Incorporating a Weight-Neutral Approach to Nutrition

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NDAND NUTRITION SYMPOSIUM, MARCH 12, 2020

Objectives:

1. Define weight bias and its negative affect on patient outcomes
2. Understand the limitations of weight science
3. Take steps to include a weight neutral approach with patients

Disclosures: None

What is weight bias?

- Defined as “negative attitudes towards, and beliefs about, others because of their weight.”
  - *Andreyeva T, Puhl RM, Brownell KD. Changes in perceived weight discrimination among Americans, 1995-1996 through 2004-2006. Obesity 2008; 16(5):1129-34.*

- Also known as weight discrimination, weight stigma, fatphobia, fat shaming, or stereotyping based on a person’s weight/size.

Why it is a problem?

- Can lead to bullying and unfair treatment in the workplace, school systems, and healthcare
- Research shows that weight bias "demotivates" healthy behavior change.
  - *Brownell K, Puhl R, Schwartz M, Rudd LE: Weight bias: Nature, consequences, and remedies. 2005, New York: Guilford*
- People who experience weight stigma are more likely to:
  - Overeat
  - Avoid exercise
  - Postpone or avoid medical care (for fear of experiencing discrimination)

https://nutritionj.biomedcentral.com/articles/10.1186/1475-2891-10-9

Sources of weight bias

News & Media Coverage

A study reviewing American news coverage from 1985 to 2003 reported a fivefold increase in media attention of obesity since 1992.

Lawrence RG. Framing obesity: the evolution of news discourse on a public health issue. Harv Int J Press/Politics 2004;9:56–75.

The 10 Fattest States in the U.S.

CDC data reveal which places in the U.S. have the biggest problem with adult obesity.

Katelyn Newman Dec. 18, 2019

Too many overweight

A UNIVERSITY DEAN has raised alarm about the continuing problem of obesity and overweight people in Barbados.

Dean in the Faculty of Medical Sciences at the University of the West Indies, Dr Peter Adams, said the growing challenge has been brought to attention, yet again, by data collected during an ongoing study, which comes on the heels of the 2015 **Health of the Nation Survey**.

Based on information collected

Campus on **Obesity: Prevalence, Perceptions and Personalised Care**, the senior lecturer in family medicine warned against touted weight loss programmes like human chorionic gonadotropin (HCG), a hormone produced during pregnancy.

"HCG injections are useless and should not be used for weight loss. There is no study that shows that these injections make you lose weight any more than you would if you got a placebo injection,

stimulus control, self-monitoring and increased exercise as well as assessment and treatment of associated conditions as ways of maintaining healthy lifestyles.

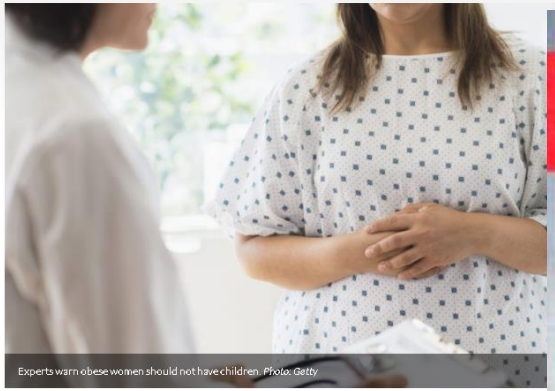
Asked about taxation and regulation to curb eating habits, he said a study was being planned to consider the effects on Barbados.

"They have tried taxation of small amounts in the United States etcetera, but obviously obesity is a public health problem. Public education, safe places to exercise,

LIFE • WELLBEING •

9:45pm, Oct 13, 2016 Upda

Call to stop obese women from having babies



Experts warn obese women should not have children. *Photo: Getty*

James Ried
Reporter
@JamesRied9

The obesity epidemic affecting much of the western worl
catastrophic health consequences for our next generatio
experts calling for urgent action.

Obesity Stigma in the News

Table 2. Comparison of portrayals for overweight/obese persons versus nonoverweight persons in online news reports about obesity

	Overweight/obese (N = 287)	Nonoverweight (N = 119)
Negative characteristic		
"Headless"	59%	6%
Shown from side or rear angle	40%	20%
Only abdomen or lower body shown	52%	0%
Shown without clothes or bare midriff	12%	4%
Inappropriate fitting clothing	6%	0%
Shown eating and/or drinking	8%	3%
Engaged in sedentary activity	5%	3%
Positive characteristic		
Wearing professional clothing	11%	50%
Shown exercising	6%	20%
Portrayed as expert or advocate	1%	33%
Portrayed as health care provider	4%	22%

Heuer C, Puhl R. Obesity stigma in online news: A visual content analysis. Journal of Health Communication. 2011 May

Sources of Weight Bias

Parents & Teachers

Overweight and obese students reported being victimized about their weight from parents (37%) and teachers (27%).

- Pont S, Puhl R, Cook S, Slusser W. Stigma Experienced by Children and Adolescents With Obesity. *Pediatrics*. 2017 November 1-13

Parents

Parental “weight talk” may be harmful to teens.

- Teens whose parents addressed “weight concerns”, were more likely to:
  - Diet
  - Use unhealthy weight-control behaviors

HOWEVER, when parents did not discuss weight, but only encouraged healthy eating, the teens were LESS LIKELY to engage in dieting or unhealthy weight-control behaviors.

Berge JM, MacLehose RF, Loth KA, Eisenberg ME, Bucchianeri MM, Neumark-Sztainer D. Parent conversations about healthful eating and weight associations with adolescent disordered eating behaviors. JAMA Pediatr. 2013;167(8):746-753. https://doi.org/10.1001/jamapediatrics.2013.78

Table 4. Relationship Between Parents' Eating or Weight Conversations With Their Adolescents and Dieting, Unhealthy Weight-Control Behaviors, and Binge-Eating Behaviors Among Nonoverweight and Overweight Adolescents[a]

