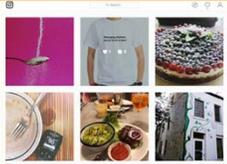## Diabeetus Cakes & Bacon
Diabetes-Tagged Food Photos on Instagram

Kelly Rawlings, MPH
Head of Content Development • Vida Health • San Francisco

Images retrieved from #diabetes search on Instagram, July 7, 2018

#AADE19

1

Disclosure to Participants

- Notice of Requirements For Successful Completion
  - Please refer to learning goals and objectives
  - Learners must attend the full activity and complete the evaluation in order to claim continuing education credit/hours
- Conflict of Interest (COI) and Financial Relationship Disclosures:
  - Kelly Rawlings: MPH – Employee of Vida Health, Tweet chat presenter on behalf of LifeScan Diabetes Institute
- Non-Endorsement of Products:
  - Accredited status does not imply endorsement by AADE, ANCC, ACPE or CDR of any commercial products displayed in conjunction with this educational activity
- Off-Label Use:
  - Participants will be notified by speakers to any product used for a purpose other than for which it was approved by the Food and Drug Administration.

#AADE19

2

Overview

- Introduction
- Overview: Health- and Diabetes-Related Stigma
- Diabetes Stigma Framework (Schabert et al, 2013)
- Descriptive content analysis of diabetes-tagged food photos on Instagram:
  - Investigation questions
  - Methods
  - Findings
  - Discussions
- Takeaways
- Questions

#AADE19

3

Learning Objectives

- Participants will be able to list three types of stigma experiences that impact care seeking, self-care, and quality of life.
- Participants will be able to describe the prevalence and categories of food imagery in diabetes-tagged posts on Instagram.
- Participants will be able to state factors associated with diabetes stigma and, specifically, with stigmatizing and health-promoting diabetes-tagged food posts.

#AADE19

4

Mentorship matters

- Thank you to Michelle Litchman, PhD, FNP-BC, FAANP, Assistant Professor, University of Utah College of Nursing, preceptor of my MPH capstone project
- Study data were collected and managed using REDCap electronic data capture tools hosted at University of Utah.
- Center for Clinical and Translational Sciences grant support (8UL1TR000105 (formerly UL1RR025764) NCATS/NIH).
- Thank you to capstone advisor Rachel Reimer, PhD, Des Moines University, Master of Public Health Chair and Associate Professor

#AADE19

5

Personal interest

- Misperceptions: People "cause" their diabetes; they "eat too much sugar"
- Coping with diabetes in the context of the lived experience
- That includes social connections and digital media
- Perceptions of stigma can result in denial of diabetes, isolation from social support, internalized negative judgment, distress… (Schabert, Browne, Mosely, & Speight, 2013)

#AADE19

6

Health-related stigma

- A psychological factor that influences lives of PWDs
- Based on a characteristic or attribute that differs from norms
- Enacted (experienced) stigma: individual believes others have a negative perception of the characteristic and respond unfairly (Earnshaw & Chaudoir, 2009)
- Manifests as unwarranted criticism, failure to include, denial of human dignity, dismissal of individual worth based on disease itself (Browne, Venture, Mosley, & Speight, 2013)

#AADE19

7

Diabetes-related stigma

- Participants with at least one chronic disease who internalize stigma to a greater degree accessed less care. (Earnshaw & Quinn, 2012)
- n = 25, 84% indicated belief that type 2 diabetes is stigmatized, or reported evidence of stigmatization (Browne, Ventura, Mosley, & Speight, 2013)
- n = 15,438, 19% of participants in Diabetes Attitudes Wishes and Needs 2 study (17 countries) reported discrimination because of their diabetes (Peyrot et al, 2013)
- n = 3,347, People who reported higher levels of perceived stigma reported higher levels of psychological distress, stronger depressive symptoms, and less social support. (Gredig & Bartelsen-Raemy, 2016)
- n = 5,422, 76% T1 and 52% T2 reported stigma associated with diabetes (Liu et al, 2017)

#AADE19

8

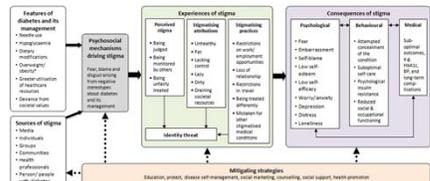## Diabetes-related stigma framework

Figure 1   A revised framework to understand diabetes-related stigma.

Schabert, J., Browne, J. L., Mosely, K., & Speight, J. (2013). Social stigma in diabetes: a framework to understand a growing problem for an increasing epidemic. *The Patient, 6*(1), 1-10

#AADE19

9

Research questions

1. Are people likely to be exposed to food/beverage photos on Instagram that express stigma about diabetes?

2. How prevalent are health-promoting posts among diabetes-tagged food images on Instagram?

3. What are characteristics associated with both stigmatizing and health-promoting food posts?

#AADE19

10

_____
_____
_____
_____
_____
_____
_____

Why Instagram?

