



Effectiveness of using nutrition education intervention in monitoring knowledge change on dietary nutrients such as added sugar, salt, and saturated fat in college students

Nokwanda Hlophe

Department of Food, Nutrition, Dietetics, and Health

Kansas State University

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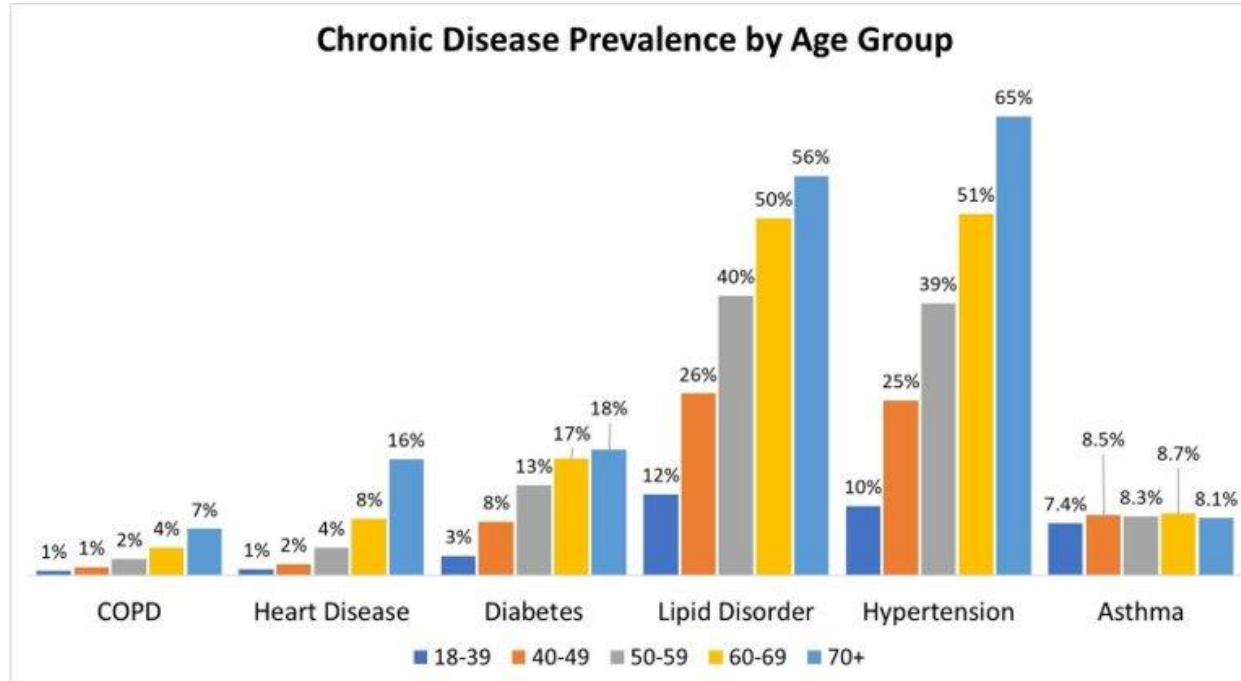
Outline

- Introduction
- Purpose of study
- Methods
- Results
- Conclusion
- Applied practice experience
- Acknowledgements

Introduction



Prevalence of chronic diseases



Source: Online pictures

Introduction cont.

