

DEALING WITH GAPS AND DISSEMINATION OF EVIDENCE TO DIETITIANS

ELLEN GOVERS, ESDN OBESITY

Berlin, 2 November 2019

1

Programme

- ▣ How to avoid obesity stigma in dietitians?
- ▣ How do we set the right targets for weight loss?
- ▣ How do we know which diet intervention to select for a patient?



2

Weight related stigma

Systematic review of PubMed, PsycINFO, Web of Science and Cochrane Library

- 8 studies included
- Each study used a different questionnaire
- Used among dietitians and dietetic students
- *Jung, PLOS ONE, 2015*

3

Patient perspective

69%

37%

- Physicians have been found to be the most frequent source of stigma for women
- and the second most frequent source of stigma for men.
- Weight bias by doctors is 69%
- 37% of patients experienced weight bias by dietitians and nutritionists (*Puhl, 2006*)

4

Results of weight stigmatisation

- Affects mental health (*Hatzenbuehler 2009; Greenleaf 2014*)
- Predicts a lack of physical activity (*Schmalz 2010; Vartanian 2008*).
- 80% (men and women) reported “eating” as a coping strategy in response to weight-related stigma
- 75% reported “refusing to diet” in order to cope with stigma (*Puhl, 2006*)
- Stigma predicts unhealthy eating (*Puhl, 2006*)
- Stigma can lead to putting on weight, because weight-related stigmatization is a stressor, leading to increased cortisol levels and increased eating, resulting in weight gain, leading to more stigma and teasing (*Tomiyama, Cyclic Obesity/Weight-Based Stigma model, Appetite 2014*)

5

Impaired weight loss treatment outcomes

- A high BMI is linked to avoidance of health care prevention services
- High BMI is linked to cancellation of appointments due to weight concerns e.g. in breast cancer care (*Cohen, 2008, Ferrante 2010, Amy 2006*).
- Especially women seem to avoid treatment in fear of being stigmatized for their weight (*Drury 2002*).
- Delaying necessary prevention checkups and treatment have a relation with the negative health outcomes in individuals with obesity (*Puhl 2010*).
- Weight-related bias negatively affects treatment seeking for weight reduction (*Ciao 2012, Carels 2010*)
- Patients who expect stigmatization from their health care provider may delay or even cancel attempts to seek help for weight reduction (*Jung 2016*).

6

Behavioral discrimination by dietitians

3 types of avoidance

- Instrumental avoidance (e.g. shorter meetings)
- Professional avoidance (e.g. less effort)
- Interpersonal avoidance (e.g. negative tone or language)

- Patients who were perceived more positive because they blame themselves for their failed weight loss behavior were allocated more time with their dietitian compared to patients who were perceived more negatively.

7

Fat Fobia Scale Score in dietitians

Study	Mean Score
Berryman et al. (2006)	3.7
Hellbardt et al. (2014)	3.35
Puhl et al. (2009)	3.7
Swift et al. (2013)	3.8
Sikorski et al. (2012 & 2013)	3.6 & 3.56

FFS scores ranged between 3.59 (HCPs) and 3.65 (general public)

8

Systematic outline of studies summarizing characteristics attributed to individuals with obesity.

Attribution pair	Berryman et al. 2006 ^a [32]	Puhl et al. 2009 ^a [38]	McArthur & Ross 1997 ^a [36]	Hellbardt et al. 2014 ^b [35]
Lazy/ motivated	52.6%	41.0%		2.71 (n.s.)
bad / good				
No willpower/willpower	47.4%	41.0%		3.17 (***)
Unattractive/ attractive	47.4%	54.0%	18.5%	3.20 (***)
Poor self-control/discipline	60.5%	65.0%	42.6%	3.25 (**)
Insecure/secure	65.8%	80.0%		3.61 (***)
Poor self- esteem/self esteem	63.2%	75.0%	16.7%	3.63 (***)
Likes Food/dislikes food	89.5%	80.0%		3.67 (***)
Self-indulgent/ self-sacrificing	52.4%	47.0%		3.06 (**)
Overeats/undereats	81.6%	81.0%		3.51 (***)
Slow/fast	73.7%	68.0%		3.50 (***)
Inactive/active	71.1%	77.0%		3.47 (***)
Shapeless/shapely	68.4%	36.0%		3.56 (***)
no endurance/having endurance	63.2%	72.0%		3.50 (***)
Weak/ strong	36.8%	31.0%		3.02 (*)

Note: Vignette describing an overweight woman: 1 = positive attribute to 5 = negative attribute; significance levels refer to the difference between the overweight vignette and a normal-weight vignette):

*p < .05,

**p < .01,

***p < .001

^aagreement rate of characteristics about obesity is illustrated by percentages.