Behavior	Nonoverweight (n=770)				Overweight (n=387)			
	No Eating or Weight Conversations (n=171)[b]	Healthful Eating Conversations Only (n=240)[c]	Weight Conversations From 1 Parent (n=184)[d]	Weight Conversations From Both Parents (n=175)[e]	No Eating or Weight Conversations (n=44)[b]	Healthful Eating Conversations Only (n=68)[c]	Weight Conversations From 1 Parent (n=79)[d]	Weight Conversations From Both Parents (n=196)[e]
Diet, %	15.6*	21.2*	35.2†	37.1†	60.0*	37.5†	61.3*	65.4*
Difference (95% CI)	[Reference]	5.6 (−2.3 to 13.6)	19.6 (10.6 to 28.7)	21.6 (11.8 to 31.3)	[Reference]	−22.6 (−41.4 to−3.9)	1.2 (−16.5 to 19.0)	5.3 (−10.8 to 21.4)
UWCBs, %	26.5*	27.1*	35.8*†	41.6†	60.5†‡	34.9*	51.0*†	67.0‡
Difference (95% CI)	[Reference]	0.6 (−8.5 to 9.7)	9.3 (−0.7 to 19.3)	15.1 (4.2 to 25.9)	[Reference]	−25.6 (−44.1 to−7.1)	−9.5 (−27.1 to 8.1)	6.4 (−9.3 to 22.2)
Extreme UWCBs, %	1.9*†	1.3*	5.0†	5.5*†	2.2*	3.7*	5.1*	7.6*
Difference (95% CI)	[Reference]	−0.6 (−3.1 to 2.0)	3.2 (−0.6 to 7.0)	3.7 (−1.1 to 8.4)	[Reference]	1.5 (−5.1 to 8.1)	2.8 (−3.6 to 9.3)	5.4 (−0.5 to 11.2)
Binge eating, %	4.0*	5.0*	6.4*	7.4*	6.4*	8.2*	14.8*	10.0*
Difference (95% CI)	[Reference]	1.0 (−3.2 to 5.2)	2.4 (−2.5 to 7.2)	3.4 (−2.3 to 9.0)	[Reference]	1.8 (−8.5 to 12.1)	8.4 (−2.4 to 19.3)	3.6 (−4.8 to 11.9)

Abbreviation: UWCBs, unhealthy weight-control behaviors.

[a] All models are adjusted for adolescent sex and race, parental education, and both parents' body mass index (calculated as weight in kilograms divided by height in meters squared). Sample is limited to adolescents with 2 parents in the sample who live with the adolescent at least 50% of the time. Percentages with different symbols (*, †, ‡) are statistically significantly different.

[b] These conversations included no conversations about healthy weight behaviors or unhealthy weight behaviors by both parents.

[c] These conversations included only conversations about healthy behaviors including healthful eating by at least 1 parent.

[d] These conversations included comments about adolescent weight/size, mentioning that the adolescent weighed too much, or mentioning that he or she should eat differently to lose weight or keep from gaining weight by either parent, but no conversations about healthful eating.

[e] These conversations included comments about adolescent weight/size, mentioning that the adolescent weighed too much, or mentioning that he or she should eat differently to lose weight or keep from gaining weight by both parents, but no conversations about healthful eating.

Teachers

- Research shows that teachers have lower expectations of students with obesity than they have of students without obesity
  - *Peterson JL, Puhl RM, Luedicke J. An experimental assessment of physical educators' expectations and attitudes: the importance of student weight and gender. J Sch Health. 2012;82(9):432–440*
- Physical education teachers are 4x per more likely to have negative attitudes about overweight students (Australian Journal of School Health)

Other sources of discrimination/stigmatization in schools

- Health curriculums with negative messaging about obesity & overweight
- BMI report cards
- Policing school lunches
- Coaches who put emphasis on weight for performance
- Staff wellness campaigns that focus on weight loss (i.e. biggest loser competitions)

Sources of Weight Bias

Workplace

54% report weight stigma from coworkers & colleagues

43% of overweight employees report weight discrimination by their employers and/or supervisors.

Puhl R, Heuer C. The stigma of obesity: A review and update. Obesity. 2009 January 17(5):941-964

Examples of Workplace Stigma

- Target of derogatory humor and pejorative comments from co-workers and supervisors
- Employee perceived treatment such as not being hired, being denied promotions, or fired because of one's weight
- Denied discounts to health insurance premiums
- Weight-based employee wellness programs

Sources of Weight Bias

Healthcare Providers

In a study of over 620 primary care physicians, >50% viewed obese patients as awkward, unattractive, ugly, and noncompliant.

33% of the sample further characterized obese patients as weak-willed, sloppy, and lazy.

Foster GD, Wadden TA, Makris AP et al.Primary care physicians' attitudes about obesity and its treatment. Obes Res 2003;11: 1168–1177.

Lazy Medicine?

Patients advised to lose weight at clinic appointment when seeking treatment for something else.

HCP Trust is Broken

- Women who experience weight bias from HCP more likely to cancel or delay appointments, especially if they have gained weight
- This may one reason for poorer health outcomes in larger-bodied patients

- *Fruh SM, Nadglowski J, Hall HR, Davis SL, Crook ED, Zlomke K. Obesity stigma and bias. J Nurse Pract. 2016;12(7):425-432.*
- *Dollar E, Berman M, Adachi-Mejia AM. Do no harm: moving beyond weight loss to emphasize physical activity at every size. Prev Chronic Dis. 2017;14:E34.*
- *Tylka TL, Annunziato RA, Burgard D, et al. The weight-inclusive versus weight-normative approach to health: evaluating the evidence for prioritizing well-being over weight loss. J Obes. 2014;2014:983495.*

Sources of Weight Bias

Dietitians

Tend to have *less negative* attitudes than the general public and other health care professionals.

75% of studies showed dietitians were prejudiced to some degree against people with obese BMIs—either being explicitly "fat-phobic" or simply having a preference for thin patients—

50% of studies found that dietitians viewed people with obese BMIs as being personally responsible for their weight and associated health conditions.

Jung FU, Luck-Sikorski C, Wiemers N, Riedel-Heller SG. Dietitians and nutritionists: stigma in the context of obesity. A systematic review. PLoS One. 2015;10(10):e0140276.

Prevalence of weight stigma

"In our research, we examined trends of weight discrimination throughout a 10-year period from 1995-2005 and found that the prevalence **increased by 66 percent during this decade**.

This finding was not a result of increasing obesity rates, but rather specifically demonstrates that more people are experiencing weight discrimination."

- Rebecca Puhl, PhD

- Weight bias has become socially acceptable.