Dietary factors affecting chronic diseases

- Sources of unhealthy foods
- Portion size

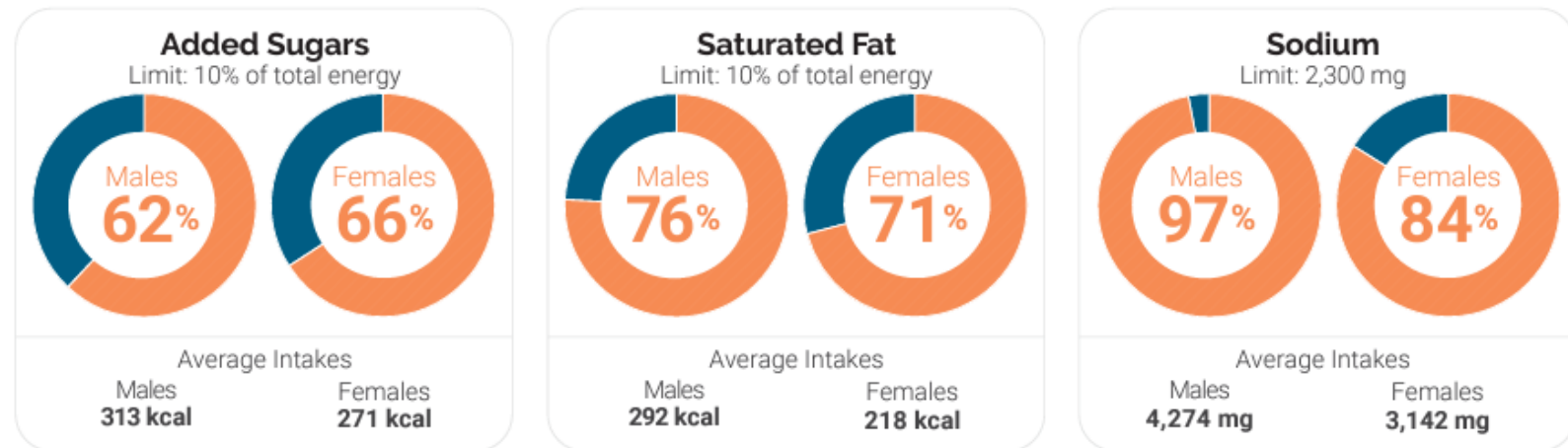


Introduction cont.



Percent Exceeding Limits of Added Sugars, Saturated Fat, and Sodium

● Exceeding Limit ● Within Recommended Limit

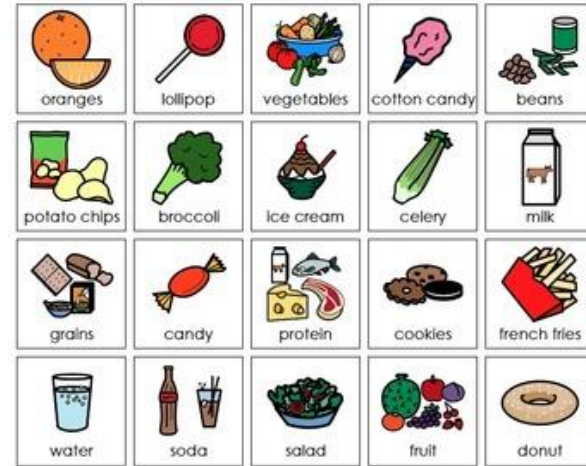


Data Sources: *Average Intakes and HEI-2015 Scores:* Analysis of What We Eat in America, NHANES 2015-2016, day 1 dietary intake data, weighted. *Recommended Intake Ranges:* Healthy U.S.-Style Dietary Patterns (see [Appendix 3](#)). *Percent Exceeding Limits:* What We Eat in America, NHANES 2013-2016, 2 days dietary intake data, weighted.

Introduction cont.

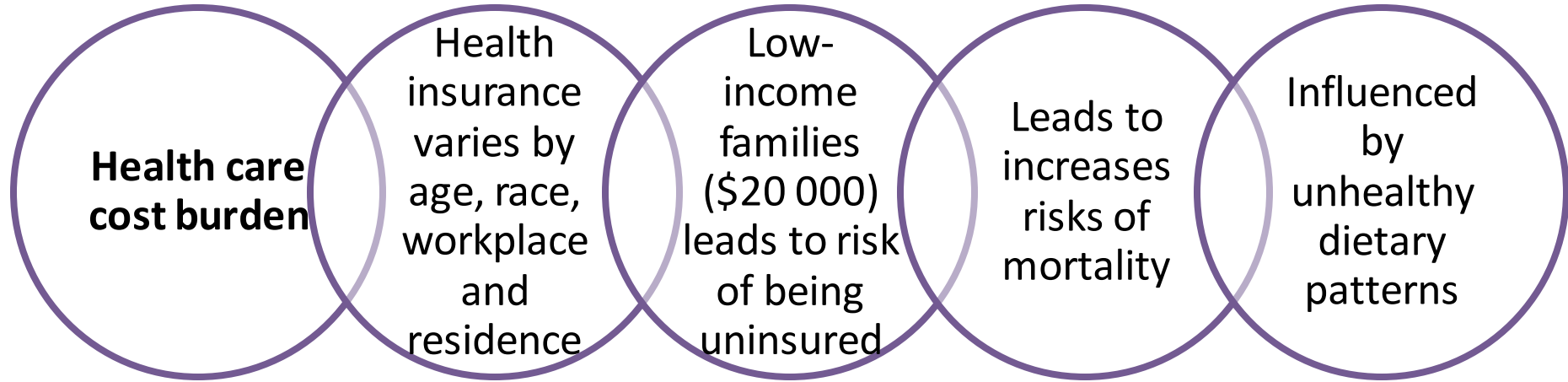
Food choice and costs

- Concerns towards nutrition and health
- Diet quality
- Food prices
- Convenience
- Accessibility and availability



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Introduction cont.



