer

User SmartPhrase – SUGARYSNACKSAN [339894]

Do not include PHI or patient-specific data in SmartPhrases.

Insert SmartText Insert SmartList

People are often so busy nowadays that reaching for a snack that is delicious and quick often seems easiest. However, some of our favorite snacks can have loads of hidden sugar inside that can, over time, overwhelm our body and lead to diabetes, obesity, heart disease, and many other health issues.

The American Heart Association recommends a total of 36 grams (g) of sugar for men and 25 grams (g) of sugar for women and children over age 2, per day.

*** 1 teaspoon = 4.2 g of sugar

*** 1 sugar cube = 4 g of sugar

Common snacks and their sugar content:

Granola Bars (average sugar in 1 bar)

- Clif Bars = ~20 g sugar
- Luna Bars = ~11-13 g sugar
- Nutrigrain Bars = ~12 g sugar

Welch's Fruit Snacks

- Mini snack pack (6-7 gummies) = 7 g of sugar

Animal Crackers

- 16 crackers (160 crackers per box) = 7 g of sugar

Flavored Yogurt

- Yoplait (strawberry) = 13 g added sugar
- Chobani (key lime blended flavor) = 15 g total sugar

The danger of sugar

"Sugar can become a problem when we eat too much of it on a daily basis, increasing our risk for high blood sugar, unintentional weight gain and fatty liver disease. Studies have shown that sugar

Settings

Name

SUGARYSNACKSAN

Description

[Populate from Text](#)

People are often so busy nowadays that reaching for a snack that is delicious and quick often seems easiest. However, some of our favorite snacks can have loads of hidden sugar inside that can, over time, overwhelm our body and lead to diabetes, o...

Text Format

Rich Text Plain Text

SmartLink Text Size and Font

Match Template Formatting Keep SmartLink Formatting

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You are an editor [Remove Me](#)

	User	Can Edit?
1	NARAIN, ASHTA [M313960]	<input checked="" type="checkbox"/>
2	<input type="text"/>	<input type="checkbox"/>

[Copy Users](#)

[Mark All as Editors](#)

Effectiveness & Limitations

- ▶ Evaluation of project:

- ▶ The flyers' effectiveness could be evaluated through handing out of the survey to patients in the Milton location. A few months after that, patients would be given a two-question survey asking about how informative they found the flyer and whether they made any dietary changes based off the flyer

- ▶ Limitations:

- ▶ Dr. Megan Malgeri: Patients may not always be able to intuitively understand the unit of grams of sugar. Therefore, the flyers may benefit from a relation between grams and teaspoons of sugar so that they are better equipped to conceptualize the various sugar contents
- ▶ Dr. Gordon Powers: Patients may benefit from having the conversion of grams to sugar cubes in order to have an easily visualized comparison

Recommendations for future interventions/projects

- ▶ A rack card with QR codes with links to healthy, easy-to-make meals (meat, vegetarian, and vegan options) for patients to have when they come in for their wellness visits
- ▶ A trial of a pantry of free, healthy snacks available in family practice doctors' waiting rooms with educational rack cards on healthy snack options
- ▶ A survey to find out what are the most valued resources for those of lower socioeconomic statuses to access healthy food, as it is more expensive and not always the easiest choice on a smaller budget. With the survey results, a plan to make these resources more available or more plentiful for others to use them as well

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Consent for Interviews

- ▶ Thank you for agreeing to be interviewed. This project is a requirement for the Family Medicine Clerkship. It will be stored on the Dana Library ScholarWorks website. Your name will be attached to your interview, and you may be cited directly or indirectly in the subsequent unpublished or published work. The interviewer affirms that she has explained the nature and purpose of this project. The interviewee affirms that they have consented to this interview.
- ▶ Consented:
 - ▶ Kimberly Swartz-Doyle
 - ▶ Emily Clairmont
 - ▶ Kelly Brooks, M.D
 - ▶ Bridget Shea