Effects of weight stigma

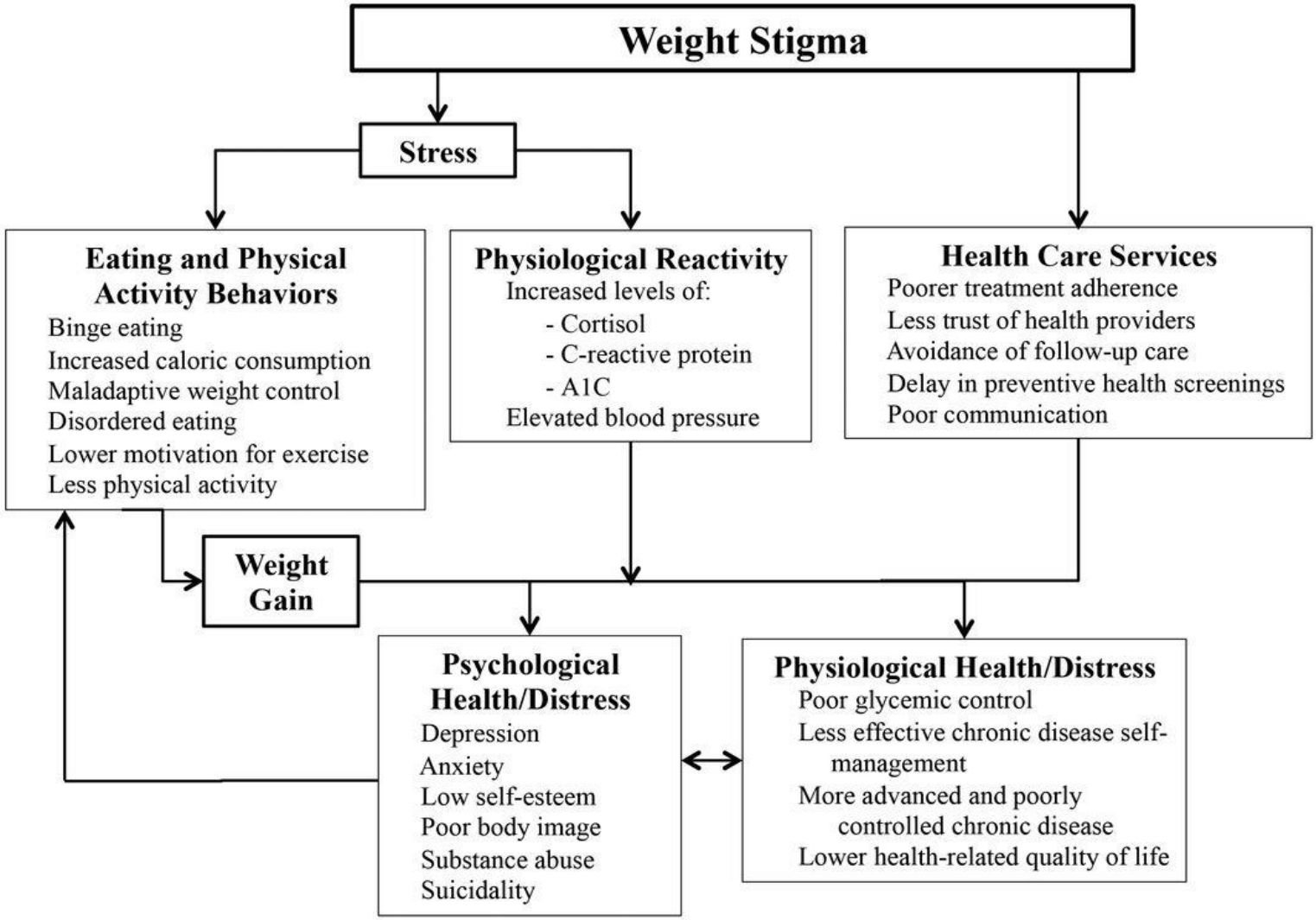
A systematic review of the physiological and psychological health outcomes for overweight and obese adults.

- 33 studies were reviewed between January 2008-July 2016

Weight stigma was positively associated with:

- Weight gain
- Diabetes risk
- Cortisol level
- Oxidative stress level
- C-reactive protein level
- Eating disturbances
- Depression/anxiety
- Body image dissatisfaction
- Lower self-esteem

Source: J Adv Nurs. Impact of weight stigma on physiological and psychological health outcomes for overweight and obese adults: A systematic review. 2018 May;74(5):1030-1042. doi: 10.1111/jan.13511. Epub 2017 Dec 8.



Rebecca M. Puhl, Sean M. Phelan, Joseph Nadglowski and Theodore K. Kyle, Clinical Diabetes 2016 Jan; 34(1): 44-50. https://doi.org/10.2337/diaclin.34.1.44

Physiology of Weight Regulation

METABOLISM

HORMONES

GENETICS

FOOD INSECURITY

BODY COMPOSITION

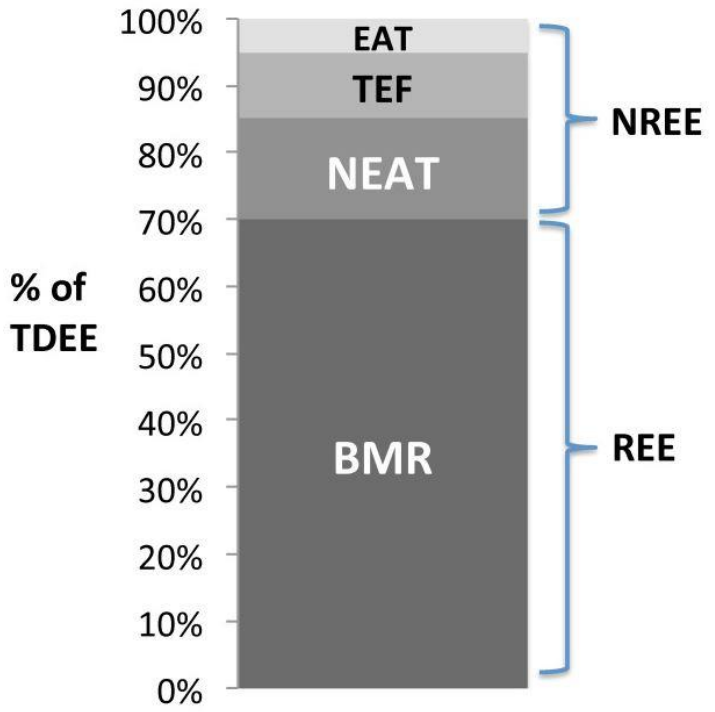
DIETING HISTORY

WEIGHT CYCLING

Metabolism

Basal metabolic rate is affected by:

- Genetics
- Body size
- Body composition
- Age
- Gender
- Climate/body temperature
- Illness/injury



Components of total daily energy expenditure (TDEE). BMR = basal metabolic rate; NEAT = non-exercise activity thermogenesis; TEF = thermic effect of food; EAT = exercise activity thermogenesis; REE = resting energy expenditure; NREE = non-resting energy expenditure. Adapted from Maclean et al., 2011.