Introduction cont.

Healthy dietary patterns for chronic disease prevention



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- Increase physical activity

Purpose of the study

To assess the effectiveness of using a nutrition education intervention in monitoring the knowledge change on dietary nutrients such as added sugar, salt and saturated fat in college students.

Methods

- **Location and year of study:** Kansas State University, Fall season, 2017
- **Duration:** 10 weeks
- **Inclusion criteria:**
 - K-state university freshman or sophomore student
 - 18 years or older
 - Cannot be a Nutrition, Dietetics or Kinesiology major
 - Must have not taken any nutrition related classes
- **Participants** (n=35)
- **Demographic characteristics:** age, gender, race, year of school, residence, height, weight and Body Mass Index (BMI)

Study designs

- Randomized control trial
- Qualtrics survey

- **Research questions:**

1. Do you think these are high or low in added sugar?

- *Flavored yogurt*
- *Ketchup*
- *Sweet potatoes*
- *Canned fruit in fruit juice*
- *Sport or energy drink*
- *Milk*
- *Granola bar*



2. Do you think these are high and low in fat?

- *Plain pasta*
- *Regular salad dressing*
- *Luncheon meat*
- *Honey*
- *Cheese*
- *Potato chips or corn chips*

3. Do you think these are high or low in salt or sodium?

- *Pickles*
- *Red meat*
- *Cottage cheese*
- *Prepackaged meals (frozen dinners or boxed macaroni and cheese)*
- *Canned soup*



4. Do you think these are high or low in saturated fat?

- *Olive oil*
- *Beef or pork ribs*
- *Coconut oil*
- *Avocado*
- *Bacon or breakfast sausage*
- *chocolate*

Statistical analysis

Fisher's exact test analysis

Conducted using RStudio version 4.2.2
(2022.07.1, Build 554)

Alpha set at 0.05

P-values used to detect the difference between
the control and intervention group