^bmean scores for attribution of pairs of adjectives assigned to a

doi:10.1371/journal.pone.0140276.t003

9

Summary of studies examining the dietitians' beliefs about causes or controllability of obesity.

Study	Causes/Patient-blaming	Result
Harvey et al., 2002 [34]	positive	Physical inactivity most important, followed by mood, eating too much of the wrong food, continuously dieting and interpersonal factors
Berryman et al., 2006[32]	(positive)	81.6% reported that "overeating" can be linked to obesity and overweight
Puhl et al., 2009[38]	(positive)	81.0% reported that "overeating" can be linked to obesity and overweight > according to the authors, the results suggest that participants tended to believe automatically that obesity is due to poorer diets and generally worse health (even when provided with information about individuals' healthy lifestyle)
Swift et al., 2013 [39]	positive	The belief that obesity is not under the individuals' control was perceived stronger by students studying nursing compared to students studying Dietetics (the overall BAOP score including all students, was 13.4)
Hellbardt et al. 2014 [35]	positive	Internal causes (e.g. overeating or lack of willpower and physical inactivity) were seen as more important than genetic factors or illness-related causes

Note: positive = patient is directly blamed as being responsible or having control over his/her weight; (positive) = patient is indirectly blamed as being responsible because the perceived causes of obesity are patient-centered.

doi:10.1371/journal.pone.0140276.t004

10

How to be aware & avoid stigma

- To include weight stigma in the academic syllabus for students being educated in dietetics and nutrition
- To include weight stigma in other professional training courses.
- Education about the causes of and aetiology of obesity
- Interventions should always include attention for discrimination and stereotyping
- Training about avoidance of stereotyping and negative attitudes as part of obesity training courses for practitioners (e.g. dietitians)
- Obesity management should not only include functional skills and theoretical expertise.
- Training in interaction and communication, motivation and patience

Essential: a change of attitude towards compassion and kindness.



11

Metabolic benefits of weight loss

RCT N=40 obese insulin resistant; randomly assigned to weight maintenance or dietary intervention 5, 10 or 15% weight loss subsequently

WL target	5%	10%	15%
Percentage WL	5.1% ± 0.9% (n = 19)	10.8% ± 1.3% (n = 9)	16.4% ± 2.1% (n = 9)
Reduction in total fat mass	10%	18%	27%
Reduction in intra-abdominal adipose tissue (cm ³).	9%	23%	30%
Reduction of intra-hepatic triglyceride by MRI	13%	52%	65%

Magkos, Cell Metab.2016

12

Improved cardiometabolic risk factors & insulin sensitivity

Difference between 5, 10 and 15% weight loss for metabolic outcomes

	>5%	>10%	>16%
Reduction of Risk factor in plasma	glucose, insulin, triglyceride, alanine transaminase, leptin		plasma free fatty acid and CRP concentrations
Increase in plasma			Plasma adiponectin conc.
A 2-stage hyperins. Euglycemic clamp	Improvement of liver and adipose tissue insulin sens.	Improved muscle insulin sensitivity	Improved muscle insulin sensitivity
A 2-stage hyperinsulinemic euglycemic clamp		Improved Beta cell function	Improved Beta cell function
adipose tissue expr. of genes		cholesterol flux, lipid synthesis, Oxidative stress	cholesterol flux, lipid synthesis, Oxidative stress