Trexler *et al. Journal of the International Society of Sports Nutrition* 2014 **11**:7 doi:10.1186/1550-2783-11-7

Metabolic Adaptation

- Metabolic adaptation
- "The Biggest Loser"
  - 6 years later
  - Regained almost all weight
  - Slower metabolism
    - BMR before: 2600
    - BMR after: 2000
    - BMR 6-years later: 1900
  - Even with exercise, their BMR did not recover.

Metabolic Efficiency

- Human beings are wired for survival.
- Food restriction and weight loss goes against our bodies ability to sustain itself.
- Genes play a role in how efficient you are at maintaining your body weight.

*Betsy B. Dokken, PhD, NP, CDE **and** Tsu-Shuen Tsao, PhD, Diabetes Spectrum 2007 Jul; 20(3): 166-170.*

Weight loss

- Most people participating in weight-loss programs can successfully lose weight in the short term, the majority of them cannot sustain the reduced body weight long-term.
  - Wadden TA: Treatment of obesity by moderate and severe caloric restriction: results of clinical research trials. Ann Intern Med119 : 688–693,1993
  - Rosenbaum M, Leibel RL: The physiology of body weight regulation: relevance to the etiology of obesity in children. Pediatrics101 : 525–539,1998

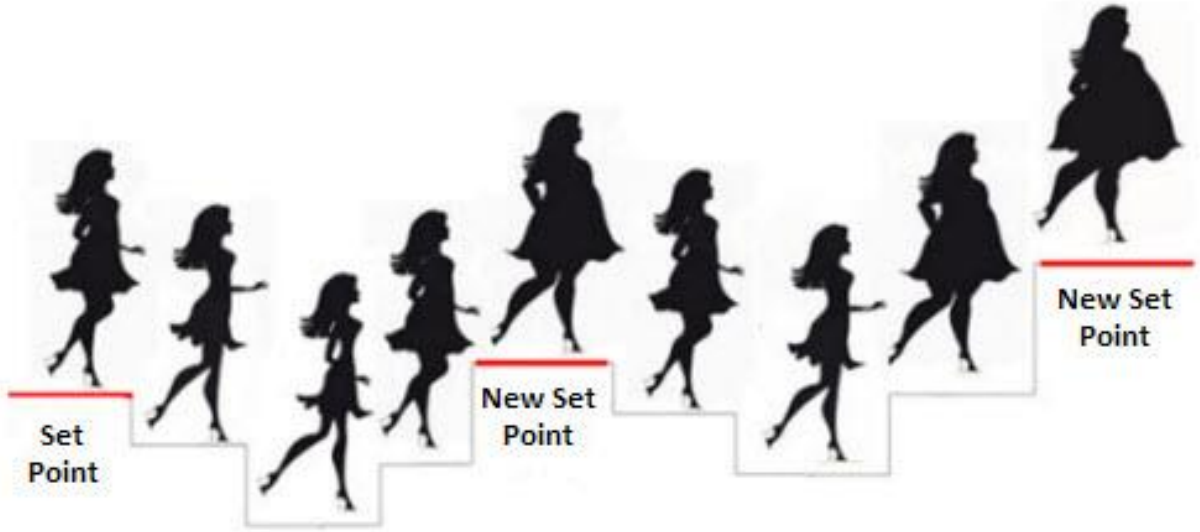
95% of dieters regain lost weight within 5 years

1/3-2/3 dieters regain MORE weight than lost

  - Mann, T. AM Psychol. 2007 Apr;62(3):220-33. Medicare's search for effective obesity treatments: diets are not the answer.

Set point theory

- A theory that everyone's body has a genetically determined range of weight and temperature that their body will try to maintain to stay at optimal health.
- Set point (range) can be changed through weight cycling



Weight Cycling

- More common in overweight/obese individuals
- Evidence of increased inflammation, hypertension, insulin resistance, and low HDL levels during weight cycles
- Is adiposity itself a health risk or is weight cycling the bigger problem?

Lissner L, Odell PM, D'Agostino RB, Stokes J, Kreger BE, Belanger AJ, Brownell KD: Variability of body weight and health outcomes in the Framingham population. N Engl J Med. 1991, 324: 1839-1844. 10.1056/NEJM199106273242602.

Strohacker K, McFarlin B: Influence of obesity, physical inactivity, and weight cycling on chronic inflammation. Front Biosci. 2010, E2: 98-104. 10.2741/e70.

Weight Science

STUDY DESIGN

MOTIVATED PARTICIPANTS

DROP OUT RATES

NATIONAL WEIGHT CONTROL REGISTRY

Weight Science Limitations

- Current weight science does not control for weight bias.
- Weight studies are often funded by the weight loss industry.
- Most weight loss studies are short term (<1 year).
- Association vs. causation