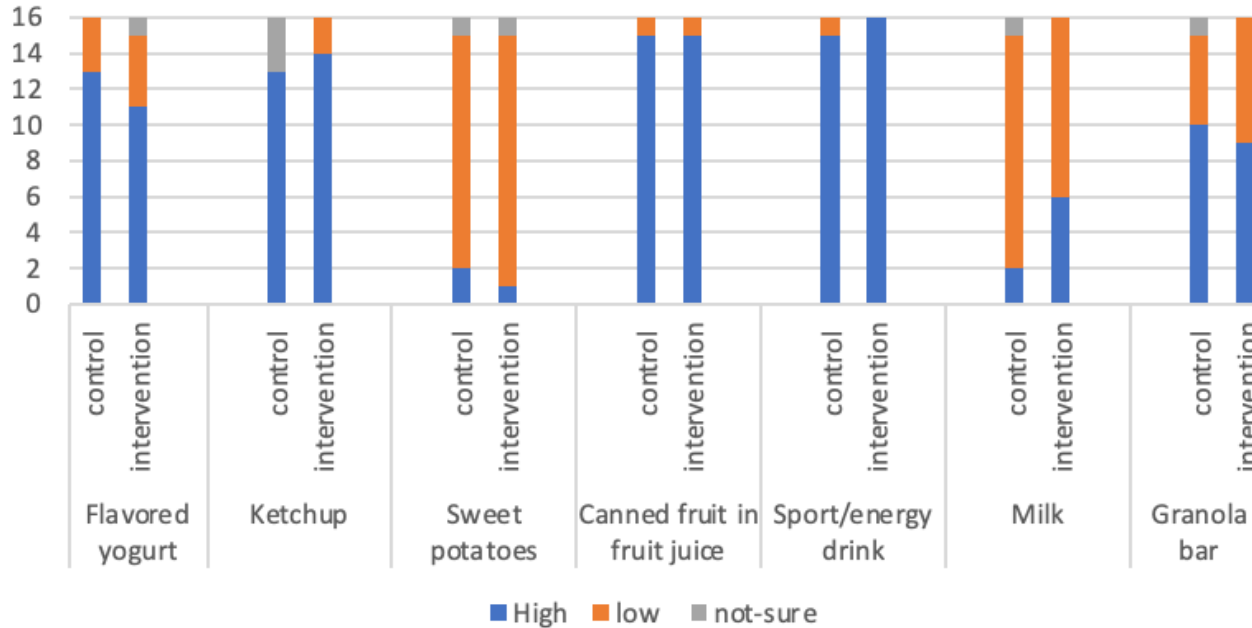
Results : Demograph

Gender			1	
Male	8	22.86		
Female	27	77.14		
Height (cm)				
Male	8		182	6.18
Female	27		.09 164 .14	5.63
Weight (kg)				
Male	8		86.	19.83
Female	27		25 67. 67	14.39
Body mass index (BMI)				
Male	8		25.	5.09
Female	27		87 25. 25	5.84
Years in school				
Sophomore	20	58.82		
Freshman	14	41.18		
Race				
White	29	85.29		
Black/American	2	5.88		
Asian	1	2.88		
Other	2	5.88		
Residence				
On-campus	19	55.88		
Off-campus	10	29.41		
Sorority/fraternity	4	11.76		
Other university or college	1	2.94		

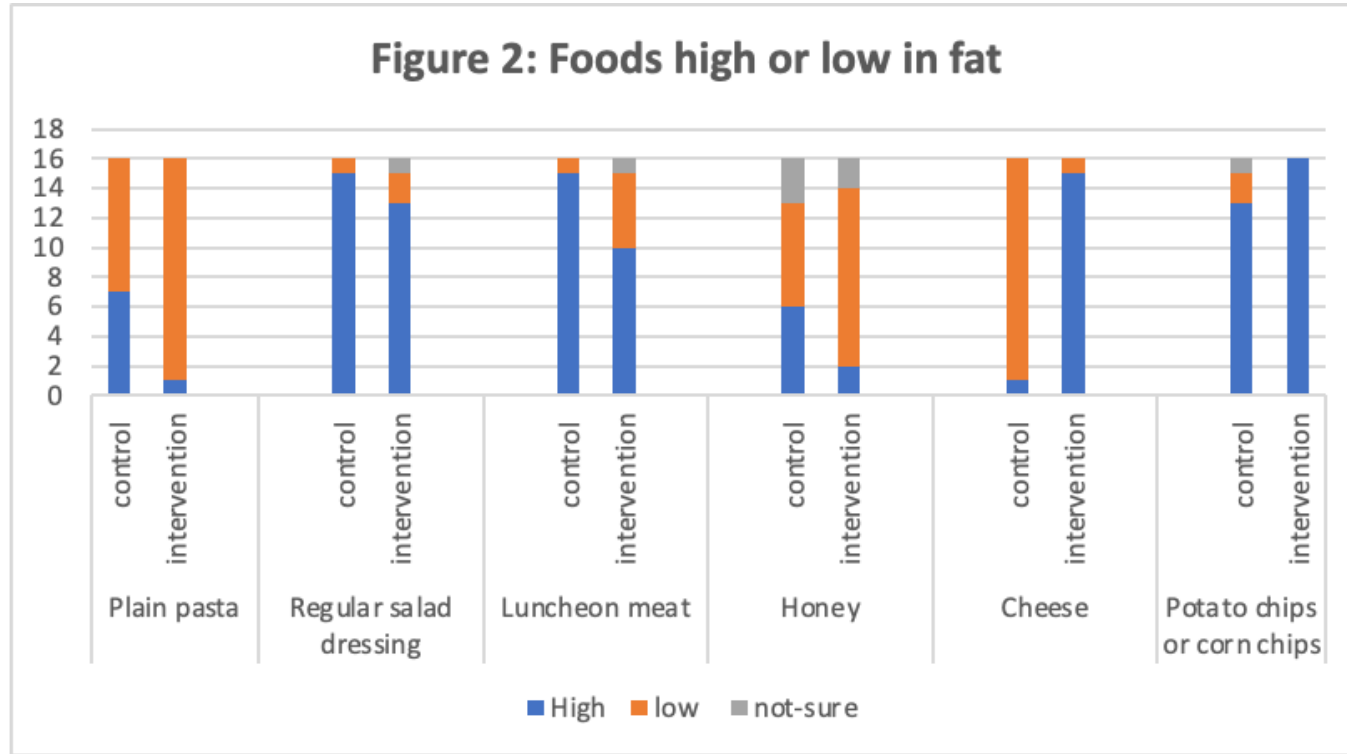
Results cont.