- Online U.S. adults: 35% used Instagram in 2018 (Smith & Anderson, 2018)
- Instagram is less-studied than Facebook and Twitter
- Food is strongly associated with perceptions of diabetes

#AADE19

11

_____
_____
_____
_____
_____
_____
_____

Study design

- **Qualitative,** a systematic, objective way of describing and quantifying phenomena (Elo & Kyngas, 2008)
- Data analyzed in content analysis are text, images, and **expressions** intended to be seen, read, interpreted (Krippendorff, 2004)
- Focuses on **manifest (observable) content and context**
- **Ethical considerations** for this project: retrospective, publicly-available secondary data; no IRB review needed

#AADE19

12

_____
_____
_____
_____
_____
_____
_____

Coding

- **Deductive approach** to develop survey instruments with researchers Litchman and Perry Gee, PhD, RN, and undergraduate student Kylie Kida, University of Utah School of Nursing
- **Analyzed complete post**
- **Stigma coded:** expressions of blame, disgust, exclusion, fear, guilt, isolation, negative stereotyping, rejection, restriction of opportunity, shame, unfairness/discrimination
- **Quality assurance:** two coders, Kelly Rawlings and undergraduate study Grant Hillenbrand, University of Nebraska. Any disagreements discussed and resolved; preceptor to arbitrate as needed

#AADE19

13

Sampling

- 2,390: ave. number diabetes-tagged Instagram posts/24 hrs.
- 6,612 samples, sequential posts May 12-14, 2018
- 1,401 posts screened
- **Inclusion criteria:** posts featuring still photos or videos of edible food/beverage with text in English
- **Exclusion criteria:** posts with images other than photos or videos featuring food/beverage
- **Counted but excluded from further coding:** food/beverage posts that were promotional (advertisements) or educational ("foods high in Vitamin D"); posts featuring dietary supplements (pills, capsules, powders, drinks); not in English

#AADE19

14

Data sets

- **Preliminary set: n = 1,401**
  289 (20.6%) food only
  180 (12%) dietary supplements
  95 (6.8%) education/promotional
  39 (2.8%) food and beverage
  28 (2%) beverage only
  356 (25.4%) food/beverage/both

- **Secondary set: n = 212**

Figure 1. Sampling Method for Diabetes-Tagged Food Posts on Instagram

Preliminary Data Set
1,401

Food/Beverage Photo Posts
356

Secondary
Data Set
212

Content
Analysis

#AADE19

15

Results

- **Diabetes Affinity:** 111 (53%) identified with diabetes, via choice of Instagram handle and/or in bio
- **Stigma:**
  - 62 (29.2%) indicated stigma
  - 4 most common stigma themes: blame, exclusion, guilt, restriction of opportunity
  - Exclusion and restriction of opportunity expressed solely by those with diabetes affinity
  - Of 48 no-diabetes-affinity posts, majority (70%) featured desserts/sweets
- **Sarcasm:** 26 (12%)
- **Blame:** Posts tagged with no other health or nutrition terms were the most blatant in their expression of blame. Imagery: sweets

#AADE19

16

Results, cont'd

- **Healthy:** 75 (35.3%) of posts identified as a "meal"
  - 60.8% of meal posts included nonstarchy vegetables, a marker of "healthy"
  - Healthy posts included a range of eating pattern or diet-related hashtags. Most common: "low carb," "healthy eating," "low carb high fat," "weight loss," and "ketogenesis"
- **Virality:**
  - Entire secondary set: 78 likes, on average
  - Stigma posts with no-diabetes-affinity less popular: 35 likes, on average

#AADE19

17

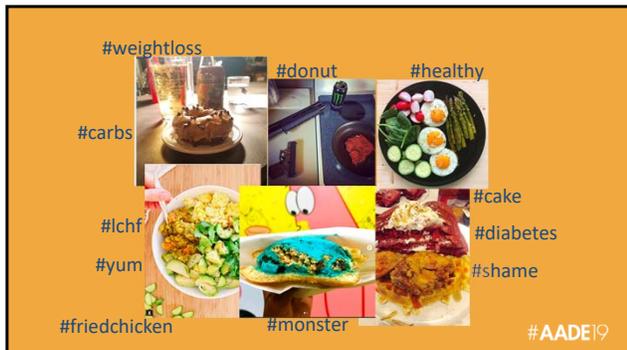#weightloss #donut #healthy #carbs #cake #diabetes #lchf #yum #shame #friedchicken #monster

#AADE19

18

Top 75 #s

19

Discussion

- **Exposure to diabetes-tagged food or supplement posts** on Instagram is very likely for those using search term "diabetes"
- Nearly **1/3 of food and/or beverage posts contained an expression of stigma;** this study did not measure impact
- People who **do not identify with diabetes link sweet food and diabetes**
- **Restriction of opportunity** and **exclusion themes** are exclusively expressed by **people who identify with diabetes**
- Eating patterns and diets are often tagged within health-promoting food posts, yet the foods shown may not be healthy for individuals