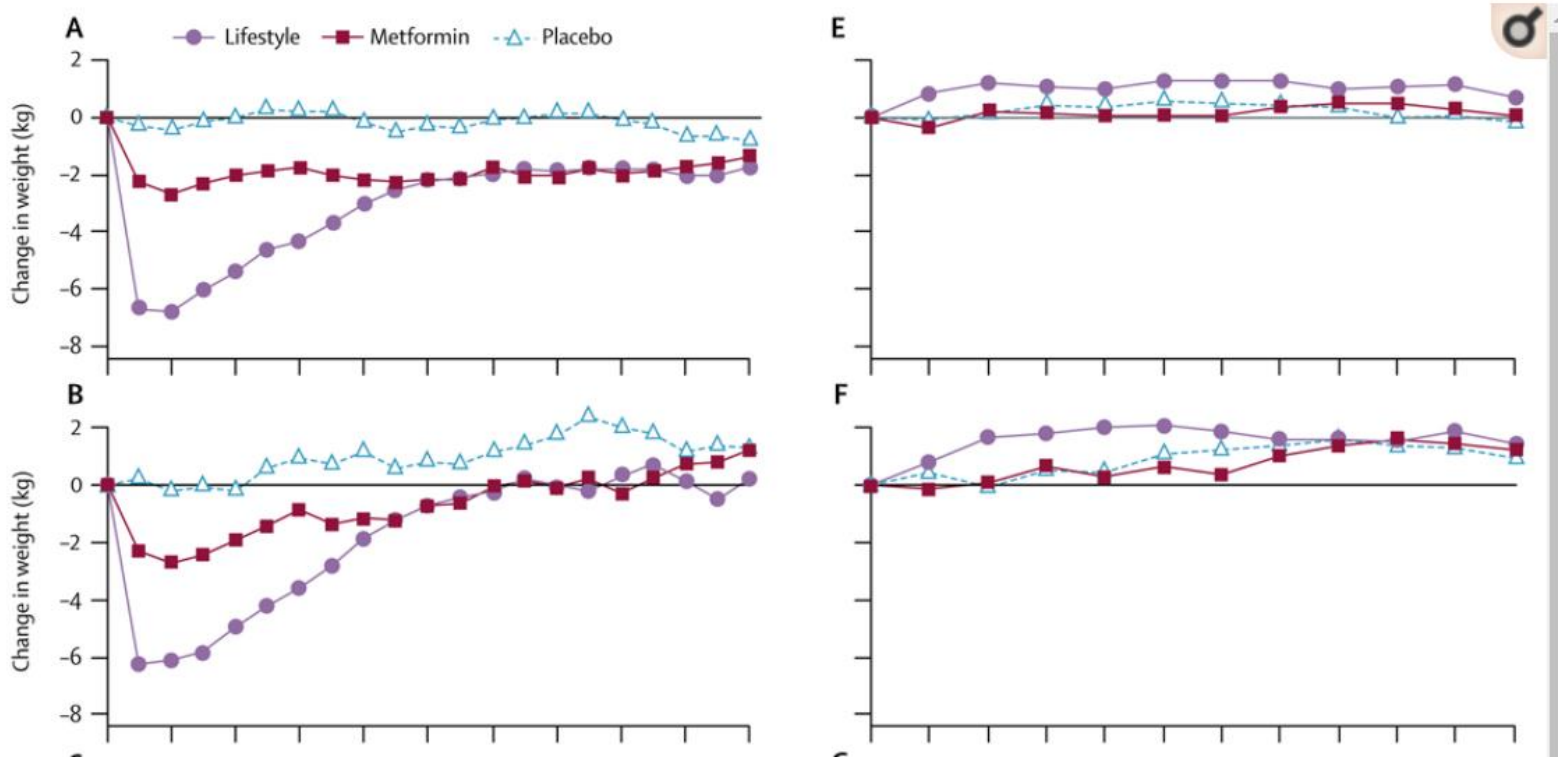
Weight science

- Women's Health Initiative
  - 20,000 women
  - Low-fat diet
  - Less 360 calories per day
  - Increased physical activity

  After almost 8 years:
  - Average weight loss of 0.1 kg
  - Average waist circumference had increased (0.3 cm).

Howard BV, Manson JE, Stefanick ML, Beresford SA, Frank G, Jones B, Rodabough RJ, Snetselaar L, Thomson C, Tinker L, et al: Low-fat dietary pattern and weight change over 7 years: the Women's Health Initiative Dietary Modification Trial. JAMA. 2006, 295: 39-49. 10.1001/jama.295.1.39.

DPP outcome study



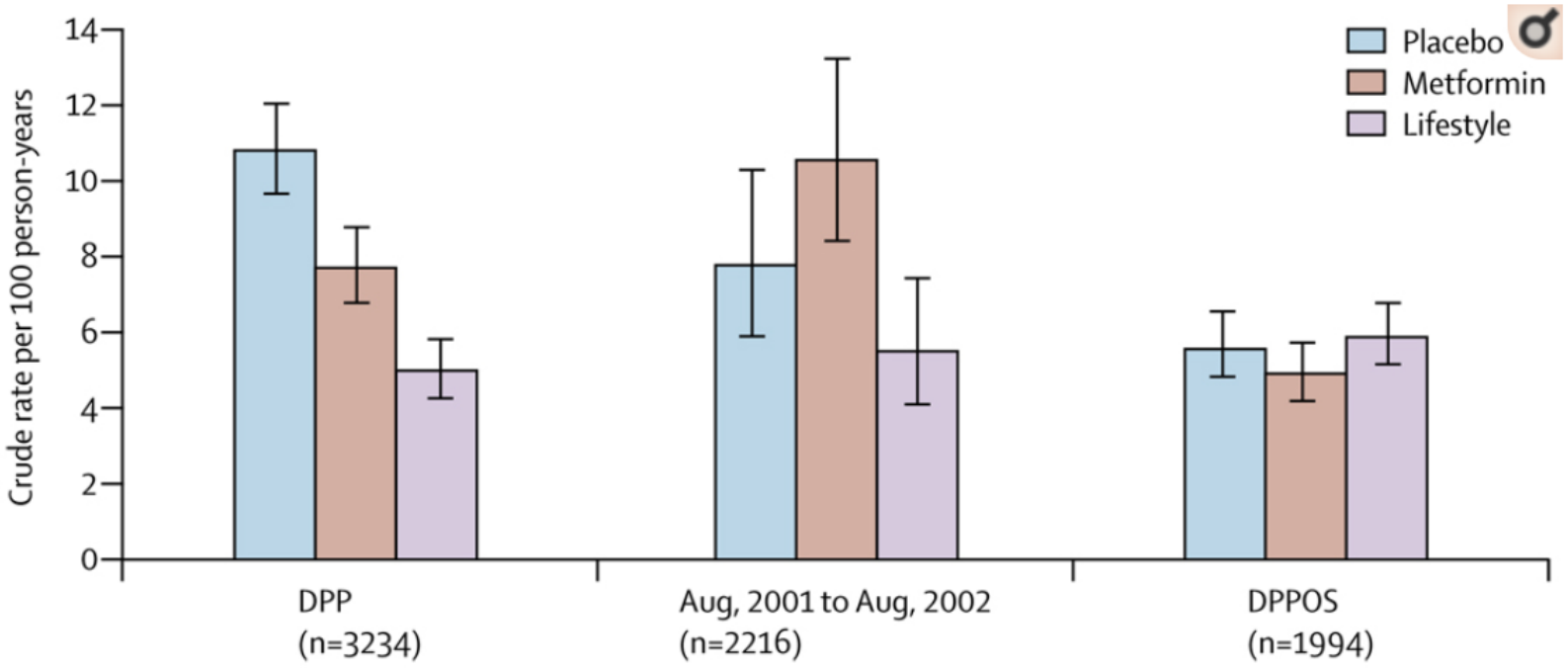
Years since DPP (10 years)