Figure 1: Foods high or low in added sugar



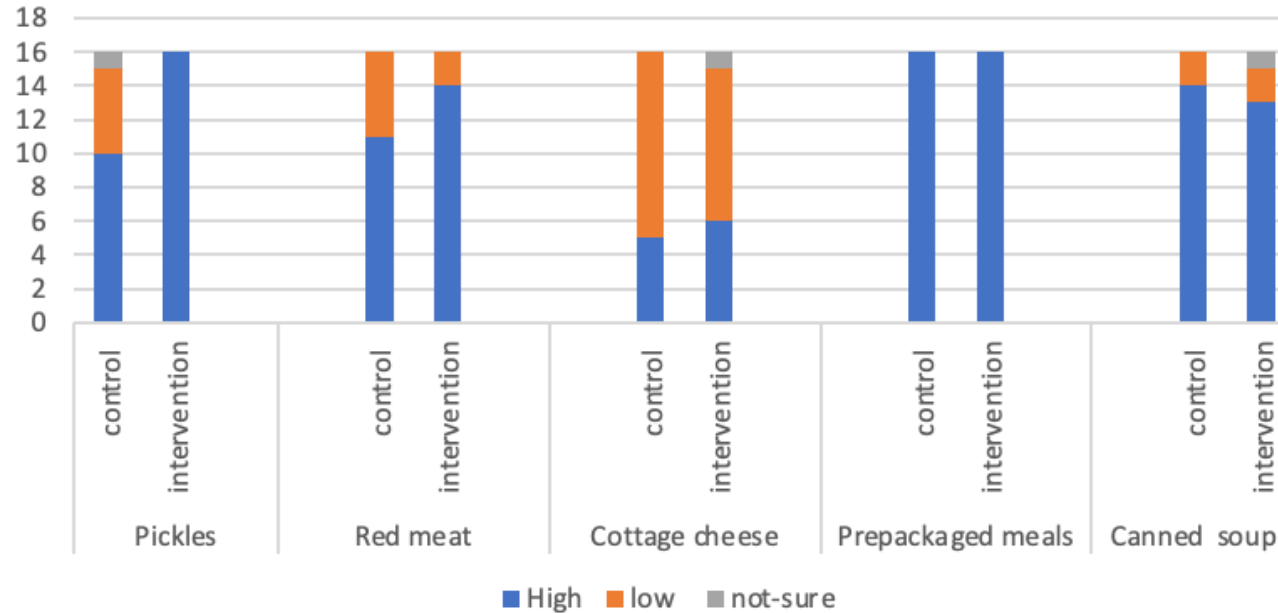
Results cont.



Results cont.



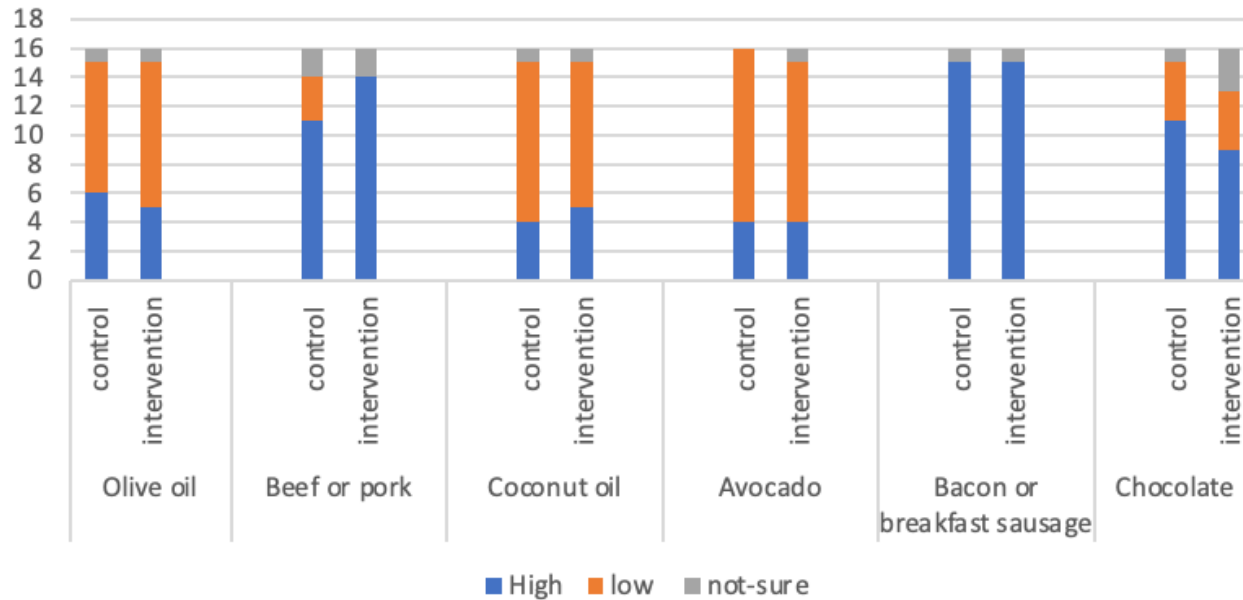
Figure 3: Foods high or low in salt or sodium