13

Weight loss benefits related to disease

Condition	% optimal weight loss	Additional facts
Impaired glucose tolerance/diab prev	10 kilos, regardless of BMI	Every kilo wl is 16% reduction of risk
Type 2 diabetes	2.5% to >15%	greater weight loss ass. with greater glyc improvement for all BMI classes
High triglyceride levels	2.5% to >15%	greater weight loss ass. with greater glyc. Improvement for all BMI class
HDL increase	5% to >15%	greater weight loss ass with greater glyc. Impr.; not true for BMI >40
Obstructive Sleep Apnea	>10%	For significant improvement
Hepatic steatosis reduction	5-15%+	greater weight loss associated with greater improvement
Non-alcoholic steatotic hepatitis activity score	>10%	For significant improvement
Depression	5-10% may reduce risk for emergent depression;	individuals with depression lose as much weight as non-depressed ind.
PCOS	2-5%	More weight loss: better results

14

Weight loss benefits related to disease

Condition	% optimal weight loss	Additional facts
Knee pain in osteo arthritis	5–10% improves knee functionality, speed, walk distance and pain	10%+ required to improve IL-6 and CRP levels;
Mobility	5–10% loss attenuates mobility	decline with aging
Urinary incontinence	5–10%	improves symptoms in men and women
Quality of life score	5%–15%+	greater weight loss associated with greater improvement
Sexual function	5–10%	improves erectile function in men and sexual dysfunction in women
Health care costs	In persons with diabetes 5–10% weight loss	associated with reduction in hospitalization and medication costs, but not outpatient costs.
Mortality	16% weight loss (vertical banded gastrectomy) associated with reduction in all cause and cardiovascular mortality.	10%+ weight loss in a lifestyle program, a reduction in card vasc and all cause outcomes <i>Ryan, Curr Obes Rep, 2017</i>

15

Relationship between emotional regulation and hunger

Obese subjects have not learned to distinguish hunger from other bodily needs or emotional agitation.

- There is an association **between insecure attachment styles and high scores of weight** already in pre-adolescent and adolescent girls, which places them at risk for eating disorders (*Sharpe, 1998*)
- A **disordered hunger and satiation regulation** can already occur during childhood. This disordered regulation is often caused by parents **using food as reward or punishment**. Often **food is used as a replacement for affection and as a strategy to solve problems**. Any form of frustration is thus regulated with eating. This way children **do not learn to distinguish between different motivations (e.g. fear vs. hunger), or to react appropriately** (*Petermann, 2003*).
- The same aspects of the **parent-child-relationship leading to an insecure attachment style** also form the basis for the development of obesity (*Kiesewetter, 2010*)
- **In contrast, children who experienced adequate care and who have learned to distinguish between hunger and other emotions will develop a secure attachment style** (*Kiesewetter, 2010*)

16

RCT on 118 patients

To study attachment styles in patients

- 118 pre-obese and obese (BMI ≥ 25 ; mean 36.2 ± 6.9) patients who took part in a one-year weight-loss program (aim of therapy: 5% weight reduction).
- 13 men; (11%) and 105 women (89%), aged 20 to 71 (mean = 52.6 ± 11.5). Some patients showed psychological symptoms like binge eating (16%), depression (26%) and anxiety (18%) in self rating questionnaires.
- According to the Brief Symptom Inventory (BSI) 31% of the patients were conspicuous concerning psychological distress in the global scale ($T \geq 63$), 26% had a conspicuous depression score and 18% showed an increased anxiety score.
- 16% of all participants reported 8 or more eating attacks without vomiting per month (mean = 6.26 ± 18.03 with a great range between 0 and 120, median = 0).
- **54% of 107 subjects had a secure attachment style.** 30% of those were rated as "clearly" securely attached, 24% were "probably" securely attached.
- **More than half of the patients in the weight reduction program describe themselves as being "addicted to food", and show related behavioral patterns.** Their thoughts often center around eating: "When is the next time I will be able to eat, and how much? How much should I eat when I am in company? How much food do I have at home?"
- For obese subjects, **food is used as self-medication or self-regulation of mood** (Kiesewetter, 2010)