Years since outcome study (5.5 years)

DPP outcome study

Diabetes Incidence rates over time

Figure 4



Incidence rates of diabetes during the three study phases of DPP, bridge, and DPPOS

History of Body Mass Index

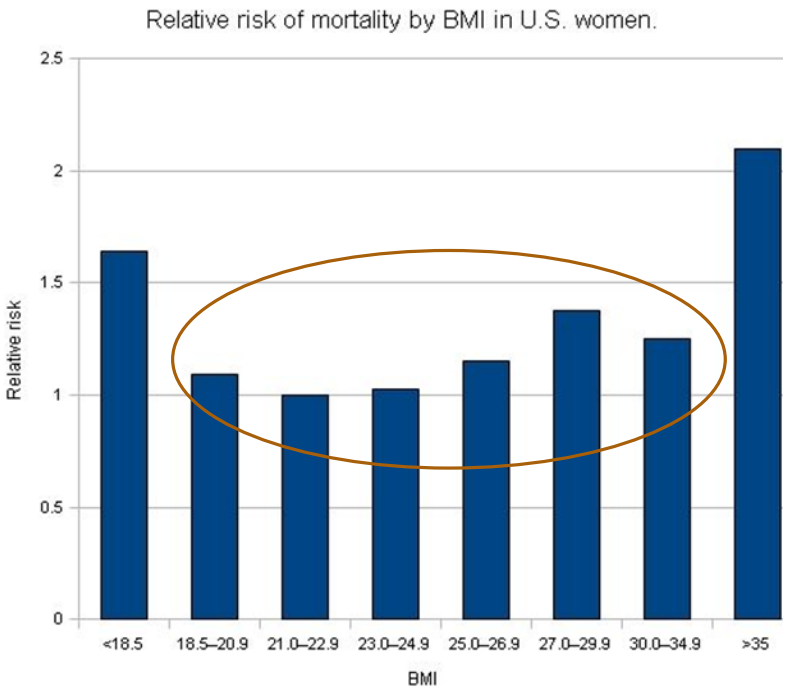
- BMI was originally created for studying mortality of populations, not individuals
- Category labels:
  - 20-25: overt risk – now “healthy or acceptable”
  - 25-30: low risk – now “overweight or pre-obese”
  - 30-35: moderate risk – now “obese”
  - 35-40: high risk – now “morbidly obese”
- “Healthy” BMI range was lowered in 1998
  - From 27.8 to 25 (for those over 35yo)
  - Overnight, over 25 million Americans became overweight

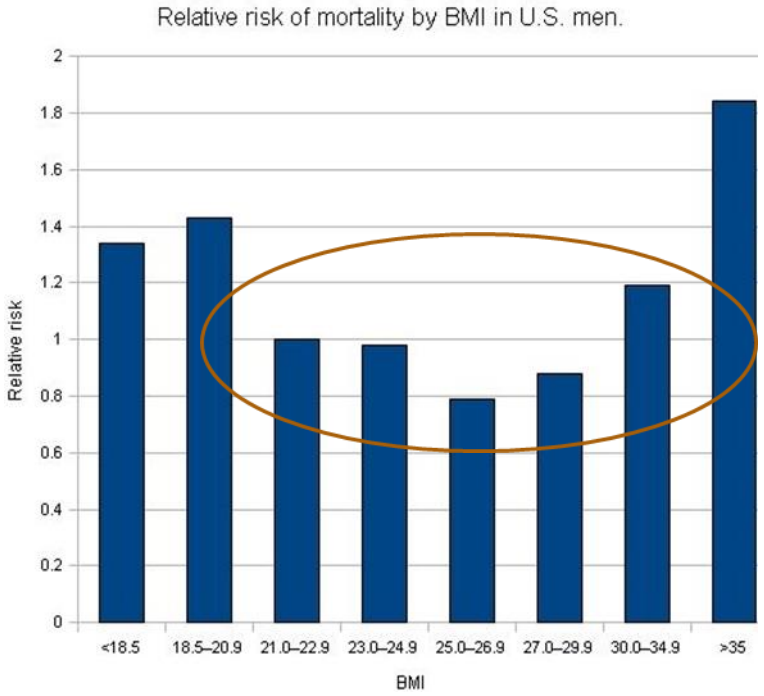
Body Mass Index Limitations

- Does not differentiate between lean and adipose tissue
- Does not account for fitness level or lifestyle behaviors
- Less accurate predictor of disease risk than waist circumference