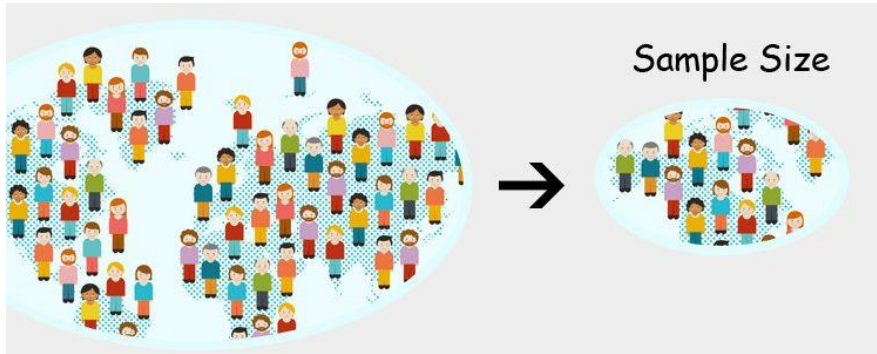
Results cont.



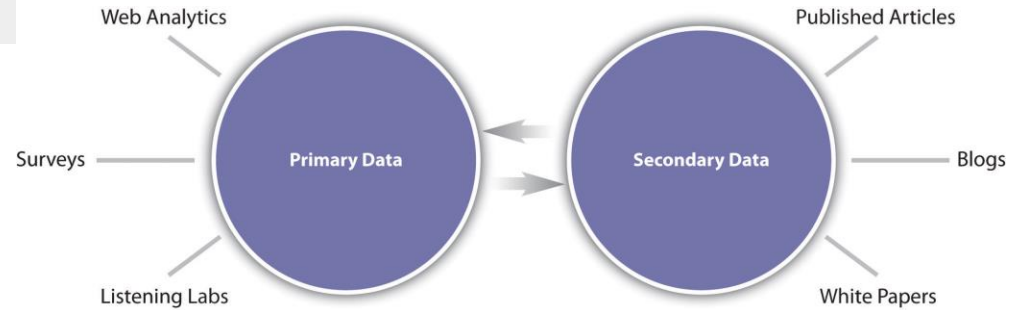
Figure 4: Foods high or low in saturated fat



Limitations



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Conclusion

- **Nutrition education intervention**
 - Broadened participants' knowledge on healthy food choices and habits
 - Gaps identified in knowledge change
- **Paradigm shift in nutrition education, campaigns and policies that focus**
 - On healthy eating for optimal wellbeing
 - Chronic disease reduction in adulthood
 - Reduction in healthcare costs



Flint Hills Food Recovery, Food and Farm Council of Riley County and Manhattan

APE: Projects

Chow-Match app



Walk-in refrigerator and freezer unit
temperature recording



Walk-in refrigerator and freezer unit protocol



Konza student table



Farm produce recruitment



Please Sign Up

First Name

Last Name

Email address

Signup

[Log In](#)

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Competencies

Competency #3

Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming, and software as appropriate:

- Achieved through log sheets used to recorded walk-in refrigerator unit temperatures

Competencies

Competency #7

Assess population needs, assets and capacities that affect communities' health:

- Chow-Match app
- Food redistribution from food businesses to people in need

Competencies

Competency #9

Design a population-based policy, program, project or intervention:

- Suggestion of an audio file for download on the food recovery website

Competencies

Competency #19

Public health content, both in writing and through oral presentation:

- Nutrition talks and recruitment of children
- Developing a walk-in refrigerator unit protocol



Competencies

Competency #22

Apply systems thinking tools to a public health issue:

- Participating in planning meetings on how the food recovery project can be sustained
- Recruiting more food businesses to use the Chow-Match app

Acknowledgements

- **Graduate committee:**
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Thank you



Questions and comments are welcome