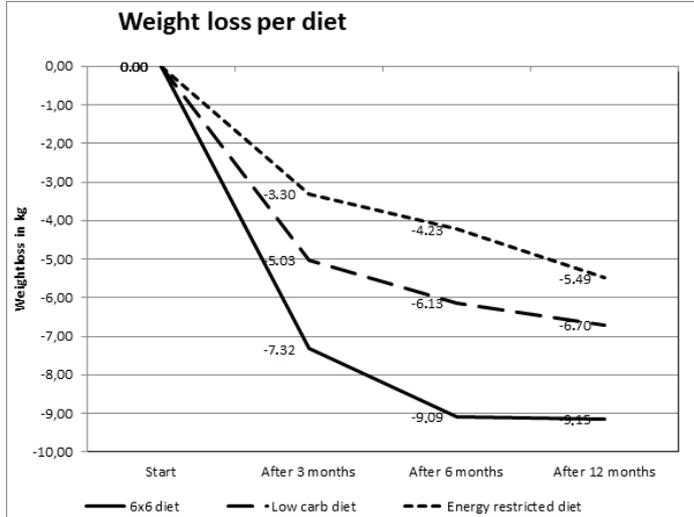
17

Which diet intervention

- How can we manage a 10% weight loss?
- Is a diet for weight loss equal to a diet for weight maintenance?

18

Weight loss on a very low carb diet compared to energy restricted diet



Comorbidities in the 6x6 group

Comorbidity*	n
Hypertension	43
Dyslipidemia	44
SBP or systolic	38
Metformin	3
Metformin	4
Diastolic	7
LDL	7
Mental health issues	5
Sleep apnoea	2
PCOS	7
Status after cancer treatment	5

*most patients have a combination of several comorbidities

Govers et al, 2019

19

Number of patients that stopped or reduced use of SU-derivatives or insulin at 3; 6 and 12 months

SU derivatives	6x6	LC	ER	p*
	N= 32 (%)	N= 37 (%)	N= 29 (%)	
3 months	29 (90)	20 (62)	10 (40)	<0.01*
6 months	28 (88)	20 (62)	12 (48)	<0.01*
12 months	29 (90)	24 (75)	13 (52)	<0.01*
Insulin	6x6	LC	ER	p
	N=34 (%)	N=22 (%)	N= 19 (%)	
3 months	32(94)	20(91)	17(89)	0.02*
6 months	32(94)	19(86)	14(74)	<0.01*
12 months	33(97)	17(77)	11(58)	<0.01*

*Significant at p=≤0.05. At the start 98 patients used SU-derivates: in the 6x6 group 32, at LC 37; and in ER 29. Afters three months these figures were 7; 28 and 20 respectively. After6 months 10; 20 and 19; and after 12 months 8; 17 and 19 respectively.

*Significant at p=≤0,05. At the start 75 patients used insulin: 34 on 6x6; LC: 22; ER: 19.

20

Patients still in treatment & weight gain after 12 months

	6x6 N=115	LC N=126	ER N=115	Total N=356
3 months (%)	107 (93)	103 (82)	82 (71)	292 (82)
6 months (%)	94 (82)	85(67)	66 (57)	245 (69)
12 months (%)	70 (61)	64 (51)	40 (35)	174 (49)

Patients still in treatment after 1 year:

Only 4 cases of weight gain

3: <3 kg weight gain

1 : 14 kg weight gain (137,5-151 kg). Range 1,1-14 kg

1 stable weight.

Clients who dropped out: one had weight gain (131,9 – 132,3 kg).

Finally went up for bariatric surgery

21

Weight maintenance

Role of the dietitian is crucial to teach patients how to adopt new behavior in the environment that made them gain weight

- ❑ Patients can never return to eating habits from before the weight loss therapy
- ❑ Dealing with new habits in old environment/social circle is hardest

22

Conclusions

- Stigma is a risk in obesity management and needs to be avoided by empathic behavior
- 5% weight loss is not enough to cure weight related diseases; the target must be set at 10% or more
- Many obese patients have coping strategies that urge them to eat when they experience emotional stress or insecurity
- A diet intervention aimed at weight loss differs from a weight maintenance diet. The role of the dietitian is crucial in preventing weight regain.

23

Take home messages

- Obesity stigma is still present in dietitians although it is less strong with them than in the general public. A more empathic attitude is needed
- It is important to set clear goals for weight loss, based on possible remission of the comorbidities of the individual patient
- Behavioral change takes time: patience needed
- We need to treat the cause of weight related comorbidities by choosing the right diet intervention

24



Questions?