6'3"	**Height**	6'3"
220 lbs	**Weight**	220 lbs
27.5	**BMI**	27.5

BMI & Mortality

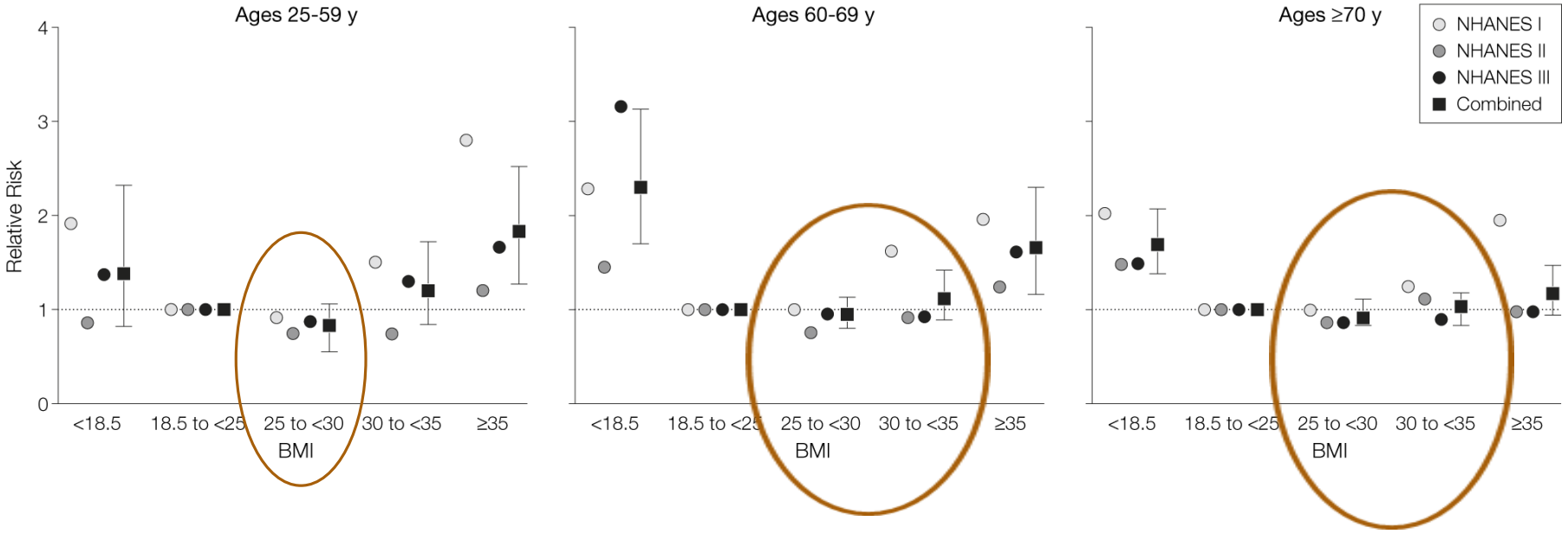




Source: International Journal of Obesity

Mortality rates

- Mortality rates are lowest in BMI 25-29.9 at all ages
- Over age 60, BMI 30-35 only slightly higher mortality risk



https://jamanetwork.com/journals/jama/fullarticle/200731

The Obesity Paradox

Assumption:

- Obesity is a death sentence and weight loss will prolong life.

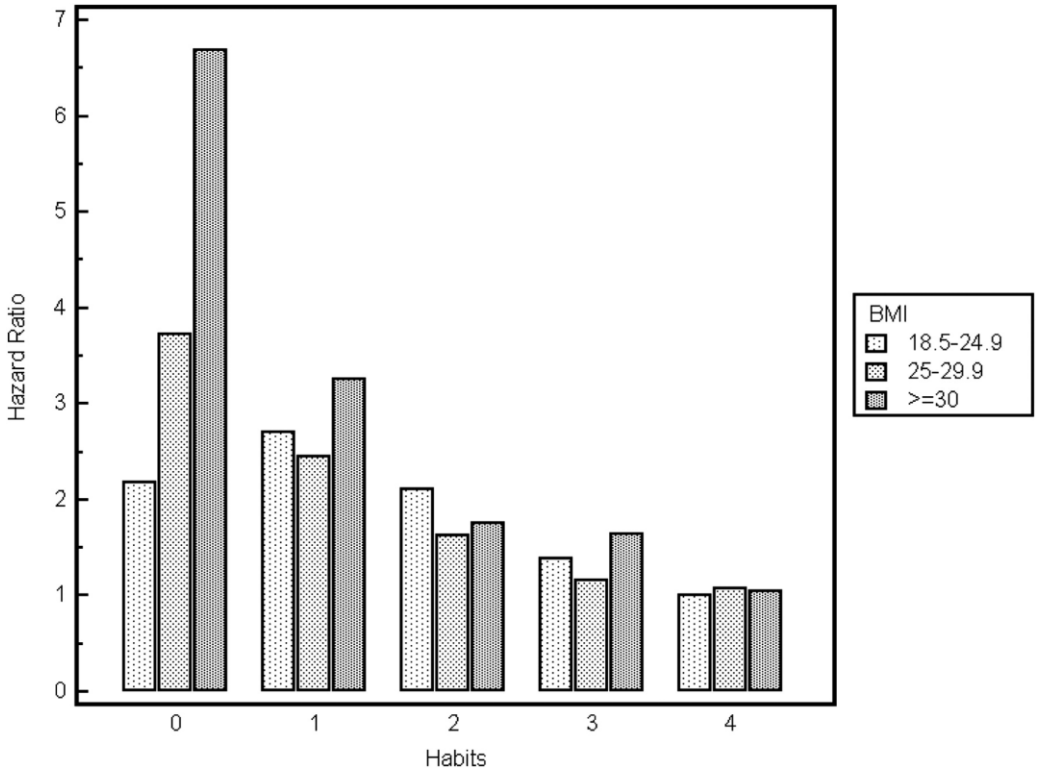
Evidence:

- Obese persons with type 2 diabetes, hypertension, cardiovascular disease, and CKD all have greater longevity than thinner people with these conditions
- Weight loss after age 50 shows *increased* mortality
- According to the National Center for Health Statistics, life expectancy increased dramatically during the same time period in which weight rose (from 70.8 in 1970 to 77.8 years in 2005)