#AADE19

20

Strengths & limitations

- **Strengths**
  - Focus on Instagram
  - Sampling imitated real-time scrolling through search results
  - Broad view of stigmatizing and health-promoting attributes
  - Showed lived experience elements not typically encountered within clinical setting
- **Limitations**
  - Sample and primary data set may not be representative
  - Deductive coding: may have missed some relevant associations; preconceived expectations likely introduced
  - Emoticons not analyzed

#AADE19

21

Takeaways

– Social media source of peer support, social modeling
– Acknowledges focus on nutrition, efforts to "eat better"
– Depictions and labels may improperly describe or categorize eating patterns. Bacon—highly processed, high in sodium—may not be the best #lchf choice for someone with high CVD risk, for example
– Explore knowledge and beliefs of people influenced by social media

#AADE19

22

References

American Association of Diabetes Educators. (2018). AADE18 Education Proposal Submission Site. Retrieved from http://www.aademeeting.org/education-proposal-submission/

American Diabetes Association. (2017). Standards of medical care in diabetes—2018. *Diabetes Care, 41*(Suppl.1), S38-S42.

American Diabetes Association. (2018). Economic costs of diabetes in the U.S. in 2017. *Diabetes Care, 41*(5): 917-928. https://doi.org/10.2337/dc18-0007

Browne, J. L., Ventura, A., Mosely, K., & Speight, J. (2013). "I call it the blame and shame disease": a qualitative study about perceptions of social stigma surrounding type 2 diabetes. *BMJ Open, 3*(11), e003384. http://doi.org/10.1136/bmjopen-2013-003384

Browne, J., Ventura, A., Mosely, K., & Speight, J. (2014). 'I'm not a druggie, I'm just a diabetic': a qualitative study of stigma from the perspective of adults with type 1 diabetes. *BMJ Open, 4*, e005625. doi:10.1136/bmjopen-2014-005625

Centers for Disease Control and Prevention (2018). *National Diabetes Statistics Report: Estimates of Diabetes and Its Burden in the United States, 2017.* Retrieved from https://www.cdc.gov/diabetes/pdfs/data/statistics/national-diabetes-statistics-report.pdf

Earnshaw, V. & Quinn, D. (2012). The impact of stigma in healthcare on people living with chronic illnesses. *Journal of Health Psychology, Mar:17*(2), 157-68. doi: 10.1177/1359105311414952

Elo, S., & Kyngas, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing, 62,* 107-115.

Gredig, D., Bartelsen-Raemy, A. (2016). Diabetes-related stigma affects the quality of life of people living with diabetes mellitus in Switzerland: implications for healthcare providers. *Health & Social Care in the Community, Aug 4.* doi: 10.1111/hsc.12376

Krippendorff, K. (2004). *Content Analysis: An Introduction to Its Methodology* (2nd edition). London: Sage Publications

Liu, N. F., Brown, A. S., Younge, M. F., Guzman, S. J., Close, K. L., & Wood, R. (2017). Stigma in people with type 1 or type 2 diabetes. *Clinical Diabetes, 35*(1), 27-34. doi:10.2337/cd16-0020

Peyrot, M., Kovacs Burns, K., Davies, M., et al. (2013). Diabetes attitudes wishes and needs 2: a multinational multi-stakeholder study of psychosocial issues and person-centered diabetes care. *Diabetes Res Clin Practices, 99,* 174-184.

Powers, M.A., Bardsley, J., Cypress, M., Duker, P., Funnell, M., Hess Fischl, A., Maryniuk, M. D., Siminerio, L., & Vivian, E. (2015). Diabetes self-management education and support in type 2 diabetes: a joint position statement of the American Diabetes Association, the American Association of Diabetes Educators, and the Academy of Nutrition and Dietetics. *Diabetes Care, 38,* 1-11. doi:10.2337/dc15-0730

Tak-Ying, S., Kwan, J., & Wong, R. (2003). Social stigma as a barrier to diabetes self-management: implications for multi-level interventions. *Journal of Clinical Nursing, Jan;12*(1): 149-50

Uelmen, S. (May 2018). Ask the experts: what is the ADA diet?. Retrieved from https://www.diabetesfoodhub.org/articles/ask-the-experts-what-is-the-ada-diet.html.

Vaismoradi, M., Turunen, H., & Bondas, T. (2013). Content analysis and thematic analysis: Implication for conducting a qualitative descriptive study. *Nursing & Health Sciences, 15,* 398-405

Vishwanath, A. (2014). Negative public perceptions of juvenile diabetics: applying attribution theory to understand the public's stigmatizing views. *Health Communication, 29*(5), 516-526. doi:10.1080/10410236.2013.777685

#AADE19

23