https://nutritionj.biomedcentral.com/articles/10.1186/1475-2891-10-9

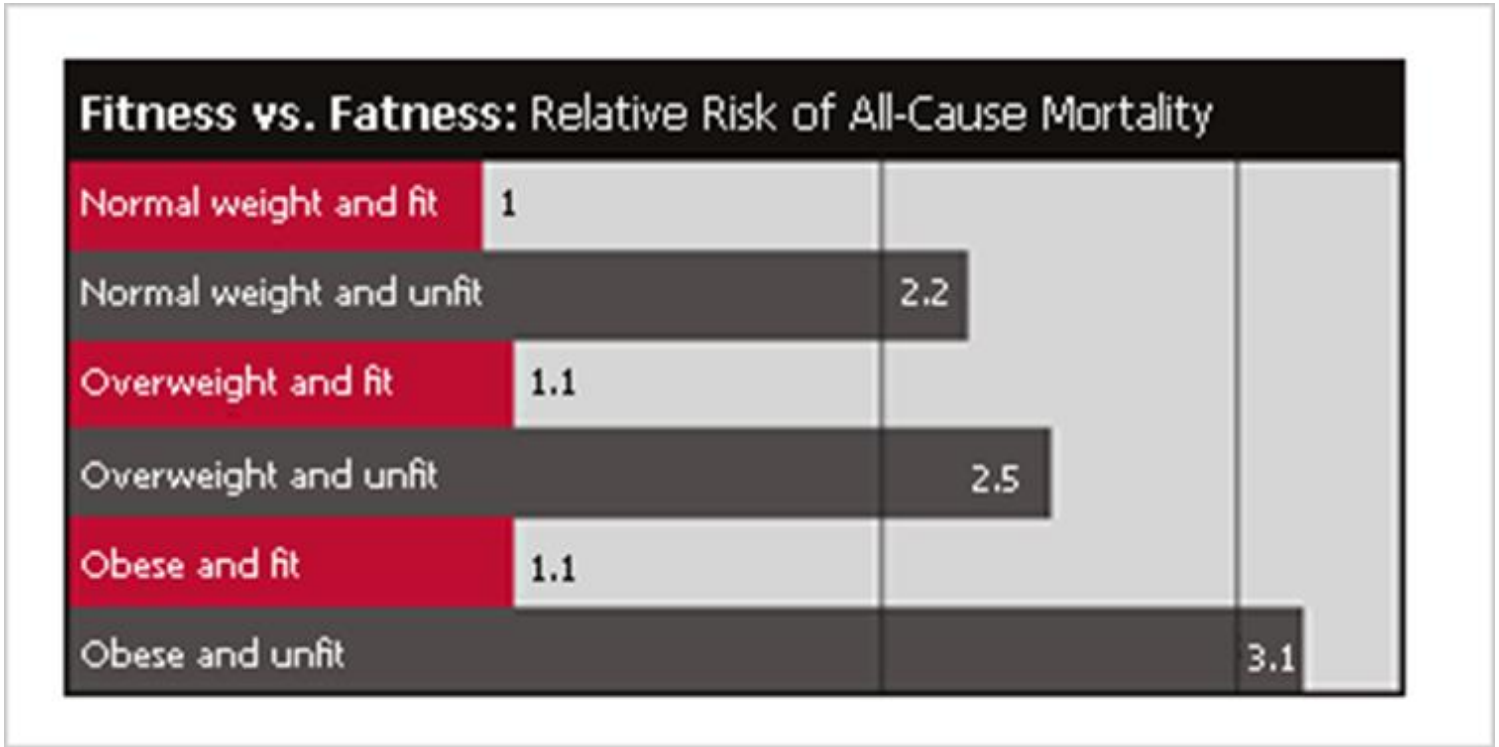
Lifestyle vs. Weight

- Compared mortality rates between behaviors and BMI
  - 5+ fruits/vegetables per day
  - Exercise 12+ per month
  - Moderate alcohol intake
    - <2 men, <1 women
  - No smoking
- Increased health behaviors, decreased mortality risk.
- No difference in mortality risk between BMI categories when all 4 habits in place



Eric M. Matheson, Dana E. King and Charles J. Everett. Healthy Lifestyle Habits and Mortality in Overweight and Obese Individuals. The Journal of the American Board of Family Medicine January 2012, 25 (1) 9-15

Fitness vs. Fatness



Barry VW, et al. Fitness versus Fatness on all-cause mortality: a meta analysis. Prog Cardiovasc Dis. 2014 Jan-Feb;56(4):382-90.

The Mirnavator

Weight-focused healthcare

Myth: "Weight loss is the answer to everything."

Evidence:

- Long-term weight loss is not achievable by most people
- Weight loss does not always improve health or mortality and may lead to worse outcomes
- Increased weight bias results in negative health outcomes
- Assuming a thin person is healthy because of their weight or body size may lead to missed or delayed diagnoses (diabetes, eating disorders)
  - Healthy behaviors are less likely to be discussed in this group
- Weight is an OUTCOME, not a behavior that can be controlled

Ethics

Are we causing harm?

Weight focused healthcare contributes to food & body preoccupation, weight cycling, reduced self-esteem, eating disorders, and weight stigmatization and discrimination.

- *Nutr J. 2011 Jan 24;10:9. doi: 10.1186/1475-2891-10-9.*

Health at Every Size

- Paradigm that removes weight from health goals and focuses on behaviors to reduce stigma.
- Social justice movement

Evidence:

- Six RCT indicate a Health at Every Size approach is associated with
  - Improved blood pressure, blood lipids, glucose
  - Increased physical activity
  - Decreased eating disorder pathology
  - Improved mood, self-esteem, and body image

https://nutritionj.biomedcentral.com/articles/10.1186/1475-2891-10-9

Weight-neutral healthcare

Leave weight out of the conversation.

Focus on behaviors

- Incorporate more vegetables
- Eat breakfast
- Decrease sweetened beverage consumption
- Increase physical activity
- Stop smoking
- Get adequate sleep

Don’t praise weight loss.

Steps toward change

1. Deal with your own weight bias
2. Change your language about weight
3. Educate patients on effects of dieting and likelihood of future weight gain
4. Remove “weight loss” recommendations from education materials
5. Keep nutrition, health, and QOL the main thing
6. Spread the word

What about BMI >35?

- Keep the conversation weight-neutral
- Start with health-promoting behavior changes
- Discuss body image and acceptance

What about…

- Medical weight loss programs?
- Bariatric surgery?

Resources

- UConn Rudd Center for Food Policy & Obesity
- The Association for Size Diversity and Health
- Weight-Inclusive Nutrition & Dietetics (WIND)
- Facebook Groups: Build Up Dietitians BODY Group, Weight Neutral 4 Diabetes Care, WIND Community
- Books
  - Health at Every Size by Linda Bacon
  - Forthcoming 4th Edition of Intuitive Eating by Evelyn Tribole & Elyse Resch

Podcasts

- Nutrition Matters with Paige Smathers, RDN
- Unpacking Weight Science with Fiona Willer
- Dietitians Unplugged with Aaron Flores and Glenys Oyston

Questions?

Contact: brooke@brookefredrickson.com